Gettier and Plantinga's revised account of warrant

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In a recent article in ANALYSIS (Plantinga 1997), Alvin Plantinga suggests an amendment to his account of warrant aimed at remedying its inability to handle certain types of Gettier cases. I will argue in this paper that there are two difficulties with his adjusted account. First, Plantinga suggests that warrant requires a favourable 'mini-environment'. I shall argue though that no state of affairs satisfies his definition of a mini-environment. And second, I shall argue that his adjusted account is still vulnerable to Gettier difficulties. Finally, I'll propose an alternative amendment to Plantinga's account, one which I believe has better prospects for fending off Gettier.

1. Plantinga's amendment

Plantinga proposes the following as a counterexample to the account of warrant proposed in his 1993:[1] Jones owns a Chevrolet van which he drives to Notre Dame on some football Saturday and mistakenly parks in a space reserved for the football coach. Determined not to let such impudence go unpunished, the coach's lackeys arrange to have the van towed and destroyed. Happily for Jones, he has won the local varsity club's Win-a-Chevrolet-Van contest, though is yet unapprised of the good news. Smith spies Jones walking across campus and asks him what sort of car he owns. Jones truthfully reports that he owns a Chevrolet van. His belief, however, is true by way of dumb luck: had he not won the contest, his belief would have been false. Hence his belief does not count as knowledge.

Now notice that had the coach's minions not destroyed Jones' van, his belief would have satisfied Plantinga's original conditions for warrant: it would have been formed by properly functioning faculties in accord with a design plan successfully aimed at truth in a favourable epistemic environment (1993: 19). Note further though that Jones' belief is formed in the actual situation by precisely the same cognitive processes functioning in the same way in the same cognitive environment as would have been the case had the van not been destroyed. Hence, given Plantinga's account, either both situations are such that Jones's belief is warranted or neither is. But obviously the one is and the other isn't. Hence, admits Plantinga, the van

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[1] For a statement of the account, see Plantinga 1993: 19. The progenitor of this counterexample is Peter Klein (cf. Klein 1996), though Richard Feldman and Robert Shope have proposed similar counterexamples (cf. Feldman 1996 and Shope 1998). For Plantinga's formulation of the counterexample, see Plantinga 1996 and 1997.

case reveals a defect in his original account.

His proposed fix to the problem goes as follows. What his original account lacked was the distinction between *maxi* and *mini* cognitive environments. Where a cognitive maxi-environment is the general sort of cognitive environment we enjoy here on earth, a cognitive mini-environment for a particular exercise E of one's cognitive powers is a detailed state of affairs which includes all epistemically relevant circumstances obtaining when the belief issuing from E is formed. The original account had it that warrant requires a favourable maxi-environment, but what it should have included was a codicil to the effect that warrant also requires a favourable mini-environment, where the favourability of a mini-environment can be thought of as follows:

(F)   a cognitive mini-environment is favourable with respect to a particular exercise E of S's cognitive powers if and only if, if S were to form a belief by way of E in this mini-environment, S would form a true belief (Plantinga 1997: 144).[2]

This notion of favourability in hand, Plantinga suggests the addition of the following Resolution Condition to his other conditions for warrant as the needed repair to his account:

(RC)   A belief B produced by an exercise E of cognitive powers in a cognitive mini-environment ME has warrant (sufficient for knowledge) only if ME is favourable for E (1997: 144).

2. A problem with the concept of a mini-environment

I indicated above that a cognitive mini-environment for a particular exercise E of one's cognitive powers is a detailed state of affairs which includes all epistemically relevant circumstances obtaining at the time the belief issuing from E is formed. It should be clear, though, that this characterization of a mini-environment is inadequate. Consider the van case. The mini-environment in this example includes the states of affairs *there being a van won by Jones in the varsity club contest* and *Jones' forming the belief that he owns a van.* Since these count, I should think, as epistemically relevant circumstances obtaining at the time Jones forms his belief, it would appear that his mini-environment is favourable *in excelsis* for this exercise of his powers: necessarily, were it the case that (a) some van belongs to Jones by

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[2] Plantinga notes here that he presupposes a semantics for counterfactuals slightly different than the standard accounts. As he sees it, a true antecedent and consequent is not a sufficient condition for the truth of the counterfactual. It must also be true that there is no sufficiently close possible world in which the antecedent is true and the consequent false.

virtue of his having won it in a contest, and (b) Jones believes he owns a van, then it would be the case that Jones believes truly. But this will hardly do: Plantinga's central suggestion here is that Jones' mini-environment *lacks* favourability and that this is what accounts for his belief's obvious lack of warrant.

To avoid this problem, Plantinga proposes the following as a more precise characterization of a cognitive mini-environment:

> (CME) a state of affairs A is a mini-environment with respect to exercise E of cognitive power in maximally specific epistemic circumstances C =$_{df}$ (i) A is properly included[3] in C, and (ii) A is as much as possible like C given that A entails neither the proposition that E yields true belief nor its denial (1996: 315).

I shall now argue, though, that CME fails as an explication of the notion of a mini-environment since there is reason to doubt that any state of affairs satisfies CME. We can see this by once again considering the van case. Call the state of affairs corresponding to Jones' maximally specific epistemic circumstances S^*. I shall presuppose that among the states of affairs properly included in S^*, those nearest S^* which neither include nor preclude Jones' van belief's being true are those obtained by 'diminishing' S^* only with respect to propositions which together entail that Jones wins the van contest.[4] Such an assumption seems reasonable: whereas very little would have to be 'subtracted' away from Jones' maximal situation to leave a state of affairs indeterminate with respect to whether Jones wins the contest, quite a lot would have to be subtracted to leave a state of affairs indeterminate with respect to, say, whether Jones ever owned a van in the first place.[5] Now, there are many states of affairs properly included in S^*

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[3] A state of affairs A is included in a state of affairs B just in the case that, necessarily, if B obtains then A obtains. A state of affairs A is *properly* included in a state of affairs B if and only if B includes A but not vice versa. I shall also make use in the sequel of the locution 'state of affairs A is *precluded* by state of affairs B': A is precluded by B just in the case that, necessarily, if B obtains then A does not obtain.

[4] The notion of 'diminishing' a state of affairs A with respect to a proposition p is roughly this: Say that a state of affairs A entails a proposition p if and only if it is not possible (in the broadly logical sense) that A obtain and p fail to be true. Then we can say of any state of affairs A such that A entails p that 'diminishing' A with respect to p leaves a state of affairs B such that (a) B is properly included in A, (b) B entails neither p nor its denial, and (c) for any proposition r which is entailed by A and is such that B entails neither it nor its denial, r together with the conjunction of all propositions entailed by B entails p.

[5] It's not crucial to the success of my argument that this assumption about logical space be correct: the argument is easily recast in terms of whichever states of affairs are closest to S^* in logical space.

which do not include (or preclude) Jones' winning the contest: there's S^* diminished with respect to Jones' entering the contest, there's S^* diminished with respect to the contest's choosing the winner, and so on. If there's a mini-environment for this exercise of Jones' powers, though, it will be the closest state of affairs to S^*. But here's the problem: Why think there is a closest state of affairs to S^* which does not include (or preclude) Jones' winning the contest?

Suppose the Varsity Club runs its van contest as follows. Each contestant submits a postcard to the club with a hand drawn line on it. The line closest to, but not less than, three inches wins the contest. Jones, we may suppose, wins the contest by submitting a line just a micron longer than three inches. Now one way to diminish S^* so as to result in a state of affairs which neither includes nor precludes Jones' winning the contest is to subtract from it those states of affairs which entail that he draws a line. A state of affairs presumably closer to S^* which also does not include Jones' winning the contest is one which includes his drawing a line, but does not include those states of affairs which entail that the line he draws is longer than 2 . Closer still, a state of affairs which includes those states of affairs which entail that the line he draws is longer than 2 , but not those that entail that the line is longer than 2.9 . And closer still, a state of affairs which includes all of the foregoing, but not those states of affairs which entail the line's being longer than 2.99999 , and so on. In short, it seems that there are infinitely many states of affairs which get closer without limit to S^* and do not include or preclude Jones' winning the contest. Accordingly, we have reason to doubt that there is any state of affairs as much as possible like S^* which does not include or preclude his winning the contest: for any state of affairs you pick, there is one closer. But then assuming we were correct in thinking that the closest states of affairs to S^* which do not include E's yielding true belief or its denial are those obtained by subtracting from S^* those propositions which entail Jones' winning the contest, we have reason to think that there is no closest state of affairs to S^*, and hence that there is no state of affairs that satisfies CME.

Of course the problem here is perfectly general. For any exercise E of one's cognitive power in maximally specific circumstances C, there will be similar reasons for doubting that there is a *closest* state of affairs to C that neither includes nor precludes the proposition that E yields true belief. Thus there is reason for doubting that *any* belief is formed in a mini-environment as the notion is defined by CME. And this poses a problem for Plantinga's account since it entails that no proposition is *known* to be true: since warrant (enough of it for knowledge at any rate) requires a favourable mini-environment, if no belief is formed in a mini-environment, then no belief counts as an item of knowledge.

3. *Gettier problems and Plantinga's amendment*

We turn now to the topic of Gettier difficulties and Plantinga's amended account. To get at the point I'm concerned to make, we need to look more closely at Plantinga's notion of favourability. The basic idea is that a mini-environment[6] *ME* displays favourability for an exercise *E* of cognitive power if and only if there is a counterfactual connection between, on the one hand, the occurrence *E* in *ME*, and on the other, *E*'s yielding true belief. We'll call this notion of counterfactual favourability *c-favourability* and define it as follows:

> a mini-environment *ME* displays c-favourability for an exercise *E* of *S*'s cognitive powers $=_{df}$ if *S* were to form a belief by way of *E* in *ME*, *S* would form a true belief.

There's a broader notion of favourability lurking in the neighbourhood though. This is the sort of favourability a mini-environment has with respect to a given exercise of cognitive power *E* if and only if the outputs of *E* in this mini-environment are not accidentally true, or true by mere luck. Let us call this more general notion of favourability *g-favourability*, and define it as follows:

> a mini-environment *ME* displays g-favourability for an exercise *E* of *S*'s cognitive powers $=_{df}$ *S* forms a belief by way of *E* in *ME* and *S*'s belief is not accidentally true.

Plantinga's central suggestion here (call it the Main Suggestion) seems to be that c-favourability (together with the other conditions for warrant) is sufficient for g-favourability. Put more precisely:

> (MS)   A mini-environment *ME* has g-favourability with respect to a given exercise *E* of *S*'s cognitive power if (i) *ME* has c-favourability with respect to *E*, and (ii) those cognitive faculties

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[6] I need to say something about how I will understand the notion of a mini-environment in the sequel since I've argued that no state affairs satisfies Plantinga's definition of a mini-environment. I think the following definition is fairly close to what Plantinga had in mind:

> (CME) a state of affairs *S* is a mini-environment with respect to exercise *E* of cognitive power in maximally specific epistemic circumstances *C* $=_{df}$ (i) *S* is *C* diminished with respect to the proposition *p* that *E* yields true belief, (ii) there is no state of affairs *S** such that *S** is *C* diminished with respect to *p*, *S** is more similar to *C* than *S*, and the difference between *S* and *S** is 'epistemically relevant with respect to *E*'.

Though it would be nice to have some account of what 'epistemic relevance' amounts to here, I don't. Since I take this to be a fairly intuitive notion, though, I shall leave the matter at that.

governing E are functioning properly in a favourable maxi-environment according to a design plan successfully aimed at truth.

I think we can see, though, that the Main Suggestion is mistaken. Suppose your uncle runs the town's annual guess-the-number-of-prunes-in-the-jar contest. Your prankish friend takes it on good authority that the jar contains 138 prunes and lets you in on the secret. Unbeknownst to both you and your friend, though, the number he is given is incorrect. Now, suppose further that your uncle has taken ill with an unusual brain fever and has come to believe that the fate of the nation hangs on your winning the contest. Since he can't remember how many prunes were in the jar to begin with, he empties it and re-fills it with the exact number of prunes indicated on your contest entry card. The day of the contest arrives and the town gathers for the beloved counting of the prunes. You believe firmly that the jar contains 138 prunes. And, indeed it does. But your belief is true by accident: had your uncle not taken ill with the fever, your belief would have been false. Thus the mini-environment for this exercise of your powers lacks g-favourability. Notice, though, that your mini-environment enjoys c-favourability. For your mini-environment includes the following counterfactual proposition:

If you were to guess that the jar contained n number of prunes, then your uncle would have filled the jar with n number of prunes.

And this has the following interesting consequences. All nearby worlds in which this exercise E of your cognitive power occurs in just this mini-environment will be worlds in which E yields true belief. In short, your mini-environment displays all the c-favourability you could want. And, since we may suppose your belief satisfies the other conditions for warrant (proper function, etc.), the Main Suggestion is mistaken: c-favourability is not, together with the other conditions for warrant, sufficient for g-favourability. Accordingly, Plantinga's modified account has not overcome the Gettier problem: your belief in the foregoing case satisfies each of the conditions of the amended account, but lacks warrant sufficient for knowledge by virtue of its being only accidentally true.

4. Another sort of favourability?

Let me suggest a another way in which a mini-environment can be favourable for an exercise of cognitive power.[7] Both the van case and the prune case involve unfavourable or misleading mini-environments. One way to

[7] Henceforth, think of a mini-environment as the maximally specific circumstances obtaining at the time of some exercise of cognitive power.

think about the property of misleadingness displayed in each case is as follows. Take the van case. Jones' cognitive faculties function in such a way that if he were to reflect on the matter, given the evidence available to him, he would take as true certain propositions about his van—that it is parked in such-and-such a location, that he has owned it for several years, etc. As things go, however, quite different things are true of his van: it is not parked in the coach's spot, it has just been won in a contest, he has only owned it for a short time, etc. We might say, then, that Jones' mini-environment is misleading with respect to exercises of power resulting in beliefs about his van because, given the data cognitively accessible to him, it would be more reasonable for him to accept the former propositions about his van than the latter, even though, in fact, the latter are true and the former are false.

This can be put more precisely as follows. Say that '$P(p/q)$' is short for 'the epistemic probability of p given q.'[8] Say too that q *confirms* p for S if and only if $P(p/q\&k) > P(p/k)$, where k is the conjunction of S's background beliefs.[9] And say that a proposition p *defeats* a belief b for S if and only if $P(b/p\&k) < P(b/k)$ and $P(b/p\&k) < n$, where n is some real number representing the point at which a human being with properly functioning faculties would cease to believe that b.[10] Finally, say that p is an *undefeated defeator* of b for S if and only if p defeats b for S and there is no true proposition q such that (i) q defeats neither b nor not-b for S, and (ii) $P(b/p\&q\&k) > n$.

These concepts in hand, the notion of a misleading or unfavourable mini-environment may be defined as follows:

(U) *ME* is an unfavourable mini-environment for exercise E of S's cognitive power resulting in the belief that b=$_{df}$ there are propositions p and q, neither of which are believed by S, such that

(a) *ME* entails not-p and q, and
(b) $P(p/k) > P(q/k)$, and
(c) both p and q confirm b for S, and
(d) not-p is an undefeated defeator of b for S and not-q does not defeat b for S.

Each of U's conditions is satisfied in the van case. The relevant propositions

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[8] I shall take the notion of 'epistemic probability' as undefined.

[9] k should also be thought of as including a complete description of the way S is 'appeared to'.

[10] Two points. First, the notion of 'defeator' I am working with here is a technical notion. Though it bears a resemblance to common sense ideas about defeat, I do not mean it as an analysis of any common sense notion. And second, I do not specify a determinate value for n as this will vary from context to context.

are these:

b = 'I (Jones) own a Chevy van'
p = 'It's not the case that my van has been destroyed'
q = 'I just won the van contest'.

Or, take the prune case. Here too, each of U's clauses is satisfied, and the mini-environment is unfavourable:

b = 'The jar contains 138 prunes'
p = 'It's not the case that the number of prunes in the jar has changed since you submitted your contest entry card.'
q = 'Your uncle placed 138 prunes in the jar because you guessed there were 138 prunes in the jar'

And one more example, Russell's clock case. Here you look at the clock and form the belief that it's one o'clock. Unbeknownst to you, though, the clock has stopped exactly twelve hours ago. Your belief is true, but it's true by accident. Your mini-environment, accordingly, is unfavourable for this exercise of cognitive power. And U bears this out:

b = 'It's one o'clock'
p = 'The clock is working fine'
q = 'The clock stopped working exactly twelve hours ago'.

We can now say what it is for a mini-environment to be *favourable* for a given exercise of one's cognitive power:

(F)   *ME* is favourable for exercise E of S's cognitive powers $=_{df}$ *ME* is not unfavourable for E.

And, we can see how to repair Plantinga's account: interpret his Resolution Condition (RC) in terms of (F) rather than (F). So emended, I suggest, his account does not fall prey to the type of Gettier objection noted above.

In closing, then, I have argued that Plantinga's concept of a mini-environment is flawed, and, more importantly, that his concept of favourability leaves his account open to Gettier objections. I propose a new way of thinking about favourability and a modified resolution condition which, so far as I can see, leaves his account less vulnerable to Gettier difficulties.[11]

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