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A DEFENSE OF NATURALISTIC NATURALIZED EPISTEMOLOGY

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SUMMARY: Naturalistic naturalized epistemology combines ontological naturalism with naturalized epistemology. Ontological naturalism is the view that nothing exists other than spatio-temporal beings embedded within a space-time framework. Naturalized epistemology is a view about the nature of knowledge characterized by its commitment to externalism and the idea that knowledge consists in beliefs reliably generated by cognitive mechanisms operating in a suitable environment. Alvin Plantinga has provided a much discussed evolutionary biological argument against naturalistic naturalized epistemology. In this article I defend naturalistic naturalized epistemology by refuting Plantinga's replies to two important criticisms of his argument.

KEY WORDS: epistemology, naturalized epistemology, naturalism, Alvin Plantinga

RESUMEN: La epistemología naturalizada naturalista combina el naturalismo ontológico con la epistemología naturalizada. El naturalismo ontológico sostiene que no existe nada más que seres espacio-temporales inmersos en un marco espacio-temporal. La epistemología naturalizada sostiene que la naturaleza del conocimiento se caracteriza por su compromiso con el externismo, y la idea de que el conocimiento consiste en creencias generadas de manera confiable mediante mecanismos cognitivos que operan en un entorno adecuado. Alvin Plantinga ha propuesto un muy discutido argumento biológico evolucionista contra la epistemología naturalizada naturalista. En este artículo defiendo esta epistemología refutando las réplicas de Plantinga a dos críticas importantes a su argumento.

PALABRAS CLAVE: epistemología, epistemología naturalizada, naturalismo, Alvin Plantinga

Ontological naturalism is the view that nothing exists other than spatio-temporal beings embedded within a space-time framework. As such, it denies the existence of abstract entities such as propositions and numbers, Platonic universals, disembodied minds, gods, and the like. Naturalized epistemology is a view about the nature of knowledge characterized by its commitment

to externalism and the idea that knowledge consists in beliefs reliably generated by cognitive mechanisms operating in a suitable environment. Externalism is the view that to know that *P* one need not know that one's belief that *P* has been reliably generated (Fales 1996).

In recent years, Alvin Plantinga has defended theistic naturalized epistemology. Among other things, theism includes the idea that there is an omniscient, omnipotent, and all-good creator of the universe that knows and loves us. As such, theism is incompatible with ontological naturalism. Alvin Plantinga argues that naturalized epistemology is the correct view on the nature of knowledge, but he contends that when combined with ontological naturalism it is an untenable position. In contrast, when combined with theism, naturalized epistemology becomes tenable (Plantinga 1993, 2002a).

According to Plantinga, the problem with naturalistic naturalized epistemology (NNE), naturalized epistemology combined with ontological naturalism, is that for ontological naturalists the most plausible account of the existence of human beings and their cognitive capacities is the Darwinian account, which views human existence and human cognitive capacities as the products of the blind forces of natural selection. According to this Darwinian account, the cognitive capacities we have would exist as they are in us because of their tendency to enable us to survive and reproduce. Plantinga argues that there are any number of ways in which unreliable cognitive capacities could serve the ends of successful survival and reproduction. For this reason he concludes that if we are not the products of God's intelligent design, but instead are simply the products of Darwinian natural selection, then there can be no good reason for us to think that we possess cognitive capacities that are reliable producers of true beliefs. This in turn would mean that if NNE is true, then we cannot really know anything, including whether or not NNE is true. In contrast, when naturalized epistemology is combined with theism, yielding theistic naturalized epistemology (TNE), we do not fall into this skeptical problem because according to TNE we are the products of God's intel-

ligent design. According to theism, we are made in the image of God. Since God is omniscient, we would then have good reason to believe that our cognitive capacities would be reliable producers of true beliefs.

A key premise in the preceding argument is Plantinga's claim that there are any number of ways in which unreliable cognitive faculties could serve adaptive ends. In the literature he has provided five different scenarios which he thinks illustrate the ways in which unreliable faculties could be adaptive. All of these scenarios have come under attack by critics (e.g. see Fales 1996, 2002). In responding to these attacks, Plantinga has been willing to concede the problematic nature of three of these scenarios, while insisting that the other two are legitimate and equiprobable alongside the scenario in which our cognitive faculties are reliable producers of true beliefs. He believes that as long as two of his five scenarios remain equiprobable alongside the reliable faculties scenario, his evolutionary argument against NNE is sound (Plantinga 2002b, pp. 262–267).

The two scenarios which Plantinga insists on defending have been described in the literature as follows:

> *The Syntactic Control Scenario:* Beliefs might indeed causally affect behavior, but do so in a way that is sensitive only to their syntax, not to their content or semantics. Thus, the *truth-value* of a belief would be irrelevant to its role in producing adaptive behavior.
> *The False Adaptive Beliefs Scenario:* Evolution might produce organisms in which false belief leads to *adaptive* action. As Plantinga points out, this can happen in several ways. Freddy the caveman may believe that saber-toothed tigers make great pets, may want to tame the one that has just appeared, and believe that running away from it as fast as he can is the best way to corral it. Or Freddy may want to be eaten, believe correctly that this cat will eat him if given the chance, and believe falsely that shoving a firebrand in its face maximizes the chances for his desired fate. Why should we suppose that if nature selects for creatures whose actions are guided by their beliefs (and desires), it will be *true* beliefs that confer the greatest selective advantage? (Fales 2002, pp. 47–48)

In this essay I intend to briefly explain the criticisms of these two scenarios and Plantinga's replies to these criticisms. I will then go on to argue that his replies are inadequate and that, consequently, his argument against NNE is inadequate.

1. *The Debate over* The Syntactic Control Scenario

It has been argued that from a naturalistic perspective

> mental representations get their content in virtue of being caused in the right way by items in the environment; and that this is a *conceptual* truth. Thus if a mental representation is caused in the right way by heat, then it is a representation of heat; and if it is not so caused, then it is not a representation of heat. So long as representations are causally linked to the world via the syntactic structures in the brain to which they correspond, this will guarantee that syntax maps onto semantics in a generally truth-preserving way. (Fales 2002, p. 50)

This is taken to suggest that the probability of The Syntactic Control Scenario is not as high as the probability of the scenario in which our cognitive faculties are reliable.

In responding to this criticism Plantinga concedes that semantic content maps onto neurophysiological (syntactic) properties but he doesn't see why the content that maps onto it must be true. He has us suppose a mental representation is a representation of x just if it is caused in the right way (whatever that is) by x. But then he asks: why think the representation (belief) in question must be a true representation?

> Suppose a representation (a belief) is caused in me in the right way so that it is a representation of a tree: why suppose it must be a *true* representation of a tree? Can't I have a false belief about a tree? Maybe the tree is a beech, but I think it's an elm: can't that happen? Why does Fales overlook this question? (Plantinga 2002, p. 263)

Plantinga believes the criticism of this scenario lacks the requisite support.

2. *The Debate Over* The False Adaptive Beliefs Scenario

In reply to The False Adaptive Beliefs Scenario it has been argued that problems arise when false beliefs that are adaptive on some occasions are used in inferential processes. When false beliefs are inserted into deductive arguments, the truth values of the resulting conclusions are random and some of these conclusions are likely to be dangerous falsehoods. Consider the following:

> Freddy, who is carrying a heavy rock he falsely believes to be light and soft, nearly steps on a puff adder. Believing that being hit by something light and soft will be fatal for the adder (also false), he quickly drops the rock on it, and lives to see another day. So far so good for Freddy. Continuing on with his rock, Freddy encounters an angry warthog on the trail. Still believing the rock to be light as a feather, and believing (falsely) that dancing upon something light deters warthogs, Freddy proceeds to do a two-step on top of the rock directly in the path of the charging pig. The moral of this fable is plain: there are no effective algorithms connecting false belief to appropriate action, as there are when the input is true beliefs and the rules of inference employed are valid or inductively sound. Intelligent action is hard enough for a brain to manage; burdening it with ever-changing, completely arbitrary principles would make the task impossible. Freddy may survive the adder, but he will not live long. Nor will his genetic heritage. (Fales 2002, p. 51)

Given the prevalence of deductive inference in the reasoning that guides our behavior, and given that false beliefs fed into this reasoning would generate random resultant beliefs that could be either true or false, and given that false outputs can be hazardous in so many ways, The False Adaptive Beliefs Scenario does not seem very probable.

In reply to this, Plantinga gives a more detailed account of how unreliable faculties could be adaptive. He states:

> Suppose naturalism is true and in fact there is no such person as God. Now several naturalists (E.O. Wilson and Michael Ruse, for example) have argued that belief in God, while false, is nonetheless adaptive. So suppose a tribe of cognitively gifted creatures believe that everything (except God Himself) has been created by God; they therefore think everything is a *creature*, i.e., something created by God. Suppose further that their only way of referring to the various things in their environment is by way of such definite descriptions as 'the tree creature before me' or 'the tiger creature approaching me.' Suppose still further that all their beliefs are properly expressed by singular sentences whose subjects are definite descriptions expressing properties that entail the property of creaturehood —such sentences as 'The tiger creature approaching me is dangerous' or 'The tree creature before me is full of apple creatures'. Suppose, finally, that their definite descriptions work the way Bertrand Russell thought definite descriptions work: 'The tallest man in Boston is wise', for example, abbreviates 'There is exactly one tallest man in Boston, and it is wise'. Then from the naturalist perspective all their beliefs are false. Yet these can still be adaptive: all they have to do is ascribe the right properties to the right 'creatures'. (Plantinga 2002b, p. 260)

In this way Plantinga thinks he has shown that, despite the alleged problem of deductive inference, we can indeed have lots of false but adaptive beliefs.

3. *Early Humans, Adaptive Faculties, and Inheritance: A Reply to Plantinga*

Plantinga shows quite convincingly that we could get on quite well in the world with many false beliefs. At the same time, though, we have to get many things right to make our way in the world. Lacking the capacity to distinguish reliably between dangerous situations and safe ones, for instance, cannot be adaptive. Clearly, reliability of our faculties in at least some contexts is needed. The problem here is clarifying just what these contexts are and figuring out what significance reliability in these contexts might have for the reliability of our cognitive faculties in general.

Reliability will be important in the contexts of recognizing danger, finding food, finding mates, meeting the needs of children, as well as other related sorts of things. Additionally, the reliability of one's capacities in discerning these things will have important implications for the reliability of our cognitive capacities in general. When you look at things from the evolutionary biological perspective, it is quite reasonable to think that early humans and/or our proto-human ancestors were primarily concerned with the kinds of fundamental issues referred to above —avoiding danger, finding food and water, etc. These issues would have been the central focus of their thought. Consequently, very early on in the evolutionary history of humans and/or our proto-human ancestors having reliable cognitive capacities was important, because the pressing issues of the day arose in those contexts where accuracy counts. Additionally, it seems doubtful that such humans or proto-humans would have any beliefs at all about whether things were creatures of God. Beliefs were probably more along the lines of "That's dangerous", "That's food", "That's a possible mate", etc. Getting these things right is important and referring to things as "this" and "that" does not commit one to any position on whether they are creatures of God. The identification of something as a creature of God requires a mode of thought that is too sophisticated to be reasonably attributed to the primitive sorts of ancestors to which I am referring here. For these reasons I think it reasonable to conclude that in our proto-human and early human ancestors having reliable cognitive capacities was very adaptive and lacking them was maladaptive. Thus, from the evolutionary biological perspective it is reasonable to conclude that we have inherited these reliable cognitive capacities.

In reply to this, Plantinga might argue that even though reliable cognitive capacities were needed by our evolutionary ancestors, these reliable capacities were designed to serve them well for survival and reproductive success in their own environments. The point could be made that we live in rather different environments today, where, for instance, food production, presentation, and delivery, has changed radically. It might be

argued that the processes which were reliable in the environment of our ancestors are not reliable today given our changed environment.

However, this kind of reply is answerable. While it is true that our environment has changed and, for instance, we have to be able to distinguish between a package of candy and a package of pills or poison in order to survive, whereas our ancestors didn't, it is also true that like our ancestors we must be able to reliably distinguish between food and not-food, mate and not-mate, etc. Some learning will be needed to do this well in our environment, just as some learning was probably needed for this by our ancestors in their environments, but it also seems very likely from an evolutionary biological point of view that the more fundamental conceptual capacities that enable this kind of learning, resulting in the development of reliable capacities for drawing these distinctions, have been inherited from our evolutionary ancestors. Thus, despite the change in the evolutionary conditions faced by our distant human or proto-human ancestors, it is likely that they would have had some of the same basic conceptual capacities that we have and which enabled them and enable us to reliably distinguish between food and not-food, mate and not-mate, etcetera.

A related but different objection could be made concerning the fact that today we have theoretical knowledge in such diverse fields as the natural sciences, mathematics, history, etc. Plantinga might argue that while we do have knowledge in these subjects, they involve thinking about things for which our cognitive capacities were not originally adapted. Thus, even if I am right that at some point in early human or proto-human history reliable cognitive capacities were required, enabling the detection of food and mates and the avoidance of danger, there is no reason to think that the reliable capacities needed for advanced mathematical or scientific understanding were produced through the processes of natural selection. For there is much scientific, mathematical, and historical knowledge that has little value for survival and/or reproductive success.

This kind of reply won't work either, for it is more reasonable to look at the cognitive labor employed in science and math as an extension of reliable cognitive capacities into new domains than the ones in which they were originally put to use. The most fundamental inductive and deductive reasoning principles that helped our ancestors acquire vital true beliefs in our distant evolutionary past are used today in science and math but have been refined and extended into more elaborate systems of thought. These are logical extensions upon basic principles of rationality that were already present in our ancestors, enabling them to accurately represent and infer the nature of reality so as to survive and reproduce. Since the methods of contemporary science and math are logical extensions of what we have good reason to believe were originally basic principles of reason employed by the reliable cognitive systems of our ancestors, it is reasonable for the evolutionary naturalist to regard our cognitive capacities as reliable producers of true beliefs even in the context of contemporary science and math.[1]

Perhaps, at this point Plantinga would concede that there is some good reason to think evolution alone, without the guidance of God's direction, could explain the existence of our cognitive faculties, and perhaps he would even concede that a certain degree of reliability might be required of these faculties to enable reproductive success. But he might also contend that due to what I shall call "the problem of false positives" we can never really be warranted in claims about the reliability of our faculties. Thus, he might say that NNE still results in skepticism.

[1] For an excellent summary of the view that the reasoning used in contemporary science and mathematics is an inherited adaptation from our protohuman ancestors, see Michael Ruse 1998. See also Quine 1969. The relevant empirical research concerning cross-cultural similarities in systems of logic and mathematics can be found in Staal 1967 and Bochenski 1961. For relevant empirical findings concerning the innate mathematical and reasoning abilities of children, see Gelman 1980, Gelman and Gallistel 1978, Marks 1969, and Seligman 1972. And for empirical data on the mathematical and reasoning abilities of chimpanzees, see King and Fobes 1982, Premack 1976, Gillan, Premack, and Woodruff 1981, and Gillan 1981.

The problem of false positives might be expressed in terms of the following example: imagine a species of bird the individual members of which believe danger is present whenever they hear noises other than bird songs. As a consequence of this they fly away from where they are whenever they hear noises other than bird songs. Now not all noises indicate danger. So, these birds will form many false beliefs and act on them, flying away from what they perceive as danger. But these birds can get on quite well with all of these false beliefs as long as they still get enough moments of quiet to eat and mate, etc. Also, since they will flee when there *is* danger, the belief that noise indicates danger will serve adaptive purposes.

This example is intended to show how cognitive faculties which frequently produce such false positives and are, consequently, unreliable, may persist within a species and even serve adaptive ends. Thus, Plantinga might argue that if one accepts NNE then one could have no ground for believing in the reliability of one's faculties and no ground for thinking one knows anything.

But in reply I would contend that we do know things and we have grounds for thinking we do. Thus, if we are the products of the blind forces of natural selection then there must be some plausible Darwinian explanation for why we have cognitive capacities which are sufficiently reliable for the possession of knowledge. Is there one? Of course, there is! Thus, I am inclined to think the problem of false positives poses no serious threat to my case.

While it is true that the members of some species may get on quite well while forming many false beliefs and acting on them, as the birds mentioned above do, this does not mean that a human being would do well if he functioned like this. Since we have knowledge, our cognitive capacities must be reliable producers of true belief. Plantinga and I agree about this. But, unlike Plantinga, I do not view the acceptance of NNE as a defeater for my claim to knowledge, because as noted above there are perfectly plausible Darwinian explanations for the reliability of such capacities. I have already suggested how

such an explanation might proceed. For a more developed account one should see Michael Ruse's *Taking Darwin Seriously* (1998).

If it is demanded that the problem of false positives be answered, then I would respond as follows: since we know things now, our cognitive capacities must be reliable. Cognitive capacities which produce many false positives, as the birds' in our example do, would not be reliable. So, we must not have those kinds of cognitive capacities. That is, our cognitive capacities should not produce false positives in this way. What is the Darwinian explanation for this? Well, suppose that at some point in human and/or proto-human history our ancestors acted as the birds do, believing danger was present whenever there was noise and running away. Such individuals could get on quite well like this as long as they found enough quiet time for eating and mating, etc. But now let's suppose that random mutation produces some human beings or proto-humans that have a more reliable method for discerning danger, a method that does not produce so many false positives. Certainly, this is likely to provide them with adaptive advantages. While their competitors are running away in terror due to mistaken beliefs about the dangers of a situation, these humans or proto-humans will carry on getting more food, better shelter, and perhaps more and/or better mates. All of which would favor them in reproductive success. Thus, given that the elimination of such false positives would serve adaptive ends and given that random mutations do occur, there *is* a plausible Darwinian explanation for the reliability of our cognitive capacities. For all of these reasons, then, I contend that the problem of false positives poses no threat to my argument.

In The Syntactic Control Scenario, Plantinga argues that even though beliefs play a role in causing human behavior they may do so only through their syntax, not their semantics. "Syntax" here is taken to refer to the neurological processes that give rise to the semantic content, the representations of what one is actually thinking about. If syntax alone is the only part of our beliefs involved in causing behavior, then, according to

Plantinga, the truth of our beliefs would be adaptively irrelevant, meaning that from the naturalistic perspective there would be no reason to think our cognitive faculties are reliable.

But, as I have just argued, the contexts in which our human and/or proto-human ancestors found themselves were the kinds of contexts in which having true beliefs was fundamentally important. Those proto-humans who for example mistakenly believed poisonous snakes were cuddly, friendly pets were killed off! When mental representations are caused in "the right way" by the environment they will generally be true. "The right way" here is intended to mean the adaptive way. Adaptive beliefs are the ones that foster survival and reproductive success. Those among our early human and proto-human ancestors who were better adapted to their environments survived and reproduced more successfully. But if so, those creatures most likely *formed beliefs* in "the right way", i.e., adaptively, and given the nature of the belief systems they were probably operating with —"This is food", "That is a mate", "This is dangerous"— it is extraordinarily difficult to see how anything but true semantic content could have been correlated with their adaptively successful syntactical structures. How could thinking "Trees are mates" or "Rattlesnakes are safe" translate into behaviors that are consistently reproductively successful? It seems terribly unlikely, and so, for these reasons, it is reasonable to conclude that our early human and/or proto-human ancestors did possess reliable cognitive capacities, and because of this it is reasonable to think that our cognitive capacities are reliable too.

In reply Plantinga might say, "Of course it's hard to see how 'Rattlesnakes are dangerous' could be false. That is because it is associated with adaptive behaviors. But if it's the syntactic component of this belief which governs the behavior, and the semantic content is uninvolved, then there really is no reason for us to think it is true even though it is adaptive." In response I want to say, "But look around you and you will see how common it is for people with false beliefs to be hurt by these beliefs! Doesn't this give us grounds for thinking that, whatever the syntactic components of adaptive beliefs and maladaptive

beliefs, the former are generally true and the latter are generally false?"

Plantinga might respond that I am supposing that whatever has been syntactically coded for successful behavior will be true and whatever is coded for unsuccessful behavior will be false, and this begs the question against his argument. According to Plantinga, as strange as it may seem, if naturalism is true and if syntax alone might control our behavior, there is then no reason to think our cognitive faculties are reliable. All the beliefs we typically accept as being true and which help us navigate our way through life are such that we cannot ever really know them to be true. Hence, Plantinga would conclude that NNE leads to skepticism.

At this point it looks as though Plantinga has the defenders of naturalism over a fence. But in the end I think that after a reexamination of what his position and theirs amount to and a consideration of the explanatory weakness of his and the strength of theirs, we will see that there really is more reason to accept the naturalistic perspective. Plantinga's position is that if naturalism is true then when I perceive a rattlesnake before me and I believe there is one before me I have no more reason to think my belief is true than to think it is false. In contrast, I have contended that our ancestors must have had cognitive faculties that were reliable producers of true beliefs in order for them to have survived and reproduced, giving rise to us. Thus, on my view and other things being equal, we have good reason to think our faculties are reliable and good reason to think the belief formed in this scenario is true.

The question, then, becomes which of these views is more reasonable. I think the latter is more reasonable because it is simply too difficult to see how unreliable capacities could be beneficial. Plantinga says unreliable faculties could be beneficial if they produced false beliefs that had adaptive syntactical structures. But this is too sketchy. How exactly would this work? In contrast, it is fairly easy to make sense of how true beliefs are for the most part adaptive. And, yes, any explanation of how true beliefs are for the most part adaptive is likely to assume

that semantic content plays a role in our behavior, *but given the explanatory power we gain by assuming this*, doing so is justified.

4. *Conclusion*

As I have noted, Plantinga's evolutionary argument against NNE depends upon the premise that the reliability of our cognitive capacities is unlikely given the truth of ontological naturalism. He has tried to defend this by presenting five scenarios in which human beings could survive and reproduce with unreliable faculties and arguing that these are equiprobable alongside the scenario in which our cognitive capacities are reliable. He has recently been willing to concede that three of these scenarios may not work, while insisting that The Syntactic Control and The False Adaptive Beliefs Scenarios suffice in supporting his thesis. In this essay I have shown that, despite his best efforts to defend them, even the latter two scenarios are significantly flawed. Thus, we have good reason to think that Plantinga's evolutionary argument against NNE is inadequate.

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