Philosophia (2013) 41:1125–1133
DOI 10.1007/s11406-013-9427-4

Epistemic Principles and Sceptical Arguments: Closure and Underdetermination

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Received: 11 January 2013 / Accepted: 6 March 2013 /
Published online: 16 April 2013
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Abstract Anthony Brueckner has argued that claims about underdetermination of evidence are suppressed in closure-based scepticism ("The Structure of the Skeptical Argument", *Philosophy and Phenomenological Research* 54:4, 1994). He also argues that these claims about underdetermination themselves lead to a paradoxical sceptical argument—the underdetermination argument—which is more fundamental than the closure argument. If Brueckner is right, the status quo focus of some predominant anti-sceptical strategies may be misguided. In this paper I focus specifically on the relationship between these two arguments. I provide support for Brueckner's claim that the underdetermination argument is the more fundamental sceptical argument. I do so by responding to a challenge to this claim put forward by Stewart Cohen ("Two Kinds of Skeptical Argument", *Philosophy and Phenomenological Research* 58:1, 1998). Cohen invokes an alternative epistemic principle which he thinks can be used to challenge Brueckner. Cohen's principle raises interesting questions about the relationship between evidential considerations and explanatory considerations in the context of scepticism about our knowledge of the external world. I explore these questions in my defence of Brueckner.

Keywords Scepticism · Closure · Underdetermination · Evidence · Explanation · Paradox

A common claim among contemporary epistemologists is that scepticism about our knowledge of the external world should be viewed as a 'paradox'. It is a puzzle consisting of highly plausible premises that lead to a highly implausible conclusion. Predominant anti-sceptical strategies such as closure-denial (Dretske 1970; Nozick 1981) and semantic contextualism (DeRose 1995) formulate the sceptical problem as

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one stemming from a highly plausible closure principle for knowledge. A version of the argument can be stated as follows:

> i) If I know that I have hands, then I know that I am not the victim of a radical sceptical scenario (such as that I am a 'brain in a vat' (BIV)).
>
> ii) I do not know that I am not the victim of a radical sceptical scenario.
>
> Therefore, I do not know that I have hands (implying a lack of knowledge for just about any empirical proposition)

Anthony Brueckner (1994) has argued that claims about underdetermination of evidence are required to motivate premise ii) of the closure-based argument. He also argues that these claims about underdetermination themselves lead to a paradoxical sceptical argument—the underdetermination argument—which is more fundamental than the closure argument. He claims it is more fundamental in the sense that any refutation of the underdetermination argument entails the refutation of the closure argument, but not vice versa. If Brueckner is right, the status quo focus of some predominant anti-sceptical strategies may be misguided. In this paper I focus on the relationship between these arguments. In particular I defend Brueckner's position that claims about underdetermination of evidence are required to motivate premise ii) of the closure-based argument. I focus specifically on a challenge from Stewart Cohen (1998). To be sure, there are many philosophers who would challenge this claim of Brueckner's. I focus on Cohen for two reasons: firstly, Cohen provides a simple and elegant—though I claim mistaken—alternative to thinking about the motivation for premise ii). Secondly, I find this alternative interesting insofar as it raises independently interesting questions about the relationship between evidential considerations and *explanatory* considerations in the context of scepticism about our knowledge of the external world.

Let's begin by looking in some detail at the motivation for each premise of the closure argument. It has been discussed thoroughly in the literature how the closure principle for knowledge provides compelling support for premise i) (see Brueckner (2011), p.281; Schiffer (1996), p.330; Stine (1976), p.250). The closure principle says:

> For all S, p, q, if S knows that p, and S competently deduces q from p, thereby coming to believe that q on that basis while retaining her knowledge that p, then S knows that q

This principle captures intuitions about our ability to extend knowledge by deductive inferences. For example, imagine a detective who reasons: 'I know that the butler was in the garden at the time of the crime, and I know that *if* the butler was in the garden at that time then the butler was not at the scene of the crime (the kitchen); so I know that the butler was not at the scene of the crime'. The closure-based sceptical argument extends this basic idea to arrive at a surprising (and highly implausible) conclusion. The argument takes advantage of the fact that my having hands entails that I am not a BIV (and that I know this entailment holds). As premise ii) claims, I do not know that I am not a BIV. Premise i) provides the crucial link between that shortcoming and my epistemic position regarding an ordinary proposition to get the radical sceptical conclusion. But what motivates premise ii)?

Interestingly, much of the literature seems to take premise ii) as primitively plausible (Brueckner 2011, p.367). Or at least, as Keith DeRose has noted, explanations as to why we lack knowledge of the denials of sceptical hypotheses are given in a "circle of all-too-closely related terms of epistemic appraisal" (DeRose 1995, p.16). For example, Fred Dretske claims that you don't know you're not a BIV because you can't 'rule out' that you're not a BIV. To the contrary, DeRose suggests that this explanation is more informative in the *reverse*—namely, that the notion of being unable to *rule out* that p might be explained by the fact that you don't *know* that p. Perhaps more helpfully, Robert Nozick explains that the BIV scenario is designed precisely so that you would believe you weren't a BIV, even if you *were* a BIV. Nozick thinks that his 'sensitivity condition' is a necessary condition that a belief must meet in order to count as knowledge. Sensitivity says:

If p were false, then S would not mistakenly believe that p

One's belief that they are not a BIV fails to meet this condition. As Nozick puts it, "The sceptic has carefully chosen his situations…so that if they held we (still) would believe they did not. We would believe we weren't dreaming, weren't being deceived, and so on, even if we were" (Nozick 1981, p.201). Nozick thinks that this can explain why we find ii) naturally compelling.

It is interesting to note that if this is the sceptic's motivation for ii) then the sceptic can hardly appeal to the closure principle to motivate premise i). That is to say, S's belief that he has hands plausibly *is* sensitive but S's belief that he's not a BIV is *not* sensitive. It follows that closure *fails* regarding the entailment from one's knowledge that they have hands to one's knowledge that they are not a BIV. Noting this failure of closure is precisely the sort of strategy that Nozick pursues in defeating the sceptic. However, when it comes to giving a general account of the motivation for the sceptical argument (something that we ought to be able to do if scepticism is indeed a 'paradox') this way of motivating premise ii) leaves us with the task of finding a different way than appealing to closure in explaining why we might find premise i) intuitive or compelling. I will not pursue this point any further here (see Brueckner 2011, p.75; Briesen challenges this line of thinking (2010, p.8)).

Brueckner argues on different grounds that this is the wrong way to explain why ii) is compelling. He notes that we can formulate the BIV scenario in such a way that Nozick's sensitivity condition is satisfied, but that still seems to preclude the possibility of one knowing that one is not a BIV. Imagine, for example, that being a BIV comes with belief-forming limitations. The nutrients in your vat cause you to "suspend judgement on the propositions your sensory evidence naturally inclines you to believe" (Brueckner 1994, p.829). Call this hypothesis BIV*. Brueckner claims that it is not the case that if you *were* a BIV*, you would falsely believe the contrary (so Nozick's counterfactual condition is satisfied). Yet, Brueckner says, S doesn't know he's not a BIV* (even if it is *true* that he is not a BIV*). This leads Brueckner to conclude: "Who cares what [S] would believe in such a situation? Maybe he would suspend judgment, maybe he would correctly believe that certain computer states do not obtain: this all seems irrelevant to the question of the quality of S's actual evidence for what he in fact believes" (Brueckner 1994, p.830).

Brueckner is pushing us towards an account of the plausibility of ii) that turns on considerations about the quality of S's evidence. But this argument is problematic. It

seems clear that it would be quite easy to know that one is not a BIV*. One can come to know this by reflecting on the fact that they are *not* suspending judgment on the propositions that their sensory evidence leads them to believe. If this is right, perhaps Nozick *does* give us a promising way to understand the initial plausibility of premise ii) of the closure argument (setting the considerations above to one side). That is, if we cannot find a scenario in which his sensitivity principle is satisfied but in which we nevertheless do not know we are not in that scenario, sensitivity may be on the right track after all. However, I think the relevant question to ask—and I suspect this question lies behind Brueckner's efforts at finding a relevant counter-example—is the following: what supports the counterfactual claim that we *would* believe that we're not brains in vats even if we were? I propose that Brueckner's own diagnosis of the plausibility of premise ii) provides precisely the best candidate. That is, the fact that our *evidence* would be the same in the BIV scenario is what supports the counterfactual. This is why Brueckner claims that we must turn to the quality of S's evidence to explain why S doesn't know that he's not a BIV. According to the sceptic, S's evidence does not *justify* S's belief that he is not a BIV. "I am suggesting that the proper account should focus on the quality of one's evidence for believing that [~BIV]. The skeptic should be interpreted as arguing that one lacks knowledge that [~BIV] in virtue of lacking justification for believing that [~BIV]" (Brueckner 1994, p.830). But of course it is natural to ask, why doesn't S's evidence justify ~BIV? [1]

To fill this out, Brueckner claims that we must appeal to an underdetermination principle (UP). That principle can be stated:

> For all S, p, q, if S's evidence for believing p does not favour p over some hypothesis q which S knows to be incompatible with p, then S's evidence does not justify S in believing p

The idea is that in order for some body of evidence, E, to support a justification for a proposition, p, it is plausible to maintain that E should favour p over alternatives that are known to be incompatible with p.[2] Consider the following example from Duncan Pritchard:

[1] For other discussions on the plausibility of ii) see Wright (2004), Greco (2007), Weatherson (2007), and Briesen (2010). All of these papers claim that at least some sort of *argument* is needed to support premise ii). Briesen and Weatherson both think that an argument which Weatherson calls the 'exhaustive argument' best supports ii). The argument essentially proceeds as follows: S is not justified in believing that they are not a BIV by way of empirical evidence; nor is S justified in believing that they are not a BIV by way of non-empirical evidence; since all evidence is either empirical or non-empirical, S is not justified in believing that they are not a BIV, and thus does not know that they are not a BIV. I don't want to place too much weight on disputing Briesen's claim that this argument "does not refer to the underdetermination principle" (Briesen 2010, p.9). I will note, however, that a natural question to ask Briesen (and Weatherson) is: what motivates the claim that S is not justified by way of empirical evidence in believing that they are not a BIV? Is this to be understood as primitively plausible? Or is it plausible in virtue of implicit commitments to an underdetermination principle? I suggest that there must be a reason for thinking that S isn't justified empirically in her beliefs about not being a BIV, and a good candidate is the reason given by Brueckner below.

[2] Following Briesen (who helpfully paraphrases Brueckner) I will understand the term 'favouring' in the following way: "If my evidence favours *p* over *q*, then *p* has some epistemic credit which *q* lacks. In other words: If my evidence favours *p* over *q*, then it is more reasonable for me to believe *p* than *q*" (Briesen 2010, p.4).

> If…my evidence for believing that I am currently in the town's Odeon cinema does not favour this proposition over the competing scenario (which I know is incompatible) that I am in the town's other cinema, the Multiplex, perhaps because I have just woken up from a drunken sleep with only a dazed recollection of the chain of events that led to my being in a cinema, then it is hard to see how that evidence could possibly support a justification for my belief that I am at present in the Odeon cinema (Pritchard 2005, p.40).

Brueckner's claim is that motivation for premise ii) ultimately derives from the epistemic principle which expresses the intuitions at work here. It's been claimed above that I would have precisely the evidence I do now if BIV were true. The idea, then, is that my evidence doesn't favour the hypothesis that I am not a BIV over the hypothesis that I am a BIV (Brueckner 1994, p.830). Thus according to (UP) my evidence lacks justificatory power regarding beliefs about not being a BIV. According to Brueckner, this is why the sceptic claims that I do not know that I am not a BIV.

Brueckner argues that once we've come this far with our support for premise ii) above, an argument opens up which gets the same result as the closure argument but which makes no appeal to the closure principle. But I will not discuss this point here (see Brueckner (1994); Pritchard (2005)).[3]

Cohen is a defender of the position that the closure argument is the fundamental sceptical argument. In this way he defends the status quo focus of predominant anti-sceptical strategies.[4] Cohen denies that appeal to the underdetermination principle is required in motivating premise ii) of the closure-based argument. He formulates an alternative principle which is meant to provide equally compelling support for premise ii). The principle, which Cohen calls (Z), goes as follows:

> For all S, p, if the truth of p would explain S's evidence, then S's evidence does not justify not- p

(Z), like (UP), is meant to tell us why, according to the sceptic, some body of evidence E does not justify S's belief that some radical sceptical hypothesis is false. Roughly, it is because that evidence would be *explained* by the radical sceptical hypothesis. Imagine that E is my evidence for ~BIV. E is something like: it appears to me as though I've got hands.

[3] We appeal to (UP) in the following way:

i*). If my evidence does not favour that I have hands over that I am a BIV (being stimulated to believe that I have hands), then my evidence does not justify that I have hands

ii*). My evidence does not favour that I have hands over that I am a BIV (being stimulated to believe that I have hands)

iii*). My evidence does not justify that I have hands

Therefore, I do not know that I have hands

The argument appeals to the idea that no evidence for my having hands favours that I have hands over that I am a BIV (being stimulated to believe that I have hands). The same evidence would obtain in the BIV scenario. Thus, we derive the radical sceptical conclusion that I do not know any number of ordinary propositions—precisely the radical epistemological conclusion that the closure argument aims for—but without appeal to the closure principle.

[4] Thus, in addition to what I will discuss, Cohen argues *contra* Brueckner that the above argument (footnote 3) is not logically independent of considerations about closure. But I will not discuss this point here (this issue has been discussed in detail in Pritchard (2005)).

Let's say that E would be explained by the truth of BIV. Such an explanation might be: evil scientists are stimulating my brain to make it appear to me as though I've got hands. Cohen's point is that, if the truth of the BIV hypothesis can explain E, then E cannot justify the claim that I am not a BIV. Premise ii) depends on the thought that every piece of evidence one might invoke to justify ~BIV would be explained by the truth of BIV.

Cohen claims that this principle does not appeal to claims about underdetermination of evidence and that it underwrites a very natural way of understanding the plausibility of premise ii). "My claim is not that this reasoning will move everyone to skeptical doubt. But I do think it represents a very natural motivation for premise [ii)]" (Cohen 1998, p.147). In this way Cohen challenges Brueckner's claim that we must appeal to (UP) in motivating ii).[5]

Can (Z) be used in this way to motivate premise ii) of the closure argument? I don't think so. To be sure, Cohen is probably right that the truth of the BIV hypothesis would be an explanation of all of our experiences. And I will grant that in this respect it is at least *prima facie* plausible that we cannot use our *experiences* to justify the denial of the BIV hypothesis. But talk of explanations invites other means of assessment of our justification to believe or deny a given proposition. For example, what is the explanatory power of the BIV hypothesis? If some other *anti*-sceptical hypothesis has greater explanatory power—and entails the denial of the BIV hypothesis—might not we be entitled to deny the BIV hypothesis on such grounds? Cohen himself claims that he doesn't expect (Z) to 'move everyone to sceptical doubt'. But by this he is merely referring to the paradoxical nature of the problem of scepticism—that is to say, it is a puzzle consisting of incompatible but plausible claims. It's supposed to be plausible that we do not know that we are not brains in vats; but it is of course also plausible that we do know we have hands. The proceeding is meant as a challenge to the idea that (Z) can shore up the claim that premise ii) is even so much as plausible in the first place.

It is not immediately obvious that sceptical hypotheses are equally good explanations of E as other anti-sceptical hypotheses. The BIV scenario does not immediately come across as a "satisfactory competitor" with what Vogel refers to as "the real world hypothesis" (RWH)(Vogel 1990, p.659). Of course, it is difficult to say why (I think this only counts further against the idea that (Z) is a source of natural–i.e. intuitive—support for ii)). I will try to fill out the claim that it is not immediately obvious that the BIV hypothesis provides a good explanation of our experiences by briefly discussing an anti-sceptical argument which articulates the intuition that it is not.

[5] More precisely, Cohen does not claim that (Z) motivates ii) but rather that it motivates a different premise, namely that we're not *justified* in believing ~BIV. However, following Brueckner, I have already argued that we need to look at justification in order to understand why one might find it plausible that one doesn't *know* ~BIV. This is why I understand Cohen's (Z) as a potential way of motivating ii). But Cohen also acknowledges (in a footnote) that the 'order of justification' between (Z) and ii) is unclear to him. I have proceeded in what follows as though Cohen claims that (Z) is motivation for ii). Given Cohen's use of (Z) in challenging Brueckner I take this to be a fair way to proceed. However, if Cohen is ambivalent about this matter, the argument in what follows can be understood less as a challenge to Cohen per se than as a challenge to the idea that (Z) can be invoked to motivate ii) (and thus used to challenge Brueckner's position).

Vogel claims that on the RWH the spatial properties of objects already do real explanatory work (Vogel 1990, p.664). "The fact that something is spherical explains why it behaves like a sphere (in its interactions with us and with other things). If something that is *not* a sphere behaves like one, this will call for a more extended explanation" (Vogel 1990, p.664). Vogel's point is that spatial behaviour comes 'for free', so to speak, with real spheres but it must be supplied by additional BIV programming when the 'spheres' in question have no spatial properties at all.

Here is a very brief illustration of the point. It is a necessary truth about physical objects that two objects cannot occupy the same location at the same time. "We do not need any empirical law or regularity to explain this" (Vogel 1990, p.664). Because the BIV scenario posits objects with mere pseudo-locations, some explicit principle will be required to explain why no two objects can have the same pseudo-location. In other words, an additional regularity is required to explain why objects that are not genuinely spatial behave as though they are. According to Vogel (given certain assumptions about goodness of explanation which I leave out here)[6] these are grounds for taking RWH to be the better explanation.

To be sure, insofar as it has been offered as an anti-sceptical strategy, Vogel's argument has attracted criticism. But I submit that regardless of whether or not this line of thought is successful as an anti-sceptical strategy, it does articulate the intuition that the BIV hypothesis has shortcomings as an explanation of our evidence. That is, something along the lines articulated by Vogel gives expression to a more inchoate, intuitive thought about the explanatory shortcomings of the BIV hypothesis. In this respect, even if Vogel's argument can ultimately be challenged as an anti-sceptical strategy, it provides a useful way of bringing out the claim that (Z) is at best a sort of motivation for ii) that puts the sceptic on less than plausible ground at the outset. If one appeals to the claim that the truth of BIV would *explain* our evidence in order to motivate the claim that we don't know that BIV doesn't obtain, it seems both natural and epistemically relevant to wonder whether the BIV scenario is a very *good* explanation of our experiences. The explanatory goodness of the BIV hypothesis may or may not be a decisive concern—or even, in the final analysis, anti-sceptically relevant—but it is an issue, nevertheless, that makes for implausible ground upon which to *motivate* or in other words explain the highly plausible nature of premise ii) of the closure argument. By motivating premise ii) in such a way, (Z) does not provide a natural way of understanding the apparent plausibility of premise ii).

Here is a possible concern. Recall that I am trying to defend Brueckner's claim that (UP) is the motivation for premise ii) of the closure argument. If anything like the above is correct, doesn't it do just as much to challenge the idea that (UP) is the motivation for premise ii) as it does to challenge (Z)? That is to say, if we have relevantly anti-sceptical intuitions regarding the inadequacy of the explanatory power of the BIV hypothesis, why don't these intuitions thereby count against the claim that our evidence does not favour the RWH over BIV? I should be able to show that the Vogel considerations do not count against the favouring claim in the same way they do against the explanation claim. How can I show this?

One way is as follows. (UP) provides intuitive support for ii) insofar as it's construed as a point about empirical evidence. Principle (Z)'s focus on *explanation* invites

[6] Presumably these are assumptions of a 'unificationist' variety. For example, see Kitcher (1981).

considerations about the *extra-empirical* features of the BIV hypothesis. The Vogel considerations count against an extra-empirical feature of the BIV hypothesis. They count against its (lack of) simplicity, for example. They do not call into question the legitimacy of statements about the way things would appear in the BIV scenario. They concern the complexity of the hypothesis in virtue of which such statements about the phenomena would be true. This is, at any rate, the feature of Vogel's argument that I am suggesting underlies the contrary intuition I think people have about the claim that the BIV hypothesis would explain our evidence. They can have *that* intuition (as articulated above) without having anything to say against the idea that the hypothesis is perfectly capable of supporting all the relevant statements about the phenomena.

Now, another concern might be as follows. Perhaps Cohen means something rather more minimal by 'explanation' in his principle (Z) than I have been attributing to him. Perhaps he would not allow that extra- empirical considerations are relevant to explanations. We might say, then, that on Cohen's view, the claim, for example, that 'the truth of the BIV hypothesis would explain the appearance that you have hands' simply means something like: 'if the BIV hypothesis were true, all the appearances would be the same as they are now'. In other words, the truth of a proposition explains a piece of evidence if we can derive the empirical facts given the proposition. But, of course, this is precisely the intuitive idea captured by (UP). Again, (UP) provides intuitive support for ii) insofar as it's construed as point about empirical evidence. If Cohen employs the notion of 'explanation' as a point merely about empirical adequacy, the contrast between the ways in which principle (Z) and (UP) motivate ii) becomes much less clear. Indeed, I think we should then understand them as two ways of saying the same thing.

The lesson I draw from the foregoing is that in trying to avoid appeal to underdetermination, Cohen fails to account for the apparent plausibility of the sceptical argument. We can put this in the form of a dilemma. Either Cohen's principle invites extra-empirical considerations in a way in which (UP) does not—and given that these extra-empirical considerations generate anti-sceptical intuitions, (Z) is not well-construed as providing natural support for a sceptical argument; or, Cohen evades the above extra-empirical considerations because he insists that extra-empirical considerations (like simplicity, unificatory power, etc.) are not relevant to explanations, at the cost of losing the contrast with (UP). (Z) and (UP) would turn out to be two ways of saying the same thing. Again, the received view is that closure-based scepticism is paradoxical. It is a puzzle consisting of highly plausible premises that lead to a highly implausible conclusion. Cohen claims to be able to provide natural support for premise ii) without appeal to underdetermination, and he has not done so. Whatever plausibility premise ii) of the closure-based sceptical argument has, it should be attributed to the underdetermination principle.

Brueckner's suggestion is that claims about underdetermination are fundamental to scepticism. I've offered some reasons for thinking that Brueckner is correct, at least about the dependence on (UP) of the second premise of the closure argument.[7] My aim here has been to contribute to the debate about the relationship between these two arguments. A gap has been left open regarding Cohen's

[7] As mentioned, the further point that a completely independent argument from underdetermination can be formulated is something that has been discussed and defended by Brueckner and Pritchard.

principle (Z) and my aim has been to close it. The way in which I have attempted to close that gap has led to independently interesting claims about the relationship between evidential considerations and explanatory considerations in the context of radical scepticism. The upshot of the discussion is that the problem of scepticism is an underdetermination problem and this is a problem that turns on claims about the nature of empirical evidence.

If Brueckner is correct, the status quo focus of some predominant anti-sceptical strategies may be misguided. Brueckner's position suggests that the very nature of the problem under discussion is not quite as contemporary antisceptical strategies often construe it. A much longer discussion might consider the implications this has for the viability of such strategies, as well as the viability of strategies which focus on scepticism taken as an underdetermination problem. Regardless of whether any one particular way of presenting the problem is *misguided* or not, getting clearer on the commitments that make the problem of scepticism seem like a problem in the first place is a valuable exercise.

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