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Naturalism, Evolution and Culture

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Naturalism, Evolution and Culture

1. Introduction

In my essay, I will argue that evolution does not undermine naturalism. This is because Alvin Plantinga's evolutionary argument against naturalism rests on a false and unmotivated premise and is thus invalid. My argument consists of two parts:

In the expository part, I outline Plantinga's evolutionary argument against naturalism in considerable detail (section 2).

In the argumentative part, I firstly pose William Ramsey's challenge to Plantinga's probabilistic claim that the reliability of human cognitive faculties is low and critically examine Plantinga's response in order to reinforce it (section 3). Secondly, I attack Plantinga's understanding of human evolution, which motivates his cognitive skepticism, as being unduly narrow (section 4).

2. Plantinga's Evolutionary Argument against Naturalism (EEAN)

In chapter 12 of his *Warrant and Proper Function* (1993: 216-37), Alvin Plantinga puts forward an evolutionary argument against naturalism (hereafter EEAN). If valid, EEAN shows that to subscribe to both naturalism and evolutionary theory is irrational or self-defeating.

Thereby, *naturalism* (hereafter simply N) means the metaphysical view that there exist only spatiotemporal entities. Thus, N denies the existence of disembodied minds, ghosts or deities, and, most importantly, the Christian God (cf. Fales 2002: 43). *Evolutionary theory* or Neo-Darwinism (hereafter simply E), on the other hand, is the biological thesis that human beings have evolved through random mutation, genetic transmission of traits and natural selection from primitive life forms (cf. Fales 2002: 44).

The three following claims serve as premises to the conclusion that the conjunction of N and E is irrational or self-defeating:[1]

(1) *Probability Thesis:* the probability that human cognitive faculties are reliable, i.e. produce mostly true beliefs in ordinary conditions, is either low or inscrutable given N and E. Put more technically, P(R/N&E) is low or inscrutable, where R stands for the proposition that human cognitive faculties are reliable.

(2) *Defeater Thesis:* If some subject S accepts N&E and (1), she has a defeater for her belief in R.

(3) *Self-Defeater Thesis:* If S has a defeater for R, she has a defeater for all of her beliefs, one of which is N&E.

[1] Here, I follow roughly James Beilby's (2002: viii) reconstruction of EEAN.

Let me comment on them in turn.

The *probability thesis* arises from what Plantinga calls (referring to a letter by Darwin to William Graham in 1881) 'Darwin's doubt'. Darwin's doubt is the worry that, following evolutionary naturalism, the ultimate purpose or function of cognitive faculties will be something like survival, rather than true belief. Put succinctly, in Plantinga's words, 'evolution is interested, not in true belief, but in survival or fitness' (Plantinga 1993: 219). Or, more formally, Darwin's doubt insinuates that P(R/N&E) is low.

In order to substantiate Darwin's doubt, Plantinga goes on to devise a series of hypothetical scenarios (featuring populations of human-like creatures on an Earth-like planet), in which true belief plays no or no significant role in evolution.[2] Most relevantly, there is the possibility of beliefs' being causally connected to behavior, fitness-enhancing or adaptive, yet wildly false. Truth and survival value can come apart. To illustrate his point, Plantinga develops the following scenario:

'Paul is a prehistoric hominid; the exigencies of survival call for him to display tiger-avoidance behavior. There will be many behaviors that are appropriate: fleeing, for example, or climbing a steep rock face… […] Pick any such appropriately specific behavior B. Paul engages in B, we think, because, sensible fellow that he is, he has an aversion to being eaten and believes that B is good means of thwarting the tiger's intentions. But clearly this avoidance behavior could be a result of a thousand other belief-desire combinations: indefinitely many other belief-desire systems fit B equally well. […] Perhaps Paul very much *likes* the idea of being eaten, but whenever he sees a tiger, always runs off looking for a better prospect, because he thinks it unlikely that 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.' (Plantinga 1993: 225)

[2] Among the variables are causal efficaciousness, content, survival-advantage (i.e. adaptiveness) and truth (cf. Plantinga 1993: 223ff. ; see also Fales 2002: 47f.). For the purposes of my essay, I only discuss the scenario most important to naturalists, namely false, yet adaptive beliefs.

The moral of the scenario is straightforward: adaptive belief need not necessarily be true. Truth is no necessary condition for adaptiveness. Put differently, Paul's adaptive behavior is essentially *underdetermined* in regard to the truth or falsity of the beliefs that cause it. False beliefs can be perfectly adaptive too. This, however, makes it improbable that our cognitive faculties, which were naturally selected for, are reliable. Therefore, P(R/N&E) is low.

Plantinga concedes that the argument is by no means irresistible. Instead, the sensible course might be agnosticism: one does simply not know whether P(R/N&E) is low or not. In that case, one should withhold belief altogether (Plantinga 1993: 231).

Most plausibly, however, is a disjunction of the two: P(R/N&E) is either low, as intimated by the scenario above, or inscrutable, as agnosticism would have it. Thus, in sum, we get the probability thesis: P(R/N&E) is either low or inscrutable.

The *defeater thesis* claims that whenever some subject S accepts N&E and the probability thesis, she has a defeater for her belief in R. Something qualifies as a defeater D for proposition B in case it meets the following condition: If S continues to believe B despite believing D, then S is *irrational* (cf. Plantinga 1993: 40f.). Basically, there are two types of defeaters: whereas *rebutting* defeaters defeat B by being a reason to believe not-B, *undercutting* defeaters defeat B by being a reason to doubt the trustworthiness of B's very source (cf. ibid.). The defeater thesis features an undercutting defeater: N&E together with (1) undercut the belief in R. Not only is it irrational to continue believing in R, but also is it irrational to trust

in R's source, namely one's cognitive faculties (cf. Plantinga 1993: 231). The *self-defeater thesis* follows from the defeater thesis: once the reliability of human cognitive faculties is undermined, it is irrational to believe in anything these faculties produce, including N&E. After all, N&E proves to be self-defeating.

Thus, (1)-(3) jointly imply that holding N&E is irrational.

However, why is it an argument against N, instead of N&E? This is because Plantinga thinks that N is less plausible than E, and thus has to give in order for S to avoid being irrational. Moreover, Plantinga holds that theism should replace N, since it circumnavigates the trouble N faces. Theism (hereafter T) is the view that there is a supernatural being or deity like the Christian God. According to T, there is no reason for doubting that it is a purpose of our cognitive systems to produce true beliefs (cf. Plantinga 1993: 236). The form of E that T may endorse is one guided by God, who is omniscient and has created us human beings in His infallible epistemic image, i.e. has endowed us with a reflection of His powers as a knower (cf. ibid.). Therefore, given T&E, P(R) is comparably high. In sum, we have EEAN: an argument from E against N. Put differently, evolution undermines naturalism. Thereby, EEAN does not argue for the falsehood of N and the truth of T. Rather, it's an argument for the conclusion that, given E, accepting N is irrational. N could still be true, yet not rationally acceptable (cf. Plantinga 1993: 235).

In the remainder of my essay, I will focus on the plausibility of the probability thesis. In section 3, I will critically examine whether Plantinga meets a challenge posed to the evolutionary scenario cited above. In section

4, I will attack the understanding of evolutionary theory that underlies EEAN and especially the probability thesis.

3. Ramsey's Challenge Reinforced

In this section, I will present a challenge posed to Plantinga's probability thesis by William Ramsey (2002)[3] and critically examine Plantinga's (2002) response in order to reinforce it.

According to Evan Fales (2002: 47), the best strategy for a naturalist against EEAN amounts to arguing that the probability thesis is false. This would render EEAN invalid.[4] Ramsey does exactly that by issuing a challenge to Plantinga's scenario cited above (cf. Ramsey 2002: 20f.). He concedes that the scenario may illustrate the fact that there's a huge array of possible false belief-desire pairs that would generate a given bit of adaptive behavior on a particular occasion. However, it does little to show that natural selection is likely to generate cognitive mechanisms that are *systematically* unreliable but somehow prove adaptive. Instead, Plantinga puts forth random instances '…in which erroneous thinking happens to prove lucky for the cognitive agent' (Ramsey 2002: 20). Moreover, Plantinga's scenario is clearly maladaptive: it would not work in the long run. Thus, Ramsey's challenge questions whether Plantinga can provide an evolutionary scenario in which beliefs are *systematically* false yet still adaptive. If it cannot be met, we have reason to believe that the probability thesis is mistaken: in fact, P(R/N&E) is high.

[3] Evan Fales (2002: 50f.) issues nearly the same challenge, but motivates it differently.

[4] Note that, by doing so, one attacks both disjuncts: P(R/N&E) is high and thus, trivially, not inscrutable.

Plantinga's response to Ramsey's challenge (cf. Plantinga 2002: 258ff.) consists of two steps: accusing Ramsey of a conflation and, more interestingly, putting forward an allegedly adequate evolutionary scenario.

Firstly, Plantinga contends that Ramsey conflates two different kinds of mental representation, namely indicator representations and beliefs. *Indicator representations* operate in football players trying to evade tacklers, for instance, or, more instructively, in mercury thermometers.[5] In such thermometers, a certain height of the mercury column can be said to indicate or 'represent' a certain temperature (cf. Plantinga 2002: 259). Therefore, indicator representations have indicator content, e.g. the temperature the thermometer indicates or represents. Further, indicator representations can have accuracy: an indicator representation is accurate if the state that it is in is the one with which it is correlated, e.g. the ambient temperature (cf. ibid.). Such representations will therefore be trivially accurate: if they represent at all, they do it accurately. However, indicator representations are a long shot from genuine, full-fledged belief. Therefore, '…none of this, so far, has anything to do with *belief*, or with the *truth* of a belief' (ibid.).

In contrast, *beliefs* have propositional content and are therefore truth-apt, i.e. they can be either true or false. By no means they are simply trivially true. Rather, they can misrepresent and thus be false. Thus, they differ crucially from indicator representations (cf. Plantinga 2002: 264).

Now, Ramsey's challenge seems to involve indicator representations, not beliefs. Since indicator representations are trivially accurate, though, the

[5] Of course, Plantinga does not hold that thermometers have *mental* indicator representations. Thermometers are chosen for their heuristic value only, since they resemble the brain mechanisms that indicate and regulate human body temperature.

challenge does not arise in the first place. No sensible anti-naturalist would argue that indicator representations do not get naturally selected for their accuracy (cf. Plantinga 2002: 259). For beliefs, however, Ramsey's challenge can easily be met. This leads us to the second step of Plantinga's response.

Secondly, Plantinga envisions an evolutionary scenario, which features entire *systems* of mainly false, yet adaptive beliefs. It runs as follows (cf. Plantinga 2002: 260):

Many naturalists[6] hold that religious belief is, although false, adaptive. Now, imagine a tribe of cognitively gifted creatures, which believe that everything (except God Himself) has been created by God and is thus a *creature*. Furthermore, they refer to the various things in their environment only by way of such definite descriptions as 'the tree creature before me'. Additionally, all their beliefs are properly expressed by singular sentences whose subjects are definite descriptions expressing properties that entail the property of creaturehood. That means their beliefs are expressed by sentences such as 'the tiger creature approaching me is dangerous'. Finally, their definite descriptions are Russellian: 'The fastest man in New Orleans is a wide receiver for the Saints', e.g., translates into 'There's exactly one fastest man in New Orleans, and he is a wide receivers for the Saints'. Then, from a naturalist perspective, all of the tribe's beliefs are false. Yet, they can still be adaptive as long as they ascribe the right properties (e.g. being dangerous) to the right creatures. Thus, quite ironically, religious belief, properly modified, meets Ramsey's challenge: it is systematically false yet

[6] Here, Plantinga has in mind the sociobiologist E.O. Wilson and the philosopher Michael Wilson, although anyone committed to both N and E and trying to explicate religion in biological terms would presumably qualify.

adaptive. After all, truth does not matter for adaptiveness. The probability thesis is true.

In my view, however, Plantinga's response is crucially flawed. More specifically, Plantinga's scenario fails to show that truth is not necessary for adaptive belief. In order to see that, one has to ask what parts or logical constituents of the tribe's beliefs (given that they have the form of Russellian definite descriptions) actually make them adaptive.[7] The answer for a belief such as the one expressed by 'the tiger creature approaching me is dangerous' is straightforward: it is *not* the false religious belief-constituent that everything is a creature. Rather, it is the true belief-constituents that certain creatures like tigers are e.g. approaching and dangerous. Although the whole Russellian definite description, as complex, conjunctive quantification, and thus the belief as such is false, the constituents relevant for the belief's adaptiveness are true.[8] A simple thought-experiment underscores my point: imagine a tribe-member, Mary, who turned atheist and thus lost the false religious belief that everything had been created by God. Would the belief expressed by 'the tiger *creature* approaching me is dangerous' be any more adaptive – ceteri paribus – than the belief expressed by 'the *tiger* approaching me is dangerous'? Presumably not.[9] What matters alone is that atheist Mary still truly believes

[7] That the tribe's beliefs have constituent structure seems to follow from their being best expressed by definite descriptions. However, nothing in my argument turns on this point.

[8] Put formally, the belief has the following logical structure: $\exists x(Cx \wedge Axm \wedge \forall y(Cy \wedge Aym \rightarrow y=x) \wedge Dx)$, where Cx stands for the predicate 'x is a tiger creature', Dx for 'x is dangerous' and Axm for the relation 'x approaching me', etc.. My claim is that Axm and Dx, which are both truly predicated of the tiger, and not Cx, which is falsely predicated, are relevant for the belief's adaptiveness.

[9] Above, Plantinga implicitly concedes that by claiming that the tribe's false religious beliefs prove adaptive as long as they '…ascribe the right properties to the right 'creatures'' (Plantinga 1993: 260).

that an approaching tiger is dangerous and that she acts upon that belief. The false religious belief that everything is a creature does not have any influence on the adaptiveness of her beliefs and behavior whatsoever. Consequently, after all, truth *does* matter for the adaptiveness of belief. Plantinga's response cannot meet Ramsey's challenge.

Eventually, Plantinga's fallacy appears to stem from a *misinterpretation* of the naturalist claim that religious belief is adaptive, which serves as an assumption in Plantinga's story. By it, naturalists do probably not mean that religious beliefs are adaptive on an individual level, e.g. by changing an individual's perception of the environment, as in Plantinga's scenario.[10] Rather, religious belief works more subtly: it increases group cohesion, thus fostering cooperation, which in turn proves adaptive. Put differently, religious belief works as a group-adaptation (cf. D.S. Wilson 2002). Thus, false religious belief *can* be adaptive, after all, but on a collective level. Plantinga's scenario overlooks this possibility and thus misinterprets the naturalist claim. Yet, even if Plantinga interpreted it correctly in its collective sense, the naturalist claim would not help him to meet Ramsey's challenge. This is because *true* beliefs about the environment make sure that individual prehistoric hominids like Paul or Mary survive another day in a world of dangerous tigers, regardless of whether they hold false religious beliefs that prove collectively adaptive.

In conclusion, Ramsey's challenge still stands tall, even somewhat taller. This, however, gives us reason to believe that the probability thesis is false.

[10] The idea that evolution works on different levels is standard in contemporary evolutionary theory (cf. Okasha 2003: 699).

4. An Argument from Cultural Evolution

In this section, I sketch out an argument from cultural evolution. It aims at showing that the probability thesis is unmotivated, as it rests on an unduly narrow understanding of human evolution. Since such an argument has not been put forward previously, I do not expect it to be perfectly cogent and compelling. Rather, it provides some considerations, informed by cutting-edge empirical research on human evolution, which add a further critical dimension to EEAN.

Mainly, I claim that Plantinga's EEAN, and especially the probability thesis, turn on an understanding of human evolution that neglects the role of culture and cultural evolution, as opposed to nature and natural evolution. This renders it unduly narrow. For in recent biological anthropology and evolutionary theory, the consensus has emerged that culture is a second major force in human evolution (cf. Van Schaik 2007: 112), 'leading to evolutionary processes that are every bit as real and important as those that shape genetic variation' (Boyd & Richerson 2005: 4). Even more dramatically, culture is what makes us distinctively human: 'Culture […] may well have been the essential ingredient that set us on the way toward humanity' (Van Schaik 2007: 111).

Thereby, *culture* is conceived broadly as a special kind of information: it is both causally efficacious on individuals' behavior and acquired from members of one's species through various forms of social transmission (e.g. teaching, imitation) (cf. Boyd & Richerson 2005: 5). More precisely, information means any kind of mental state which meets such criteria,

whether that be beliefs, abilities, skills, knowledge or even moral values (cf. ibid.).

Culture bears on EEAN in that it helps us address and undermine the implicit *motivation* behind Plantinga's probability thesis. For Plantinga, what is essentially wrong about evolution is its 'blindness' or lack of 'guidance' (Plantinga 1993: 217, 236). It is opportunistic and thus solely cares about short-term survival. Its focus on adaptiveness, instead of, say, truth, translates into Plantinga's skeptical worry about the reliability of human cognitive faculties. Thereby, naturalism, with its inherent atheism, fails to remedy the shortcoming: it proposes no telos of evolution. Only theism can, according to which 'evolution [is] guided and orchestrated by God' (Plantinga 1993: 236), who has created us human beings in His infallible epistemic image. After all, it is Christian faith that rescues theists like Plantinga from Hume's skeptical loops or the famous game of backgammon (cf. ibid.).

However, given cultural evolution, Plantinga's horror vacui might be unfounded and, consequently, his probability thesis unmotivated. Cultural evolution, in contrast to natural evolution, allows for guidance, if only for guidance by (primitive) human beings. This is because culture features so-called 'guided variation' among its evolutionary forces (cf. Boyd & Richerson 2005: 69, 115f.). Basically, guided variation means that individuals 'may modify existing beliefs, or even invent completely new ones, as a result of their experiences' (Boyd & Richerson 2005: 115). Such innovations are subsequently transmitted socially and thus gain the status of a cultural practice. Just consider how prehistoric hominids discovered the

use of fire. Or, consider, as cultural evolution went on, how Homer's *Odyssey* set the artistic standard of epic poetry for centuries to come. Therefore, cultural evolution contains an undeniable element of *intentionality*, in contrast to random genetic variation, which features prominently in natural evolution. Consequently, evolution, properly understood as including both nature and culture, does not lack guidance altogether. Evolution is not blind, but sees through the eyes of culture.[11]

[11] Of course, I do not want to argue that guided variation is sufficient for ensuring the reliability of human cognitive faculties. However, it is known that culture promotes intelligence (cf. Van Schaik 2006: 66), and intelligence, arguably, might get a species a decisive step closer to cognitive reliability (cf. also Fales 2002: 48f.).

5. Conclusion

In this essay, I have argued that evolution does *not* undermine naturalism. Plantinga's EEAN turns on a premise, namely the probability thesis, which is both false and unmotivated.

On one hand, it is false because of Plantinga's inability to provide the naturalist with an evolutionary scenario in which *systematically* false belief proves adaptive. After all, truth seems to be necessary for adaptive belief, at least for individually adaptive belief, which is solely relevant in the context of EEAN.

On the other hand, the probability thesis is unmotivated since its motivation derives from an unduly narrow understanding of human evolution. Natural evolution does not exhaust human evolution. Rather, *culture* plays a significant role as well. Culture, in contrast to natural evolution, allows for individual innovation and thus makes human evolution not as 'blind' and 'unguided' as Plantinga mistakenly assumes.

6. Bibliography

Beilby, J. (2002): 'Preface', in: *Naturalism Defeated? Essays on Plantinga's Evolutionary Argument against Naturalism*, Beilby, J. (ed.), Ithaca and London: Cornell University Press, pp. vii-x.

Boyd, R. & Richerson, P.J. (2005): *Not By Genes Alone. How Culture Transformed Human Evolution*, Chicago and London: The University of Chicago Press.

Fales, E. (2002): 'Darwin's Doubt, Calvin's Calvary', in: *Naturalism Defeated? Essays on Plantinga's Evolutionary Argument against Naturalism*, Beilby, J. (ed.), Ithaca and London: Cornell University Press, pp. 43-58.

Okasha, S. (2003): 'Essay Review. Could Religion Be a Group-Level Adaptation of *Homo Sapiens*?', in: *Studies in History and Philosophy of Biological and Biomedical Sciences*, 34, pp. 699-705.

Plantinga, A. (1993): *Warrant and Proper Function*, New York: Oxford University Press.

Plantinga, A. (2002): 'Reply to Beilby's Cohorts', in: *Naturalism Defeated? Essays on Plantinga's Evolutionary Argument against Naturalism*, Beilby, J. (ed.), Ithaca and London: Cornell University Press, pp. 204-75.

Ramsey, W. (2002): 'Naturalism Defended', in: *Naturalism Defeated? Essays on Plantinga's Evolutionary Argument against Naturalism*, Beilby, J. (ed.), Ithaca and London: Cornell University Press, pp. 15-29.

Van Schaik, C.P. (2006): 'Why Are Some Animals So Smart?', in: *Scientific American*, 294 (4), pp. 64-71.

Van Schaik, C.P. (2007): 'Culture in Primates and Other Animals', in: *Oxford Handbook of Evolutionary Psychology*, Dunbar, R. & Barrett, L. (eds.), Oxford: Oxford University Press, pp. 103-113.

Wilson, S.D. (2002): *Darwin's Cathedral. Evolution, Religion and the Nature of Society*, Chicago: The University of Chicago Press.