

written by a well known author and printed by a well-known publishing house is pretty surprising. Furthermore, Kummer's main source to illustrate and explain the outlines of ID-theories is the website of a confessed atheist. As anybody knows: there are enough alternative sources that are much more unbiased and reliable than the one Kummer is using, one could think of numerous web pages created by Behe and Dembski, as first-hand authorities, which can inform us about the ID-theory.

Beyond these rather general remarks another note on the tone of the book is in order. This tone is sometimes quite apologetic, especially whenever Kummer approaches rival opinions, or natural scientists who clearly belong to the atheistic camp. This attitude may be a result of the origins of the book – in lectures he had offered to a broader audience all over Germany, lectures that were discussed and debated publicly and heatedly.

In addition a more technical error or rather a technical inaccuracy needs to be addressed. Kummer does not distinguish between the terms "creationism" and "intelligent design" and appears to use both phrases synonymously. In this case the low-key tone of the book goes somewhat too far – especially when certain labels induce very specific arguments or counter-arguments.

Another issue also requires a more specific and more detailed handling. As Kummer points out the evolutionary metaphysics of Teilhard de Chardin entails some sort of pantheism. But Kummer does not take into account the necessary difference between *pantheism* and *panentheism* (p. 192) although the latter could be reconciled with the basics of Christian doctrine and could provide a conceptual basis that is beneficial for Kummer's argument, and of genuine interest to him. In addition Kummer hasn't really shown why or rather how his suggested solution, i.e. Teilhard de Chardin's concept of radial and tangential energy, really differs from the assumption of an intelligent designer (p. 181). Hence, we are still left with the task of spelling out systematically, the differences between the notion of creation on the one hand and purely natural evolution on the other hand. This goal is accomplished only partially by Kummer's reference to Teilhard de Chardin. And it would have been fruitful to take a look at contemporary adherents of Teilhard de Chardin's ideas outside the German speaking world – especially at contributions coming from US authors and theologians such as John F. Haught and others.

Nevertheless, Kummer's investigations and deliberations are really of benefit to a broader audience. Especially noteworthy are chapters 5, 7 and 8 in which the author tries to mediate between biology and science on the one hand and theology on the other. Despite the critical remarks on Kummer's methodology and terminology his work can be seen as a very valuable contribution that successfully leaves behind the sometimes narrow framework of purely academic discussions; its main achievement is to demonstrate that the evolutionary theory does not necessarily threaten the belief in a Creator God and to bridge the gap between biology and theology in showing that, ultimately, both disciplines are mutually dependent. Kummer's book can be recommended to those who are seeking an initial but also substantial insight into the subject, since the book is written by an author who is familiar with all the disciplines involved, and is a trustworthy and reliable scholar, who, after all, plays an important part in current debates on the New Atheism.

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**James Beilby. *Naturalism Defeated? Essays on Plantinga's Evolutionary Argument against Naturalism*. Ithaca and London: Cornell University Press, 2002.**

Alvin Plantinga's "Evolutionary Argument against Naturalism" (EAAN) has created a great stir since its release at the beginning of the 90's. There are several reasons for this: on the one hand, the ontological naturalism that Plantinga opposes in his EAAN is more or less seen as the official doctrine of contemporary analytic ontology; on the other hand, Plantinga argues that the modern synthetic theory of evolution, the sanctum of modern naturalism, has to presume the existence of a theistic God, if it wants to avoid radical skepticism. Plantinga does not attack the theory of evolution in his EAAN, but rather its combination with ontological naturalism, as fostered by critics of theism such as Richard Dawkins. Plantinga tries to constrain the naturalists to a decision between a theory of evolution on the one hand and metaphysical naturalism on the other hand. After all, it is his epistemologically externalist theory of warrant that he refers to in the EAAN. However, epistemological externalism is a vital component of naturalism. Plantinga therefore approves of naturalism in epistemology, in a more or less unrestricted way. From that perspective epistemology has no normative character at all; and so it should become part of an empirical discipline, for instance cognitive science. Since there are, according to metaphysical naturalism, no non-physical or super-natural entities, Plantinga distinguishes rigorously between epistemological and metaphysical naturalism; the latter is what he stoutly denies and tries to disprove in his EAAN.

In order to grasp the core of Plantinga's argument, there is a need to acquaint oneself with the main features of Plantinga's epistemology, in order to understand the basic idea of EAAN. Plantinga presupposes a proper-function-theory of epistemic warrant. Broadly speaking, Plantinga understands 'warrant' as an epistemic feature which transforms true beliefs into knowledge. More specifically: For an epistemic subject S a belief B has warrant, if B is a product of the cognitive faculties of S, these faculties act properly according to their design that is oriented to

creating true beliefs, they work in an adequate environment and are not disturbed by negative influences, and if S knows no good reason against the truth or probability of B, i.e. if S doesn't have a defeater of the warrant of B.

The basic EAAN is made up of three steps: (1) If we assume the truth of naturalism (N) and of the theory of evolution (E), then the (objectively determined) likelihood that we possess a reliable cognitive ability (R) [ $P(R/N.E)$ ] is rather small, or even not assignable. Plantinga justifies this key premise of EAAN by arguing that a naturalist cannot give reasons for the action-relevance of certain convictions. In other words: true convictions are not necessarily favored by the mechanisms of natural selection. This implies (2) those who accept N and E, possess a rationality – or warrant – defeater for the conviction R that their cognitive capability works reliably. But this implies (3) that every epistemic subject that has the convictions E and N and whose cognitive (defeater-) capability works properly (in order, also, to recognize the negative effects of N and E on R) has a direct defeater for R, and with that an indirect defeater for all of his convictions, including E and N. And so his convictions lose their warrant. The combination of the theory of evolution and of ontological naturalism is self-defeating since, in this way, E and N form the core of a defeater for E and N. Since every possible naturalistic defeater of EAAN has to presuppose convictions and the reliability of convictions within the context of evolutionary naturalism, naturalism as such is defeated by EAAN. And thus, basically, EAAN cannot be naturalistically defeated. Therefore Darwinian naturalism is hopelessly self disproving, and hence not a rational option.

James Beilby, the editor of the present volume, includes in it a brief statement of EAAN stemming from Plantinga himself, eleven articles with different objections and Plantinga's answers to them. The articles and Plantinga's typically precise answers range over a variety of topics. According to their arrangement in the book the articles can be classified into four groups. On the one hand they deal with the relationship between the theory of evolution and the reliability of our cognitive apparatus, i.e. with the quality of P (R/E) (Ramsey, Fodor, Fales). The second group deals with the transition from the second to the third step of EAAN, and thereby with the problem of skepticism, and contains (besides articles by E. Sosa and J.V. Cleve et al.) a reformulation of Thomas Reid's

common sense anti-scepticism (Bergmann). The third group focuses on the question of the nature of conditional probabilities, which question is crucial for the first step of EAAN, i.e. this group examines the relativity of probability adjudication given relevant information and deals with the question of how the relevant amount of information can be assigned (O'Connor, Otte). The final group consists of three articles dealing with the nature of epistemic information and an appropriate interpretation of what it is to be or to have a defeater, as the latter is assumed within the second and third step of EAAN (Talbot, Merricks, Alston). It is impossible to go into the details of each article, and of Plantinga's answers, due to the plenitude of thoughts and insights.

Plantinga's defense of his EAAN is mostly, though not always, convincing. The cogency of his argument, or lack thereof, shall be outlined with respect to the two arguments he offers in order to introduce the first step of EAAN.

(1) Based on good reasons, Plantinga indicates that naturalistic theories of the mind imply semantic epiphenomenalism, i.e. make convictions for our actions extraneous. His differentiation between the question of the causal relevance of a conviction qua neuronal appearance and the causal relevance of the content, the propositional object, of a conviction is very helpful. Indeed, the content of a conviction qua content has to be causally irrelevant in the naturalistic perspective. However, from the high probability of semantic epiphenomenalism (S) within the constraints of naturalism and the theory of evolution [ $P(S/E.N) > 0.5$ ] it does not necessarily follow that the truth of convictions, and the evolutionary process of selection, have nothing to do with each other. So it does not necessarily follow from a high degree of P (S/E.N) that the probability that our cognitive mechanisms are reliable, within the constraints of naturalism, the theory of evolution and semantic epiphenomenalism [ $P(R/N.E.S)$ ], is low or not assignable. In other words: Plantinga fails to show this. A naturalist can embrace semantic epiphenomenalism and argue for a causal relationship between the content of convictions and certain occurrences in evolution. What is required as a basis, beyond the basic recognition of the fundamental principles of the theory of evolution, is simply any kind of mind-brain-identity thesis, i.e. the thesis that mental events or patterns are identical with neuronal events or patterns (whether in a token, or type version). Plantinga has to grant this to the naturalist, as he

himself presupposes the identity thesis within his justification of the first step of EAAN. For the identity-theorist a conviction is a neuronal event within which several neurons fire (with inputs and outputs from other neuronal processes and events). Of course, for the naturalist a conviction qua neuronal event is, by causing impulses in the nerves which finally cause the contraction of muscles, causally relevant (which Plantinga admits in part B of his answer). If the resulting movement is within the range of survival-oriented maladaptive behavior with respect to the surrounding environment of the human being, the neuronal pattern behind this movement will be evolutionally withdrawn and, instead, neuronal patterns which cause actions that are better adjusted to the surrounding environment will be preferred. Thus, neuronal patterns get modified via natural selection in order to produce actions adjusted to the surrounding environment. But according to the identity-theory the neuronal pattern determines the content of a conviction (although it may be unclear how this happens in detail). In that case one has to treat convictions, which actually provide the foundation for behavior that is well adapted to the surrounding environment, as if they were causally relevant – like it or not. In other words: in such a case one has to treat those convictions as if they were probably true, because in regard to their causal efficiency they would serve as the foundation of behavior that is well-adapted to the surrounding environment. The convictions as such are not causally relevant, but they can be seen as effective indicators of neuronal patterns that cause behavior that is well-adapted to the surrounding environment and that is, in so far as natural selection is involved, mediated through the modifications of action-relevant neuronal patterns. So, even within a naturalistic theory, a causal influence on convictions and a guided modification of convictions directed by something like a greater reality-accommodation can be spelled out. Plantinga's mistake seems to be that he only takes into consideration the causal relation between conviction and surrounding environment via the causal influence of convictions, qua convictions, on actions. He thereby overlooks the possibility that via natural selection and appropriate modification of neuronal patterns, that determine the content of the conviction within the naturalistic point of view, a selection towards greater truth-likelihood can take place. Such an argument against Plantinga's claim that  $P(R/N.E.S)$  is low, is anything but irrefutable, because it presupposes that it is clear that or how

neuronal structures can receive or produce semantic content. But from semantic epiphenomenalism alone, no criterion for Plantinga's thesis that  $P(R/N.E.S)$  is low or incalculable can be gained.

(2) Plantinga shows, in his second justification of the first step of EAAN that even within the assumption of the action-relevance of convictions it is impossible to derive their truth from the selection-based advantage of certain convictions. Surely there is no essential relation, which connects especially abstract, philosophical and metaphysical convictions to patterns of behavior. But the vital point is to ask how likely it is, given the truth of a theory of evolution, that the (survival-relevant) convictions of beings that are well adapted to their surrounding, are wrong, or that their cognitive mechanisms concerning certain kinds of convictions work unreliably, i.e. create mainly false convictions. The presumption is that the probability is, by all means, not zero. With the help of the theory of evolution the epistemic reliability of the cognitive mechanisms of well adapted natural kinds of beings cannot be assumed to be certain. But the hypothesis of the reliability of the cognitive mechanisms of well adapted natural kinds of beings, appears to me to be *prima facie* equally justified, since it is most likely that this is the easiest explanation of what we call 'advantage' in the process of selection. It is indeed possible to explain the well adapted behavior of human beings with a flamboyant combination of false convictions and wishes rather hostile to survival, but in doing so one is just postulating flamboyant combinations, which appear, at least at first glance, less reasonable. For the naturalist a higher figure of  $P(R/E)$  will do to defeat EAAN naturalistically.

Anyhow, Plantinga showed two things in his EAAN: 1) although the opposite impression is nourished on a regular basis, ontological naturalism is anything but an unproblematic or invariable position; 2) one cannot readily derive ontological naturalism from methodological-epistemological naturalism. Possibly, methodological naturalism requires more epistemological sophistication or even an ontological "supranaturalism" as its foundation.

Translated by Anna Schneider