

Response to Stephen Law on the Evolutionary Argument Against Naturalism

Calum Miller

Received: 21 May 2014 / Revised: 6 September 2014 / Accepted: 13 October 2014 /

Published online: 21 October 2014

© Springer Science+Business Media Dordrecht 2014

Abstract Alvin Plantinga's evolutionary argument against naturalism argues that the probability of our possessing reliable cognitive faculties, given the truth of evolution and naturalism, is low, and that this provides a defeater for naturalism, if the naturalist in question holds to the general truths of evolutionary biology. Stephen Law has recently objected to Plantinga's evolutionary argument against naturalism by suggesting that there exist conceptual constraints governing the content a belief can have given its relationships to other things, including behaviour (CC). I show that Law's objection fails, since it offers an auxiliary hypothesis to naturalism which is itself improbable. I consider multiple variants of the CC thesis, demonstrating that each is improbable, and that any weaker version with greater prior probability is compromised by a failure to render the relevant datum – the reliability of our cognitive faculties – probable. Thus, Law's objection to Plantinga's argument fails.

Keywords Evolutionary argument against naturalism · Naturalism · Semantic epiphenomenalism · Alvin Plantinga · Conceptual constraints · Stephen Law

The EAAN and Law's Objection

Alvin Plantinga's preliminary evolutionary argument against naturalism (EAAN) argues that, given evolutionary naturalism (E&N), the probability of our possessing reliable cognitive faculties (R) is low. It follows, according to Plantinga, that if one believes E&N, one has a defeater for R. And if one has a defeater for R, one has a defeater for any belief produced by one's cognitive faculties, including the conjunction E&N. If one has a defeater for E&N, one cannot rationally accept it.

One step in this argument is to show that given evolutionary naturalism, semantic epiphenomenalism (SE) is very probably true. That is, $P(SE|E\&N)$ is very high. Since, on semantic epiphenomenalism, belief content is acausal, it is very difficult to see how belief content can be relevant to behaviour. It seems that belief content and behaviour

C. Miller (✉)

University of Oxford, Oxford, UK

e-mail: c.miller@oxon.org

are completely independent on this view, with the result that evolution, selecting only for the latter, should give us no reason whatsoever to think that our cognitive faculties are reliable. Thus, $P(R|E\&N\&SE)$ is very low.

It is possible, however, that reductive materialism (RM) is true. Since RM takes up a significant proportion (or perhaps all) of the probability space under $E\&N\&\sim SE$, it is possible that RM may give a reason for the naturalist to hold to R. On RM, semantic properties *are* neurophysiological properties, so that semantic properties of beliefs may indeed be causal. But on RM, Plantinga argues, there is no reason why R should hold, since it is really the adaptive behaviour which is important in evolution, rather than the truth of the belief itself. Since the ‘correct’ (i.e. most useful) adaptive behaviour can result from incorrect beliefs, there is no reason why selecting for correct adaptive behaviour should result in us generally having true beliefs. Thus, $P(R|E\&N\&\sim SE)$ is also low, unless there is some hypothesis H such that $P(H|E\&N\&\sim SE)$ and $P(R|H\&E\&N\&\sim SE)$ are both high. It is implicitly assumed that there is no such H. Since $P(R|E\&N\&SE)$ and $P(R|E\&N\&\sim SE)$ are both low, it follows that $P(R|E\&N)$ is also low.

Stephen Law has recently objected as follows (Law 2012): In advancing the EAAN, Plantinga has overlooked the possibility of the naturalist holding to CC, the thesis that there exist conceptual constraints governing the link between belief content and behaviour which exclude the possibility of, or make less likely, certain contents of beliefs related to any given behaviour. In particular, Law offers the thesis CC+, which says that these conceptual constraints specifically eliminate a number of *false* contents of beliefs related to any given behaviour. Law argues that these conceptual constraints may imply that belief content will indeed be preferentially selected for by natural selection. Further, Law argues, this response does not depend on a move away from SE. It may be that these conceptual constraints exist such that even if true beliefs are acausal, they will still be positively relevant to a given behaviour’s being adaptive.

I argue that this objection makes a critical mistake. Namely, it rests on the ‘adjunct hypothesis fallacy’, whereby auxiliary hypotheses consistent with the data are proffered in order to show that one’s original position is not undermined by certain data. There is nothing intrinsically wrong with such a move. But if the adjunct hypothesis in question has been advanced without any supporting evidence or intrinsic plausibility, then it will not be a satisfactory response. In the first place, it is dialectically unsatisfactory, since it would require the proponent of any argument to deal with an indefinite number of adjunct hypotheses before persuading an opponent. Consider how easy it is to make such a response: all one has to do is come up with an auxiliary hypothesis which entails the evidence. This can easily be done, since all one has to do is think up any possibly true statement and conjoin it with a statement of the evidence, and the conjunction will be such a hypothesis. But clearly there are an infinite number of such easily generated hypotheses, and it is surely not incumbent on the proponent of an argument to show that each of these hypotheses is itself improbable before any dissenters even suggest them. In particular, if no evidence or argument is given for the moderate or high probability of those adjunct hypotheses, it is far from clear that the proponent of the original argument has a duty to demonstrate their improbability even after a dissenter has offered them.

This kind of response makes the implicit assumption that suggesting an adjunct hypothesis which makes the original hypothesis fit the data better saves the original

hypothesis from defeat. This is only the case if the adjunct hypothesis is itself probable given the conjunction of the hypothesis and background evidence (which may include independent evidence for the adjunct hypothesis). But in this case, Law has offered no reason to suppose that this is so, and I will argue that there is very good reason to think that Law's adjunct hypothesis is improbable. In addition to highlighting this major mistake, I argue that R is still unlikely even on CC^+ , and that any variants of CC^+ which render R probable will be associated with a counterbalancing decrease in the probability of CC^+ itself.

Adjunct Hypotheses

Consider the following story: in investigating a robbery, we come across CCTV footage of a gentleman – let's name him Liam – in the right place at the right time to commit the robbery. This CCTV footage demonstrates clearly enough to us that there are no other plausible candidates for the robbery. This evidence is very difficult to explain if Liam did not commit the robbery. Thus, if F represents the footage, and L the hypothesis that Liam is the robber, $P(F|\sim L)$ is very low. It seems fair to say, in the absence of some exceptional circumstances, that this will be enough to make $P(L|F)$ relatively high – high enough to confirm Liam's guilt beyond reasonable doubt, we might say.

But perhaps this is too fast. Suppose I offer the following hypothesis T : Liam has an identical twin brother with a strong motivation for committing the robbery, and who has a history of performing very similar crimes. Suppose, additionally, that I offer very little evidence, perhaps none at all, that T is actually true. I offer no reason to think that T is indeed the case, but I claim that the jury have committed a fatal flaw in overlooking this possibility. After all, if T is true, then we have perfectly good reason to expect F , even though L is false. The jury has ignored the fact that there are other perfectly good explanations for F , other than L . That is, $P(F|T)$ is high, perhaps even higher than $P(F|L)$, and so those who condemn Liam are failing in their duties by assuming that $\sim L$ fails to explain F . I have come up with a hypothesis which explains F perfectly, and which is consistent with $\sim L$. So F will not be enough to render $\sim L$ unbelievable.

$P(F|T)$ is, of course, high. After all, T gives us very good reason to expect the evidence we have. But, it will be noted, this does nothing to establish that $P(F|\sim L)$ is high. Since T takes up only some of the probability space under $\sim L$, the fact that $P(F|T)$ is high is somewhat irrelevant. Even if T predicts F with perfect accuracy, if $P(T|\sim L)$ is low, then $P(F|\sim L)$ will still remain low.

The problem with Law's argument is now obvious: adding an adjunct hypothesis, in this case CC^+ , will do little to help the original hypothesis explain the data if the adjunct hypothesis is itself improbable. For Law's strategy to work, he needs not only $P(R|E\&N\&CC^+)$, but also $P(CC^+|E\&N)$, to be high. Interestingly, he seems to concede this point in his final paragraph, by which time it is too late to demand a demonstration from him that $P(CC^+|E\&N)$ is sufficiently high.

This point is, however, obscured in the rest of the article, by Law's referring to CC^+ as a 'plausible' and 'widespread' belief. It is not clear why CC^+ should be especially *prima facie* plausible to a naturalist, nor is it obvious that it is particularly widespread. But even if it were both of these, this would not be too surprising: after all, a naturalist denying CC^+ would effectively be committed to the claim that R is false! But the ubiquity and apparent

plausibility of CC^+ would do nothing to demonstrate that $P(CC^+|E\&N)$ is actually high. Rather, it would show that people do not really want to give CC^+ up – and Plantinga’s whole point is that in order to hold on to CC^+ (or something like it), one should give up $E\&N$. Law could just as easily say that R itself is plausible and widely held among naturalists – and thus that Plantinga’s argument fails, since the naturalist can hold to $E\&N\&R$, which trivially predicts R with perfect accuracy. But such a response would fail to do justice to the difference between whether R is plausible *given everything we know* and whether R is probably given only $E\&N$. The same is true here.

A quick note about the dialectical situation is in order: it will virtually always be possible for a naturalist wanting to preserve R to produce an adjunct hypothesis A such that $P(R|E\&N\&A)$ is high. Naturally, an EAAN proponent will want to hold that in these cases, $P(A|E\&N)$ is low. But then it will still be possible for the naturalist to claim that an EAAN proponent is overlooking a new hypothesis which also predicts R , given $E\&N$. But this dialectic would prevent any Bayesian argument for any conclusion being made, since in assigning a low probability to some datum D on the rejected hypothesis H , it could always be objected that there is some A^* such $P(D|H\&A^*)$ is high, and that the proponent of the argument has not demonstrated that $P(A^*|H)$ is itself low. But this is evidently an unsatisfactory dialectical situation – and so it is far from clear that Plantinga has a burden to demonstrate that $P(CC^+|E\&N)$ is low.

As it happens, this burden can nevertheless be met in a variety of ways. Firstly, it is worth considering the following hypothesis, which is *prima facie* symmetrical with CC^+ , but which claims the opposite: that there are conceptual constraints excluding the possibility of (or rendering less likely) a belief having true content given its relationships to behaviour. Call this hypothesis, which also falls under CC , CC^- . Given the symmetry between CC^+ and CC^- , it is plausible that $P(CC^+|E\&N\&CC) \leq P(CC^-|E\&N\&CC)$. Since CC^+ and CC^- are mutually inconsistent, it follows that $P(CC^+|E\&N\&CC) \leq 0.5$. Moreover, it is perfectly plausible that neither of these are true – that CC is false. After all, CC seems to commit us to the view that it is *impossible* that some beliefs can be associated with a given behaviour. But this seems extremely implausible. Consider Plantinga’s examples:

Perhaps Paul very much *likes* the idea of being eaten, but when he sees a tiger, always runs off looking for a better prospect, because he thinks it unlikely the tiger he sees will eat him. This will get his body parts in the right place so far as survival is concerned, without involving much by way of true belief ... Or perhaps he thinks the tiger is a large, friendly, cuddly pussycat and wants to pet it; but he also believes that the best way to pet it is to run away from it ... Clearly there are any number of belief-cum-desire systems that equally fit a given bit of behaviour (Plantinga 1993).

If the kind of CC^+ principle Law needs to preserve R is correct, Law has to hold that these scenarios are in some sense impossible. But this is very implausible. Indeed, there are *real* situations where a false belief accidentally leads to reproductively beneficial behaviour. So CC^+ is incredibly implausible in its strong form.

If it is probable (and, I suggest, highly probable) that CC^+ and CC^- are both false, then it follows that $P(CC|E\&N) < 0.5$. And since $P(CC^+|E\&N) = P(CC^+|E\&N\&CC) \cdot P(CC|E\&N)$, the fact that $P(CC^+|E\&N\&CC)$ is at most 0.5 and that

$P(CC|E\&N)$ is less than 0.5 shows that $P(CC+|E\&N)$ is at most 0.25. This is evidently not high enough for Law’s objection to work. If this is how $CC+$ is to be construed, then $CC+$ is very improbable given $E\&N$.

What about a weaker form of $CC+$, where beliefs associated with beneficial behaviour are simply more probably true? This is hardly a hypothesis, however; rather, it is a claim about the relevant probabilities, namely, that the probability that a given belief is true given its being related in a certain way to a beneficial behavioural response is high. But when seen this way, the suggestion of $CC+$ is hardly the suggestion of an unconsidered hypothesis. Rather, it is just the suggestion that $P(R|E\&N)$ is high after all. But in light of the arguments Plantinga and I have given, this suggestion is not going to damage the EAAN.

So it seems that Law’s objection fails unless he gives us some reason to think that $CC+$ would be expected on naturalism. It will not be enough to say that most naturalists believe $CC+$ or something like it, nor will it be enough to say that $CC+$ is plausible. The suggestion of an auxiliary hypothesis will not damage the argument unless $P(CC+|E\&N)$ is high, and Law has not demonstrated this. Moreover, there are good reasons to think $P(CC+|E\&N)$ is low.

The theorem of total probability states that:

$$P(R|E\&N) = P(R|E\&N\&CC+) \cdot P(CC+|E\&N) + P(R|E\&N\&\sim CC+) \cdot P(\sim CC+|E\&N)$$

Since Law seems to concede that the second addendum is negligible, he needs the first addendum to be high. This will only be the case if both $P(R|E\&N\&CC+)$ and $P(CC+|E\&N)$ are significantly above 0.5. I have argued that there is good reason to suppose that $P(CC+|E\&N)$ is low. But even if it wasn’t, Law would still have to show that $P(R|CC+\&E\&N)$ is high. It is far from clear that this is the case, however. That is, even if we grant the naturalist $CC+$ at no expense, Law has not demonstrated that R would still be expected.

This can be seen by exploring variants of $CC+$ I outlined earlier. Suppose we grant some very weak form of $CC+$, that $CC+$ renders true belief positively relevant to beneficial action. That is, $CC+$ does not exclude the possibility of Plantinga’s alternative scenarios, but it does suggest that those alternative scenarios are less likely. Then $P(CC+|E\&N)$ may not be too low (though, as I have suggested, it is still plausibly lower than 0.5, given the symmetry between $CC+$ and $CC-$). But this positive relevance is hardly enough to make R very probable. After all, even if (for a reason which Law has not given) $CC+\&E\&N$ makes Paul’s belief system about tigers more likely to have true beliefs (e.g. that tigers are dangerous) than they otherwise were, this will be of little use if the probability of Paul’s belief system being correct in the first place is very low. Since there are a great number of false belief systems about tigers which could have been selected for (by producing the same behaviour), it is very reasonable indeed to suppose that $P(R|E\&N)$ is low. So the addition of $CC+$ to our conditional probability may not increase our credence in R enough for R to become overall probable.

Of course, it is possible to modify $CC+$ to a stronger form, so that these alternative belief systems are impossible, or overwhelmingly more improbable than the correct belief system given $E\&N\&CC+$. I considered this in the last section, where I interpreted $CC+$ as

ruling out the possibility of certain belief content being associated with certain behaviours. But this move, while increasing $P(R|E\&N\&CC+)$, will only reduce $P(CC+|E\&N)$ in virtue of the initial implausibility of $CC+$. That is, even though this variant of $CC+$ confers a high probability on R , this increase is counterbalanced by the fact that this stronger variant of $CC+$ is even more implausible than the weaker variant.

Since:

$$P(R|E\&N) = P(R|E\&N\&CC+) \cdot P(CC+|E\&N) \\ + P(R|E\&N\&\sim CC+) \cdot P(\sim CC+|E\&N)$$

and since Law seems to concede that $P(R|E\&N\&\sim CC+)$ is low, it follows that the left conjunct must be high for $P(R|E\&N)$ to be high. This, in turn, requires each of the multiplicands to be significantly above 0.5. It seems, then, that this counterbalancing reduction in $P(CC+|E\&N)$ by moving to a stronger form of $CC+$ will not help Law. No matter how $CC+$ is construed, at least one of the multiplicands will be low. This has the result that $P(R|E\&N)$ as a whole will be low, and so if Plantinga's argument is otherwise correct, the naturalist has a defeater for $E\&N$. I conclude that Law's objection is impotent against the EAAN, and that fault will have to be found elsewhere.

Acknowledgments Thanks to Jonathan Rutledge and David Killoren for commenting on an earlier version of this paper.

References

- Law, S. (2012). Naturalism, evolution and true belief. *Analysis*, 72, 41–48.
- Plantinga, A. (1993). *Warrant and proper function* (pp. 225–26). New York: Oxford University Press.