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BOOK SYMPOSIUM

Alvin Plantinga's *Where The Conflict Really Lies: Science, Religion, and Naturalism*

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BOOK SYMPOSIUM

PRÉCIS TO

WHERE THE CONFLICT REALLY LIES: SCIENCE, RELIGION, AND NATURALISM

by

ALVIN PLANTINGA

In *Where the Conflict Really Lies* I argue for two essential theses: First, there is no serious conflict between current science and religious belief, specifically Christian belief. In particular, there is no conflict between Christian belief and evolution. There is conflict between Christian belief and *unguided* evolution, but the scientific evolutionary theory is neutral as between guided and unguided evolution. Second, there is essential conflict between naturalism, the thought that there is no such person as God or anything like God, and current science. That is because N&E, the conjunction of naturalism with current evolutionary theory, is self-defeating.

IS PLANTINGA A FRIEND OF EVOLUTIONARY SCIENCE?

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Where the Conflict Really Lies (WTCRL) is a superb book, on a topic of great importance, by a philosopher of the highest calibre. There is much to learn from it, much to critically engage, much to inspire further work by others. In this article, I will focus on the question of whether Plantinga is a friend of evolutionary science.

It might seem that the obvious answer is 'yes'. In WTCRL, he sings the praises of science (pp. xi & 3-5) and argues that science fits well within his Christian worldview (pp. 266-303).[1] Elsewhere he claims that he likes science more than those who chide him for not liking it enough.[2] But not all are convinced. After reading WTCRL, Michael Ruse says that Plantinga has a 'real religious-based bias against modern science', that he 'simply isn't prepared to take seriously modern science', and that despite Plantinga's protests to the contrary, he 'accepts [Intelligent Design Theory] over modern evolutionary theory, especially the dominant modern Darwinian evolutionary theory'.[3] And according to Daniel Dennett, Plantinga is a poor student of biology because he doesn't recognize that

[1] Page references in the text are to Alvin Plantinga, *Where the Conflict Really Lies* (New York: Oxford University Press, 2011).

[2] See Alvin Plantinga's letter to the editor of *The Chronicle of Higher Education* (April 11, 2010), in which he responds to a *Chronicle* article by Michael Ruse. Plantinga's letter can be found online at <http://chronicle.com/article/Evolution-Shibboleths-and/64990/> [accessed 17/09/2013].

[3] The first two quotations are from Michael Ruse, 'How Not to Solve the Science-Religion Conflict', *The Philosophical Quarterly*, 62 (2012), 620-5. The third is from 'Alvin Plantinga and Intelligent Design', which Ruse posted on the 'Brainstorm' blog in *The Chronicle of Higher Education* (December 14, 2011) at <http://chronicle.com/blogs/brainstorm/alvin-plantinga-and-intelligent-design/42185> [accessed 17/09/2013].

evolution is a random, unguided process.[4] So does Plantinga accept contemporary evolutionary theory? Does he accept Darwin's theory of natural selection operating in conjunction with random genetic mutations? In short: is he a friend of evolutionary science? Or does he instead endorse that component of Intelligent Design Theory that claims that the evidence from evolutionary science shows that God must have tinkered via miracles with the unfolding of the evolutionary process?

The very fact that the answers to these questions are in doubt suggests that something is amiss. Who is to blame for this confusion? Some might blame Plantinga for not being sufficiently clear on these topics. Others might blame his readers for not paying careful enough attention to what he wrote. Here's a different suggestion: even if his readers' lack of clarity about his views is partially due to one or the other of the two causes just mentioned, it's due in large part to the fact that this is a hot-button issue and Plantinga's views resist simple formulation. If one ventures an opinion on a hot-button issue, where people are ready to object strongly if they think you hold the wrong view, a nuanced statement of a complicated view stands a good chance of making people think you are subtly trying to mask your dissent from the position they hold.

My goal here is to bring some clarity to this issue by considering Plantinga's answers in WTCRL to certain questions, framed in a way that will hopefully reduce confusion. What we want to get clear on is whether Plantinga, in WTCRL, is opposing evolutionary science. I hope to make headway on this matter as follows. First, I will consider what sorts of things count as opposing evolutionary science. Second, I will highlight three key questions, one having to do with whether God is specially involved in evolutionary history, and the other two having to do with the rationale for the answer to the first question. Third, I will examine various answers to these three key questions, including Plantinga's in WTCRL, and consider which of them are unfriendly to evolutionary science. I will close with a few additional questions for Plantinga.

[4] Or at least it seems this is Dennett's view, given the following remarks by Jennifer Schuessler in 'Philosopher Sticks Up for God', *The New York Times* (December 13, 2011), which can be found online at <http://www.nytimes.com/2011/12/14/books/alvin-plantingas-new-book-on-god-and-science.html> [accessed 17/09/2013]: 'Mr. Dennett was even harsher, calling Mr. Plantinga "Exhibit A of how religious beliefs can damage or hinder or disable a philosopher", not to mention a poor student of biology. Evolution is a random, unguided process, he said, and Mr. Plantinga's effort to leave room for divine intervention is simply wishful thinking.'

I. WHAT COUNTS AS OPPOSING EVOLUTIONARY SCIENCE?

One way to oppose evolutionary science is to oppose what the majority of experts say about evolution. Another way is to oppose what the evidence from evolutionary science shows. If the majority of experts can be wrong about what the evolutionary evidence shows, then it's possible to oppose what they say without opposing what the evolutionary evidence shows.[5] Would that count as opposing evolutionary science (in a way that is unfriendly to such science)? Probably not, given that it can be intelligently done in a way that contributes to the progress of science. But if anyone does oppose what most experts say about evolution and yet claims to support what the evolutionary evidence shows, there will be understandable suspicion and a demand for strong arguments showing that most experts are mistaken about what the evidence shows. This is especially true if the challenger is not an expert in evolutionary biology. Thus, although not opposing what the evolutionary evidence shows is a more important ingredient in friendship with evolutionary science than not opposing what most experts in evolutionary biology say, the latter is a relevant consideration when thinking about whether someone is a friend of evolutionary science.

Notice that one can disagree with the experts in stronger or weaker ways about what the evolutionary evidence shows. Suppose that most experts in evolutionary biology think that the evolutionary evidence shows that p. One might disagree with the experts by thinking any one of the following:

(i) the evidence supports not-p;
(ii) the evidence does *not* support p;
(iii) it isn't clear whether the evidence supports p;
(iv) the evidence supports p but not as strongly as the experts think.[6]

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[5] This possibility helps us to make sense of the review of WTCRL by Bradley Monton and Logan Paul Gage – see the *International Journal for Philosophy of Religion*, 72 (2012), 53-57 – in which they suggest that it might be better for Plantinga to claim that his views are 'compatible with all major empirical findings of evolutionary biology, rather than Darwinian theory itself' (as espoused by Darwin and by leading Darwinians).

[6] Or a person might disagree with the experts by thinking the evidence supports p while the experts think one of the following:

(i) the evidence supports not-p;
(ii) the evidence does *not* support p;
(iii) it isn't clear whether the evidence supports p;
(iv) the evidence supports p but not as strongly as that person thinks.

Moving from (i) to (iv), we move from stronger to weaker ways of disagreeing with the experts. Disagreeing with the experts in way (i) will create much more suspicion and require much more defence than disagreeing with them in way (iv). Likewise, friendship with science is more likely to be jeopardized by disagreeing with the experts in way (i) than by disagreeing with them in way (iv). Hence, in determining whether someone is a friend of science, it is important to be clear on what sort of disagreement that person has with the experts.

It's also important to distinguish opposing evolutionary science from each of the following:

(a) holding views about evolution that aren't supported by scientific evidence (evolutionary or otherwise);

(b) holding views about evolution that aren't held by the majority of experts in evolutionary biology.

With regard to (a), many scientists believe – for religious reasons and not on the basis of scientific evidence – in the central miracle of Christianity, namely, that Jesus rose from the dead.[7] This doesn't count as opposing what the scientific evidence shows because the scientific evidence shows only that, *given* the causal closure of the physical universe, events such as the resurrection of Jesus never have happened and never will.[8] Scientific evidence doesn't tell us that the physical universe *is* causally closed or that that particular alleged miracle *didn't* occur or that there *is no* adequate religious evidence for believing that such a miracle occurred. Similarly, believing, for religious reasons, that God performed a particular miracle in evolutionary history doesn't automatically count as opposing evolutionary science. Evolutionary biology tells us the mechanisms by which evolutionary history unfolds when there is no special divine (i.e., miraculous) involvement, but not whether there ever was such

[7] Consider, for example, Kenneth Miller, a biologist at Brown University who is a vocal opponent of the Intelligent Design movement, and Francis Collins, who was one of the leaders of the Human Genome Project. Both of these prominent scientists are Christians who believe in miracles central to the Christian faith, miracles such as the virgin birth or the resurrection of Christ. See Kenneth Miller, *Finding Darwin's God* (New York: Harper Collins Publishers, 1999), pp. 239-40, and Francis Collins, *The Language of God* (New York: Free Press, 2006), pp. 221-3.

[8] Under certain interpretations of quantum mechanics, this might not be true (see WTCRL pp. 94-6 & 118-9 for some discussion of this point). But at the very least, we could say that science shows that, given the causal closure of the physical universe, such events are astronomically improbable.

involvement (just as medical and biological science tells us what happens with dead bodies when there is no special divine involvement, but not whether there ever was such involvement).

With regard to (b), most experts in evolutionary biology think that Jesus did not rise from the dead (presumably because they don't think they have any scientific evidence for believing this and they don't think they have any good religious evidence either). A scientist who is not in this majority might recognize this fact about these experts, acknowledge that there is insufficient *scientific* evidence for believing in Jesus' resurrection, and yet still believe, for religious reasons, that that particular miracle occurred. This wouldn't count as opposing science, since the experts in evolutionary biology aren't, *as such*, experts on whether the physical universe is causally closed or whether God exists or whether God raised Jesus from the dead or whether religious evidence for believing in such a miracle is adequate.[9] The same points hold if we are talking about miraculous involvement on a particular occasion in the unfolding of evolutionary history. Someone might grant that most experts in evolutionary biology think no such miracle occurred and that we lack scientific evidence for believing in such a miracle and yet still believe, for religious reasons, that such a miracle occurred on a particular occasion. This wouldn't automatically count as opposing science any more than believing in the resurrection of Christ automatically counts as opposing science.[10]

Also related to (b) is the fact that it's important to distinguish what most experts say about evolution from what they say about what the evolutionary evidence shows. It may be that the most experts say that

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[9] One problem is that scientists simply don't have enough data to determine via scientific means exactly what happened at all times and places in the past. Hence, as Kenneth Miller says at Edge.org: 'Claims of demonstrative miracles in the past, such as the virgin birth or the resurrection cannot be tested empirically, because there are no data from which to work. On such claims, science has nothing to say one way or the other.' Miller's comments can be found online at: <http://www.edge.org/3rd_culture/coyne09/coyne09_index.html#miller> [accessed 17/09/2013].

[10] One would, of course, want to consider what the religious evidence is for believing in such a miracle (just as in the case of believing in the resurrection of Jesus). But in evaluating such evidence, one's expertise as a scientist or evolutionary biologist might not be especially relevant. For some discussion of the religious evidence for believing that Jesus was raised from the dead (or that God intentionally brought about humans), see Alvin Plantinga, *Warranted Christian Belief* (New York: Oxford University Press, 2000), pp. 170-84, 241-89, & 374-80.

evolutionary history is unguided by God[11] but they wouldn't say that *the evolutionary evidence shows* that evolutionary history is unguided by God. Opposing the experts when they aren't speaking about what the evidence shows is much less likely to count as opposing science. Moreover, if most experts *did* say that the scientific evidence shows that evolutionary history is unguided by God, then (on this matter) nonexperts don't owe them the same deference, since their expertise hasn't qualified them for drawing this sort of theological conclusion from the scientific evidence. Hence, opposing experts in evolutionary biology when they draw this theological conclusion from the evidence is much less likely to count as opposing what the evidence shows or being unfriendly to evolutionary science.

II. THREE KEY QUESTIONS

We are looking into whether Plantinga is a friend of evolutionary science. The main reason people think he isn't a friend of evolutionary science is that they are concerned about his views on God's involvement in the unfolding of evolutionary history. Thus, the key questions I want to focus on have to do with *what* one thinks about God's involvement in evolutionary history and *why* one thinks what one does. It's important to consider both sorts of questions. In the previous section, we saw that – when considering whether someone is opposing science in thinking a miracle, such as the resurrection of Jesus, has occurred – it matters *why* they think that miracle has occurred, in particular, whether they think the scientific evidence shows it or whether they believe it on the basis of religious evidence alone.

Before getting to the three key questions, I'll need to do a little more stage setting. First, how shall we think of evolution? Following Plantinga, we can say that it includes the *common ancestry thesis* (that terrestrial life originated at one place on earth and all subsequent earthly life descended from it), the thesis of *descent with modification* (that the diversity of living things arose by way of offspring differing in small ways from their immediate ancestors), and the *progress thesis* (that life has progressed from simple unicellular life to more complex organisms such as humans). Plantinga endorses these three theses, along with the view that the process has taken a long time (i.e., most of the earth's 4.5

[11] Perhaps because they think there is no God or because they have views on what God would prefer to do or on how best to understand the doctrine of divine providence.

[12] See WTCRL, pp. 8-11 and p. 41, n. 16.

billion years).[12] If we say that endorsing these four claims is sufficient for endorsing evolution, then clearly Plantinga does endorse evolution.

A further question is whether Plantinga thinks there are naturalistic mechanisms driving the evolutionary process – the most popular candidate being natural selection winnowing random genetic mutation. If he does, we can say he endorses Darwinism, which includes the four claims above plus this view about natural mechanisms driving the evolutionary process.[13] But the question of whether Plantinga endorses Darwinism, so understood, is complicated by the fact that he thinks that God is intimately involved with the unfolding of evolutionary history, even if that unfolding process is driven by a mechanism relying on *random* genetic mutation.[14] Notice that there are two main kinds of ways God might be involved with the evolutionary process: God might act in special ways that depart from the ordinary routine unfolding of the evolutionary process (these special actions are miracles); or God might be involved in an ordinary routine way. Here are some examples of the latter kind of involvement:

> *Conservationism*: At all times that it exists, the entire physical universe depends on God's conserving it in existence with all the causal powers that it and its part have.[15]
>
> *Theistic Hidden Variable View (THV)*: A hidden variable interpretation of quantum mechanics (QM) is true and we live in an ultimately deterministic universe; God set things in motion at the Big Bang and watched the evolutionary process unfold in exactly the way he planned, in accord with the deterministic laws he selected.[16]
>
> *Divine Collapse-Causation View (DCC)*: The GRW interpretation of QM is true, so macroscopic objects like our bodies are definitely located not continuously but only intermittently when the wave

[13] Of course it is also perfectly standard to refer to the combination of these five claims as 'evolution'.

[14] How can genetic mutation be both random and guided by God? Plantinga discusses this question in WTCRL, pp. 11-12 and it comes up in section 3 of this article as well.

[15] According to this doctrine, without divine conservation, the universe would cease to exist like the bubbles in a cup of water disappear when the child stops blowing through the straw in the cup.

[16] On this proposal, you might think God acts in a special out-of-the-ordinary and non-routine way when he sets things up. That may be true. But on this account he doesn't get involved in any special way in the *unfolding* of evolutionary history; at most he gets specially involved in getting the process started at the Big Bang.

> function collapses, which occurs multiple times per second; and God (rather than nothing at all) causes each successive collapse to go to the particular eigenstate it goes to rather than another.[17]

In each of these three examples, God is intimately involved with the unfolding of the evolutionary process; but his involvement, while genuine, does not result in anything out of the ordinary occurring in evolutionary history, nothing that doesn't happen all the time, as a matter of course.

Of interest, for our purposes, are not these ordinary routine ways God might be involved but, rather, the special ways, out of the ordinary routine, in which God might be involved in the unfolding of evolutionary history.[18] As an example, consider genetic mutation and suppose that Kenneth Miller is right that quantum indeterminacy is manifested at the level of gene mutation, so that it isn't determined whether a particular mutation will occur; instead, it is only probable to a certain degree that it will occur.[19] Suppose also that God wants to guarantee the occurrence of that particular mutation and so he gets specially involved and causes it. In fact, suppose that God tinkers in this way with the evolutionary process, not constantly or in regular ways but on *numerous* occasions. Notice that this sort of tinkering could happen in three different ways. First, it could happen in a way that is in principle undetectable by empirical science. This is because science tells us only that there will be certain probabilistic patterns in the results of indeterministic causal processes, not that any particular undetermined result will occur on a particular occasion.

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[17] See WTCRL, pp. 115-21 for a fuller development of this view. The nontheistic alternative version of the GRW (Ghirardi-Rimini-Weber) interpretation is, as suggested in the text, that *nothing* causes these collapses to go to the particular eigenstates they go to rather than to alternative eigenstates (though there may be a predictable probabilistic pattern to the results of the successive collapses). See Giancarlo Ghirardi, 'Collapse Theories', *The Stanford Encyclopedia of Philosophy (Winter 2011 Edition)*, Edward N. Zalta (ed.), <http://plato.stanford.edu/archives/win2011/entries/qm-collapse/> [accessed 17/09/2013].

[18] As Plantinga notes (WTCRL, pp. 94-6), if standard indeterministic interpretations of QM are true, it is difficult to say what counts as out of the ordinary. But perhaps we can agree with Plantinga (WTCRL, pp. 118-19) that we have an intuitive sense of it. The usual examples of miracles (rising from the dead, walking on water, feeding five thousand people with a little bread and fish) are still fine as examples even if indeterministic interpretations of QM are true. Such events, if God really did bring them about, would still count as out of the ordinary divine involvement.

[19] See *Finding Darwin's God*, pp. 207-14.

If God tinkers with the gene mutation process in a way that is in accord with the probabilistic patterns scientists have learned to expect, then even if he tinkers fairly often, his involvement will be in principle undetectable by empirical science.[20] This kind of divine tinkering with the mutation process is compatible with the process being random *in the senses in which scientists are warranted in claiming that it is random*, since science is in principle ignorant about whether this kind of tinkering occurs.[21] Second, God could tinker with the evolutionary process in a way that has not been detected by science but which is in principle detectable by science (perhaps because science could in principle discover that some extremely unlikely kinds of events have been occurring surprisingly often). Third, God could do this in a way that is both detectable and actually detected by science.[22]

With this background in place, we can now state the three key questions. Here's the first:

(1) Do you think God is involved in some special, out-of-the-ordinary, non-routine way in the unfolding of evolutionary history?

This question could be answered with a 'yes,' a 'no,' or a 'maybe'. The second and third questions follow up on the 'yes' and 'maybe' answers to question 1 by asking for the rationale for those answers. To help focus our discussion, I will also mention some possible answers a person might give to these questions:[23]

(2) If your answer to 1 is 'yes,' what is your reason for believing God was specially involved in the unfolding of evolutionary history?

(a) Given the evolutionary evidence, it is prohibitively improbable that there is an evolutionary pathway (that would fit within the allotted time frame and involve only unguided mechanisms such as natural selection, spandrelism, and genetic drift) from simple

[20] This sort of point is developed and defended in Peter van Inwagen, 'The Compatibility of Darwinism and Design', in *God and Design: The Teleological Argument and Modern Science*, ed. Neil A. Manson (New York: Routledge, 2003), pp. 348-63.

[21] If evolutionary scientists claim that the mutation process is random in the sense that God is not tinkering at all, not even in a way that is in principle undetectable by science, they are obviously going beyond what the scientific evidence reveals.

[22] Instead of focusing on God's tinkering with indeterministic gene mutation processes, we could have focused on God's tinkering with other evolution-relevant indeterministic processes in the three ways just mentioned (processes affecting not gene mutation but, for example, the environments of organisms in evolutionary history).

[23] The lists of possible answers aren't meant to be exhaustive.

unicellular life to some actual complex organisms we know of, in which case these organisms are better explained by appeal to at least some special activity of God than by completely unguided naturalistic mechanisms.

(b) Religious evidence of some kind (e.g., sacred texts or religious experience) strongly suggests that God intentionally brought about humans and that could happen only if God was specially involved in the unfolding of evolutionary history (otherwise, the existence of humans wouldn't be guaranteed).

(c) Religious evidence of some kind strongly suggests in some other way that God was specially involved in the unfolding of evolutionary history.

(3) If your answer to 1 is 'maybe,' what is your reason for believing that God *may have been* specially involved in the unfolding of evolutionary history?[24]

(a) Given the evolutionary evidence, it *may, for all we know, be* prohibitively improbable that there is an evolutionary pathway (that would fit within the allotted time frame and involve only unguided mechanisms such as natural selection, spandrelism, and genetic drift) from simple unicellular life to some actual complex organisms we know of, in which case these organisms may be better explained by appeal to at least some special activity of God than by completely unguided naturalistic mechanisms.

(b) Religious evidence of some kind (e.g., sacred texts or religious experience) strongly suggests that God intentionally brought about humans in particular and that *may, for all we know, have happened* via God's being specially involved in the unfolding of evolutionary history.

(c) Religious evidence of some kind suggests in some other way that God *may, for all we know, have been* specially involved in the unfolding of evolutionary history.

In the next section, I will be considering which of these answers are unfriendly to evolutionary science and which are not.

[24] The possible answers listed here are very much like the possible answers listed for question 2, except that here they're in the 'may, for all we know be true' form rather than the 'is true' form.

III. WHICH ANSWERS ARE UNFRIENDLY TO EVOLUTIONARY SCIENCE?

Let's begin by considering a 'yes' answer to question 1. Notice that someone could say 'yes' to 1, reject option 2a, and take option 2b or 2c instead. In so doing, that person would be saying that God's special involvement is not of the 'actually scientifically detected' variety but is, instead, of the 'scientifically undetected but detectable' variety or the 'in principle scientifically undetectable' variety.[25] For reasons mentioned in section 1, options 2b and 2c don't seem to count as opposing evolutionary science any more than one opposes science by believing, for religious reasons, in the resurrection of Christ while acknowledging that we lack scientific evidence for this belief. But what shall we say of someone who says 'yes' to 1 and takes option 2a? This seems to be the position endorsed by Behe.[26] Does this count as opposing evolutionary science? It is widely believed that it does, on the grounds that, contra Behe, the evidence does *not* suggest that an evolutionary pathway (of the kind mentioned in 2a) to some known organism is prohibitively improbable.[27]

Consider next a 'maybe' response to question 1. At places in WTCRL (e.g., pp. 11-16), Plantinga gives this answer and highlights 3b as a rationale for doing so. Does this count as opposing evolutionary science? Consider this question first as applied to the position of taking option 3b while rejecting option 3a. This position doesn't claim that the scientific evidence shows that an evolutionary pathway to some known organism is prohibitively improbable or even that it may, for all we know, be prohibitively improbable. Those probability judgments have nothing to do with this position's rationale for saying that God might have been specially involved in evolutionary history. Instead, the rationale has to do with the belief (based on religious evidence, not scientific evidence) that God has intentionally brought about humans.[28] But how can God

[25] If the person thought it was special involvement of the 'actually scientifically detected' variety, then presumably the person would be taking option 2a.

[26] Michael Behe, *Darwin's Black Box* (New York: Simon and Schuster, 1996), pp. 39-48 and chs. 3-6.

[27] For a presentation of this evidence, see the following by Kenneth Miller: 'Answering the Biochemical Argument from Design' in *God and Design*, pp. 292-307; 'The Flagellum Unspun: The Collapse of "Irreducible Complexity"' in *Debating Design: From Darwin to DNA*, eds. William Dembski and Michael Ruse (Cambridge: Cambridge University Press, 2004), pp 81-97; and *Finding Darwin's God*, chapter 5.

[28] See note 10 for references to discussion of this religious evidence.

intentionally bring about humans via evolution if the gene mutation on which evolution depends is significantly influenced by quantum level causation, which is widely believed to be indeterministic and random?

There are several possible answers, which were mentioned above.[29] It may be that THV is true. In that case, gene mutation would still be random from the perspective of current science, in the same sense in which a sequence of coin tosses would be random from our perspective even if we lived in a deterministic universe.[30] Or it may be that DCC is true and that indeterministic quantum-level causation and any gene mutation significantly affected by it are random from the scientific perspective, despite the fact that each of the many-times-per-second wave-function collapses is caused by God to occur in the way it does.[31] In that case, evolutionary history could have been intentionally brought about by God, no matter how it went.

Now consider someone who believed, for scientific reasons, in Darwinian evolution and who also believed, for religious reasons, that God intentionally brought about humans. Such a person might think the following: *either THV is true or DCC is true or God got specially involved in the unfolding of evolutionary history, tinkering with it in either a scientifically undetectable way or a scientifically detectable but undetected way.*[32] A person who thought this would believe, for religious reasons, that God may, for all we know, have been specially involved in the evolutionary process. Does holding that view count as opposing evolutionary science? It seems not. Thinking that God may have been involved in evolutionary history in a routine way – because either THV

[29] The first two possible answers discussed here (i.e., THV and DCC) don't speak of *special* involvement by God in evolutionary history. But their relevance to question 3, which does focus on special involvement by God, will become apparent below.

[30] Insofar as 19th century biologists (who had never heard of quantum indeterminacy) believed that the genetic mutation involved in natural selection was random or by chance, they presumably thought it was random in this sense.

[31] The only difference between the DCC version of evolutionary history and an atheistic GRW version of it is that in the former case God causes each spontaneous collapse and in the latter case nothing causes these collapses to turn out precisely as they do. Either way, the actual *physical* history is the same. And the former is random in every way that science can confirm that the latter is random. (It's true that the evolutionary process is not random in the DCC case *if* being random requires that God is not causing the genetic mutations involved. But science doesn't show us that the evolutionary process is random in that sense.)

[32] Since we're focusing on the sort of position taken by someone who rejects 3a, the option of God's tinkering in a scientifically detected way isn't among the disjuncts.

or DCC is true – presents no challenge at all to the conclusions of the majority of experts in evolutionary science; it simply accepts them and adds that God is behind it all. And thinking, for religious reasons, that God may, for all we know, have been specially involved in evolutionary history in a way that is scientifically undetectable, or at least scientifically undetected, also doesn't oppose any conclusions of evolutionary biology – no more than does a belief, held for religious reasons, that a blind man may, for all we know, have been miraculously healed by Jesus, despite the fact that we have no scientific evidence for this conclusion.

So, by endorsing 3b, Plantinga isn't, thereby, opposing evolutionary science. However, Plantinga also endorses 3a. He disagrees with Behe, who thinks that we can see, in light of the evolutionary evidence, that evolutionary pathways to certain organisms (e.g., bacterial flagellum) are prohibitively improbable.[33] But he also disagrees with Dawkins who thinks we can see, in light of the evolutionary evidence, that evolutionary pathways to certain organisms (e.g., the mammalian eye) are *not* prohibitively improbable. Plantinga's view is that we simply can't tell whether these pathways are prohibitively improbable.[34] Does this oppose evolutionary science? And if so, how much?

Dawkins thinks that the evolutionary evidence supports the following claim:

> EP: A not-too-long evolutionary pathway from unicellular life to the mammalian eye (in a system without any special divine tinkering) is not prohibitively improbable.[35]

Plantinga disagrees, not by thinking the evolutionary evidence supports the denial of EP but only by thinking it isn't clear that it supports EP. Is this opposing evolutionary science? It threatens to only if (a) most experts in evolutionary biology agree with Dawkins that the evolutionary evidence supports EP and (b) they are right. Let's suppose that's so. Even then Plantinga's disagreement only weakly opposes science in the sense that he says *it isn't clear* that a certain probability assessment, endorsed by the majority of the experts, is correct. Does that make him unfriendly to science? If that's unfriendly, it's not very unfriendly.

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[33] WTCRL, pp. 229-36.

[34] WTCRL, pp. 18-24 & 252-56.

[35] I say 'not-too-long' because the evidence we have suggests that the evolutionary pathway in question must be shorter than 4 billion years.

IV. SOME QUESTIONS FOR PLANTINGA

Our goal has been to consider whether Plantinga is a friend of evolutionary science. We've discovered one way in which he might be at least a little unfriendly toward science: he thinks it isn't clear whether the evolutionary evidence supports EP whereas most experts, who presumably are better judges than he is on this matter in virtue of their scientific training, think the evolutionary evidence supports EP (or so we're assuming). In light of the discussion above, my first two questions for Plantinga are:

(1) Am I right in saying that, in WTCRL, your answer to key question 1 is 'maybe' and that you take both option 3a and option 3b in response to question 3?

(2) Do you think that your view on whether the evolutionary evidence supports EP makes you at least somewhat unfriendly toward evolutionary science?

There is an additional way in which Plantinga has appeared to some to be unfriendly to evolutionary science. It has to do with some older work by Plantinga, not mentioned in WTCRL, in which he seemed even more unfriendly to evolutionary science, thinking (contrary to what most experts tell us) that it is more likely that various species were specially created[36] by God (and that the common ancestry thesis is false) than that Darwinian evolution is true. There he wrote:

> [I]t isn't particularly likely, given the Christian faith and the biological evidence, that God created all the flora and fauna by way of some mechanism involving common ancestry.

and

> Perhaps [God created the multifarious forms of life] by broadly evolutionary means, but then again perhaps not. At the moment, 'perhaps not' seems the better answer.[37]

[36] God's specially creating a species is opposed to the thesis of common ancestry. It is thus quite different from the view that God was specially involved in the unfolding of evolutionary history (tinkering on occasion with the gene mutation process or the environmental conditions), which is perfectly compatible with the thesis of common ancestry.

[37] See Alvin Plantinga, 'When Faith and Reason Clash: Evolution and the Bible', *Christian Scholar's Review*, 21 (1991), 28 & 29. See also p. 22 where he says: 'The two hypotheses to be compared are (1) the claim that God has created us in such a way that

In light of these quotations, my third question for Plantinga is:

(3) Do you now disagree with your earlier claims (e.g., in 'When Faith and Reason Clash') suggesting that, in light of the evolutionary evidence, Darwinism is unlikely to be true?

Again, the purpose of these remarks has been to clarify whether Plantinga is a friend of evolutionary science. My hope is that his response to this article, including questions (1)-(3), will be helpful in that regard.[38]

(a) all of contemporary plants and animals are related by common ancestry, and (b) the mechanism driving evolution is natural selection working on random genetic variation and (2) the claim that God created mankind as well as many kinds of plants and animals separately and specially, in such a way that the thesis of common ancestry is false. Which of these is the more probable, given the empirical evidence and the theistic context? I think the second, the special creation thesis, is somewhat more probable with respect to the evidence (given theism) than the first.'

[38] Thanks to Jeffrey Brower, Paul Draper, Patrick Kain, Alvin Plantinga, and Michael Rea for comments on earlier drafts.

PLANTINGA ON PROVIDENCE AND PHYSICS

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In *Where the Conflict Really Lies*, Alvin Plantinga argues that there is nothing more than a superficial conflict between contemporary science and traditional Theistic belief. He goes on to argue that there is a deep conflict between contemporary science and atheistic naturalism. I will concern myself here with only one part of Plantinga's argument for the first thesis, i.e. that there is only superficial conflict between science and Christian Theism. I will focus, in particular, on the argument from Chapters 3 and 4 to the effect that there is no conflict at all – not even superficial conflict – between contemporary physics and the claim that God can, and does, on occasion interact in 'special' ways with God's creation.

In the spirit of constructive criticism, I will raise four issues about Plantinga's discussion of providence and physics. Each of these issues can be resolved, I would suggest, via a more thoroughgoing application of Plantinga's 'Reformed' epistemological outlook. First, Plantinga indicates that if God acts in history, then the laws of physics are not deterministic. But from the point of view of Reformed epistemology, the character of the laws of physics should be irrelevant to one's warrant in believing that God has acted. Second, Plantinga argues that divine intervention is consistent with the laws of Newtonian mechanics, since these laws carry provisos. However, the provisos leave room only for intervention by other *physical* systems. Third, Plantinga proposes that God could cause events by exploiting 'collapse' of the quantum wavefunction. However, this proposal only adds the sound of scientific respectability to theology; it doesn't actually use the science in any substantive way to correct or enrich theology. Finally, Plantinga's discussion presupposes that science aims to establish laws of nature, and that divinely caused events contravene the laws of nature (for closed systems). But 'Reformed' considerations suggest eliminating any dichotomy between 'law' and 'miracle'.

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I. BELIEVING THAT GOD HAS ACTED

Christian Theists certainly believe that nothing happens without God's permission – and so, in one sense, God is behind everything that happens. But Christian Theists have nuanced principles about when it is and is not appropriate to ascribe events to God. Here is one example (in the spirit of experimental philosophy): I asked an intellectually sophisticated Christian, but not a professional academic, two questions: First, is God responsible for the Newtown school shootings? Second, is God responsible for some particular events in your life? Unsurprisingly, the answers were No, and Yes. I suspect that this example is somewhat representative of the attitude of Christian Theists living in contemporary, scientific societies: they may not agree on the particular answers they give, but they all discriminate between events which God brought about, and events which God did not bring about. In any case, Christian Theism includes the claim that God is an agent who brings about particular events.

As Plantinga points out, however, several prominent theologians (e.g. Rudolf Bultmann, Langdon Gilkey) want to bring an end to this sort of talk. These theologians claim that describing God as active in the world is inconsistent with a 'scientific' worldview.

One of Plantinga's main objectives is to neutralize the claims of Bultmann and friends. But Plantinga does *not* defend the consistency of Newtonian (or quantum) physics and *particular instances* of divine action – or as philosophers might say, of token instances of divine action. That is, he does not argue that Newtonian physics would allow for the Red Sea to be parted,[1] nor that Newtonian physics allows for people to rise from the dead, nor that quantum physics provided the mechanism for God to providentially steer Plantinga toward a career in philosophy. Rather, Plantinga defends the *general* claim that *divine intervention type events* are consistent with Newtonian and quantum physics. That is, he argues that events *like* the parting of the Red Sea, or the Resurrection of Jesus, or the multiplying of the Loaves and Fishes, are consistent with the laws of nature postulated by these theories.

[1] Oceanographers Naum Voltzinger and Alexei Androsov have recently explained – using the differential equations of hydrodynamics – how the Red Sea might have parted. See Voltzinger, N. E. and A. A. Androsov, 'Modeling the Hydrodynamic Situation of the Exodus', Shirshov Institute of Oceanology (St. Petersburg Branch), Russian Academy of Sciences (2002). It's interesting to consider what presuppositions might motivate this sort of 'scientific' work, and how Voltzinger and Androsov's aims differ from Plantinga's.

How does one go about defending a general possibility claim? On the one hand, one could show that specific instances are actual, and then the general possibility claim would follow. On the other hand, one could characterize the specific instances in terms of their shared properties – i.e. identify the *type* of events involved – and then give some sort of conceptual argument that these properties are not mutually exclusive. It is this second approach that Plantinga pursues. He defines a notion of 'divine intervention events', and he then argues that these sorts of events are allowed by the laws of physics (Newtonian physics, or quantum physics).

The problem with this latter strategy is that Plantinga has left himself open to two sorts of objections: first, one could object to Plantinga's argument that divine intervention events – as Plantinga has characterized them – are consistent with the laws of physics. Second, one could object to Plantinga's characterization of divine intervention events. The latter sort of objection might be made by somebody who actually agrees with Plantinga that God has acted in history, e.g. this objector might agree with Plantinga that Jesus rose from the dead.

Plantinga characterizes divine intervention type events in Section III of Chapter 4: an event *E* results from intervention if *E*'s occurrence does not follow by nomological necessity from the previous state of the universe. Plantinga's definition of intervention has the following corollary: during any interval of time in which a system obeys a deterministic physical law, God does not intervene in that system. That claim might sound plausible enough, but it stands in some tension with traditional Christian ways of speaking about God's action. For example, a claim such as 'Jesus turned the water into wine', might count as a case of divine intervention (depending on whether water-to-wine transitions can occur in Newtonian physics), whereas 'God provided the harvest' would most likely not count as a case of divine intervention. My intuition, however, is that to classify the latter sort of case as *not* involving divine intervention would undercut the proper attitude towards such events. I suspect that the proper attitude of gratitude is to think that God was causally responsible for what was provided. But if we insist that the provision of the harvest didn't involve divine intervention, then wouldn't we be speaking with a forked tongue to thank God for it? Or should we include our thanks for the harvest among our more general thanks for the created order, and must we also thank God then just as much for the years of drought?

Plantinga's focus on intervention – as opposed to, say, divine providence – might be seen as situating him somewhere in the 'right wing' of a continuum of views about how to think of God's agency in the world. In the extreme right wing, the 'scientific theologian' hopes to combine the best scientific theories and theology into one 'super-science' that describes all existing things and their causal relations. In this super-science, God would be one among the causal variables, and such a science would then clearly single out the God-caused events. On the other hand, in the extreme left wing, the 'mystical theologian' claims that events can have a religious interpretation or significance that transcends the purely scientific description of those events. For example, the mystical theologian might say that one and the same event *E* has both a description as an ordinary physical event (caused by other physical events), and also a description as an event with deep religious significance.

But the right-wing view of divine action sits uneasily with Plantinga's views on religious epistemology. Unlike Plantinga, a natural theologian is committed to the idea that theological facts can receive evidential support from purely natural, or physical facts. So, for example, a natural theologian might claim that 'God is benevolent' receives evidential support from a purely physical description of the configuration of the universe. But given Plantinga's epistemological position, the claim that 'God is benevolent' has warrant independent from our knowledge of the physical world. In a similar vein, couldn't Plantinga claim that '*E* is providential' is warranted even if that warrant does not derive from *E*'s role in the best physical theory?

II. NEWTONIAN LAWS AND PROVISOS

Plantinga argues in Chapter 3 that the 'old picture' is consistent with divine action. Here the 'old picture' means Newtonian mechanics – or at least we can take that as the paradigm case. The picture here is of a world consisting of matter in motion, more particularly, of discrete objects whose positions and velocities are governed by deterministic laws of motion.

How does this Newtonian picture bear on the rationality of talking about God as interacting with the world? As Plantinga reminds us, several theologians (e.g. Bultmann) claim that the Newtonian picture precludes the theological doctrine. Well, of course, a 'picture' cannot

literally be inconsistent with a proposition, theological or otherwise. So, if the theological doctrine is in conflict with the science, then the science must teach us some propositions that entail the negation of the theological proposition. And what are these Newtonian propositions supposed to be?

Plantinga claims that Newtonian science itself has no such proposition to offer, i.e. no proposition that conflicts with divine intervention. He then goes on to isolate a single addendum which, when combined with the deliverances of Newtonian physics, would be sufficient to rule out intervention: the universe is a closed system. Plantinga dubs the conjunction of Newtonian physics and causal closure the 'Laplacian picture'.

Plantinga claims that the causal closure claim is a 'metaphysical ancilla' on Newtonian physics. What does he mean by this claim, and how is it supposed to bear on our attitude towards the Laplacian picture? By saying that closure is a 'metaphysical ancilla', Plantinga might mean that it doesn't boost the predictive power of Newtonian physics, i.e. 'Newton + Causal Closure' makes the same predictions as 'Newton'. In other words, the closure principle is empirically vacuous. Two questions then arise: first, is that claim true, i.e. is causal closure empirically vacuous? Plantinga could consistently deny its empirical bite (since his epistemology of religion doesn't require 'scientific' evidence of God's agency), but certain natural theologians (perhaps, e.g., Richard Swinburne) would be forced to say that causal closure has empirical import, and that it has been falsified. Second, even if 'Newton + Causal Closure' is *empirically equivalent* to just 'Newton', might not the former have some additional theoretical virtues that make it preferable as a scientific theory?

But let's grant Plantinga that Newtonian physics doesn't need the closure claim. Without the closure claim, Plantinga argues, Newtonian physics is consistent with divine intervention. As we saw earlier, Plantinga claims that divine intervention requires physical indeterminism. But aren't the laws of Newtonian physics deterministic?

In order to understand Plantinga's claim that the Newtonian laws are *not* deterministic, let's consider an example: suppose that E is brought about by divine intervention, in particular, that the previous state of the universe and the laws of nature together did not entail that E would occur. For example, E might consist of an increase of the total energy of the

universe. Plantinga correctly points out that *E* itself would not violate the law of conservation of energy, for a correct formulation of that law reads:

CE: When a system is causally closed, then its total energy is conserved.

Using *L* = 'energy is conserved', the law of conservation of energy has the form:

CE: When a system is causally closed, then *L*.

Plantinga claims, in fact, that all the laws of Newtonian physics should be cast in this conditional form, i.e. their correct formulation includes the prefix, 'When a system is causally closed ...'. If Plantinga's claim can be sustained, then Newtonian physics is consistent with divine intervention.

There is a lively debate in the philosophy of science literature about whether the laws of nature include implicit provisos about their range of application (see Lange 1993; Earman and Roberts 1999). So, Plantinga is certainly in good company in his view of the laws of nature. Nonetheless, it's not clear that these provisos would be of the right sort to support Plantinga's position. Consider again the case of *CE*: the energy of a closed system is conserved. Imagine a physicist who wants to test *CE*: he measures the energy of his system at some time *t*, and then returns later at *t'* to take another energy measurement. If the total energy is different at *t'* than it was at *t*, then the experimenter has two options: either he can conclude that his system was not actually closed, or he can conclude that *CE* is violated. In order to render *CE* non-vacuous, the experimenter then needs a way to rule out the former hypothesis, i.e. that his system was open to external influence between *t* and *t'*. Of course, ruling out external influence is a skill that experimenters have developed over time and with much practice; it is only because experimenters have an independent sense of when a system is isolated that *CE* can be put to empirical test.

Conversely, *CE* is not predictively vacuous because if a system *S* violates *CE*, then *CE* predicts that *S* is included in a larger (physical) system *S'* that satisfies *CE*. Now, Plantinga might assent to my analysis, and go on to say that a violation of *CE* could be taken as providing evidence that the universe *U* is part of a larger system *U'* that satisfies *CE* – in particular, *U'* would consist of the universe plus God. But if one starts talking about God as part of a composite system that satisfies conservation of energy, then I drop out of the discussion: I don't think that 'has energy *e*' is a predicate that we should apply to God.

In other words, while I agree with Plantinga's hedging of the Newtonian laws, I don't like the idea that these laws are hedged because the universe is an 'open system' in the sense that local physical systems can be 'open'. Typically by 'open system' we mean a subsystem of a larger *physical* system. But since God is not physical,[2] the universe is not a subsystem of some larger physical system.

So, on the positive side, in what sense *should* we think of the Newtonian laws as hedged? What are the limitations of these laws? One suggestion is that the language of physics is *descriptively incomplete*. In a naive sense, the language of physics would be descriptively complete if every property and every event type could be accurately represented using the language of physics (or using the representational apparatus of physics). Suppose, however, that the practice of physics is based on using a language that buys, say, clarity and efficiency at the cost of representational power. For example, some philosophers (such as Quine) say that the language of physics makes no use of modalities. Supposing that Quine is right about modalities in physics, one could follow Quine in asserting the descriptive adequacy of physics, and so reject modalities; alternatively, one could embrace modalities at the cost of rejecting the descriptive adequacy of physics.

In a different vein, let me also supply some further ammunition that Plantinga could use in his argument that Newtonian physics is consistent with divine intervention. Recall that for Plantinga, the consistency claim can be maintained so long as Newtonian physics is not universally deterministic. But there are simple models of Newtonian physics where determinism breaks down (see Norton 2003; Norton 2008). Moreover, some of the models of classical physics are intrinsically open to external intervention, i.e. nothing but *ad hoc* postulation can rule out the possibility of unaccounted for external influences on a system. For example, Earman (1986) points out that several classical spacetime theories allow for 'space invaders', i.e. objects which appear suddenly in spacetime without antecedent physical cause. (See (Earman 2008) for further examples where determinism fails in classical physics.)

Now, I would strongly suggest *against* looking for divine intervention at precisely these points where determinism breaks down in classical physics. (In Norton's example, determinism breaks down for a mass

[2] *Westminster Shorter Catechism*, Question 9: 'Q. Who is God? A. God is a Spirit, and does not have a body like men (Jn 4:24; 2 Cor 3:17; 1 Tim 1:17).'

situated at the apex of a dome. Should we conclude then that divine intervention occurs at the apices of domes?) The take-home point of these examples, rather, is that scientific theories don't bear their metaphysical implications on their sleeves.

III. AGAINST MICRO-THEOLOGY

Plantinga has argued that even the old picture – deterministic, classical physics – presents little problem for the believer in divine action. How much less, then, should the new picture – indeterministic, quantum physics – cause worry for the Christian Theist. Indeed, Plantinga claims not only that quantum physics is consistent with divine action, but he suggests that quantum physics might describe the mechanism by which God works out his purposes. In this latter claim, Plantinga gives a (perhaps lukewarm) endorsement to the work of members of the 'Divine Action Project', who have attempted to develop a theory of divine action that is consistent with quantum physics. (We can understand why Plantinga might not be fully enthusiastic about the Divine Action Project. Given his argument in Ch. 3, we don't need new physics to tell us that special providence is possible. So Plantinga does not share the sense of urgency we see in the Divine Action Project.)

Plantinga's discussion displays his awareness of the fact that the physics (and philosophy) community is nowhere near consensus on the metaphysical (or epistemological) lessons of quantum physics. Some interpreters of quantum physics claim that the lesson is that the world is made of information rather than of particles or fields; some interpreters of quantum physics claim that the lesson is that the future is open (indeterminism). Suffice it to say, there remains quite a bit of freedom in interpreting quantum physics.

At the end of Ch. 4, Plantinga suggests that the Ghirardi, Rimini, Weber 'objective collapse' interpretation of quantum mechanics could be combined with a robust view of God's agency in the physical world. The important feature of GRW for this claim is that it postulates a *stochastic* dynamical law: the state of the world at a time, plus the laws of nature, do not determine the state of the world at all future times; there are some non-trivial probabilities for different outcomes. So, GRW theory is particularly congenial to a Theist who is an incompatibilist about physical determinism and divine action.

I'm happy enough to see Plantinga settling on the GRW interpretation of quantum mechanics – undoubtedly a better physical theory than the original 'measurement collapse' account. Moreover, the GRW account seems to have the least amount of metaphysical baggage of any of the leading interpretations of quantum mechanics. However, I would caution Plantinga, and others, against becoming too attached to GRW as *the story* about 'how God does it'. Let me explain my reservations.

My primary reservation arises from restricting God's intentional activity to an over-specific location in the causal nexus – and a location not supported by revealed theology. If we took 'divine collapse causation' (DCC) too seriously, then we would end up saying that whenever God acted providentially in history, God did so indirectly by means of moving around some micro-objects. Perhaps that account is true – I don't have any great reason to rule it out – but it would certainly violate my sense of what Christians mean when they say things like 'God providentially brought it about that the child said, "tolle, lege"'. I'm not sure that we gain anything by reinterpreting Augustine's claim as saying that God caused a certain wavefunction collapse which eventually led to the child uttering those famous words. In fact, I'm sure that we would lose something if we were to get distracted by the 'scientific account' of such providential events, instead of focusing on their intended *meaning*, i.e. their take-home point for us.

As Plantinga himself says, 'the warrant for belief in special divine action doesn't come from quantum mechanics or current science or indeed any science at all; these beliefs have their own independent source of warrant' (Plantinga 2011: 120). It is claims like this that exemplify the difference between Plantinga and members of the Divine Action Project. Of course, Plantinga thinks that physics gets a lot of things right; and Plantinga thinks that God acts. Therefore Plantinga thinks that there is some true story about how God's action meshes with the deliverances of physics. But working out such a story is going to be hard work, and it's not mandatory to postpone belief until the story has been completed. So, if someone pushes me on the consistency of my beliefs in God's agency with my commitment to current physics, I will probably side with Plantinga and say that God could act through divine collapse causation. But what would be the point of saying such a thing? Ideally, relating theology to science would help theology to say true things and to avoid saying false things. But the DCC story does not make any interesting predictions about which divine interventions did or did not occur. Thus,

while DCC provides an interesting 'just so' story, attaching it to theology wouldn't make our theology any more scientific.

IV. LAWS OF NATURE: THEOLOGICAL AND PHILOSOPHICAL OBJECTIONS

Why would some people have thought that divine agency is inconsistent with the methods and deliverances of contemporary science? I suggest that the problem is due largely to adopting an inadequate philosophy of science. There are many things to say on this score, but I'll focus just on the concept of a 'law of nature' – which has severe problems, both theological and philosophical.

First, while Christian Theists are committed to a concept of divine action, it's not clear that they need to think of divine action in contrast to 'laws of nature', or as contravening or transcending the (Aristotelian) 'natures' of things. In particular, we need not equate God's creation with the establishment of laws of nature; nor need we think of God's sustaining activity in terms of upholding natural laws. Of course, this suggestion will be controversial: the most influential account of divine action comes from Aquinas, who presupposes a broadly Aristotelian framework. But there is another strand in the Christian tradition – a strand running through the thought of Augustine, and taken up again in the protestant Reformation. Consider, for example, Reijer Hooykaas' description of the attitude of Isaacs Beeckman and Newton:

> It is evident that the biblical conception of Beeckman and Newton overbridges the gap between Law and Miracle, natural and supernatural, and considers them as essentially on the same level. This seems to be in the line of the Augustinian tradition. To Augustine, miracle, so far from representing a violation of nature, is simply the (humanly speaking) obscure and incomprehensible in nature. 'Nature', he says, 'is all order and all miracle, but the miracle is the order ...'. Calvin, too, puts forward this view of the world and of life so characteristic of the Bible. He makes no essential distinction between ordinary events, belonging to the order of nature (the rising and setting of the sun), extraordinary events (great drought), and miraculous events. The term 'supernatural' is not used ... He recognizes that God has instituted an order of nature and invested things with powers, but he rejects the idea that only 'special' events require divine intervention. God's providence works in the most

> insignificant things; the sparrow on the roof, the lily of the field are under His personal care. (Hooykaas 1959: 211)

(Clearly, Hooykaas is expressing left-wing sentiments – in the sense of Section 2 above – about divine action.) Similarly, Karl Barth cautions that, '... we cannot hypostatize the concept of law, as though in our dealings with it we really had to do with the ruling representative and vice-regent of God' (Barth 1961: III.3). In general, this strand of Christian thought has endorsed particular claims about God's actions in history (e.g. that God parted the Red Sea) without adopting a general stance on whether these events fall under the laws of nature.

Second, philosophical considerations militate against the idea that science aims to establish laws of nature. Not only is the very idea of 'laws of nature' riddled with philosophical problems (see van Fraassen 1989), it makes better sense of the practice of science to think of it as aiming to produce models in which the phenomena can be embedded (see Giere 1999). Moreover, at least in physics, a model is a mathematical structure; thus, physics aims to represent phenomena via mathematical structures. But with this more accurate picture of the objectives of physics, the question of consistency – of divine intervention and physics – takes on a new aspect. From this point of view, the question becomes whether an event *E*, purportedly divinely caused, can be given a mathematical description. And the answer is obvious: surely it could be done, but doing so wouldn't give us the first bit of information about that event's relation to God.

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CHANCE, DESIGN, DEFEAT

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In his wonderfully wise and witty, sharp and subtle *Where the Conflict Really Lies*, Alvin Plantinga suggests, among many other things, that beliefs to the effect that this or that has been designed[1] are typically *basic*, i.e. that they are not held on the basis of arguments. For instance, upon noticing a watch that lies on the heath, one may form, without engaging in any form of argument, the belief that it displays design (i.e. that 'its parts are framed and put together for a purpose', to use an expression from William Paley's famous discussion). Basic design beliefs aren't only about human-made artefacts. Upon observing the wonderful contrivances for certain purposes in nature, one may form, as Darwin confessed he often did,[2] without engaging in any form of reasoning, the belief that those items display design. Plantinga maintains not only that design beliefs are typically basic, but also that they can be, and very often in fact are, *properly* basic, i.e. that there is nothing improper, irrational or otherwise epistemically untoward in holding design beliefs in the basic way. Design beliefs align, in this respect, with perceptual beliefs, memory beliefs and beliefs about other minds, that typically are also held in the basic way, and very often properly so.

[1] Like Plantinga, I take it that something is designed provided it is brought about by an agent who intended it to obtain, and the obtaining of which *is due* to the intention *cum* causal efficacy of the agent. This clarification starts, so to speak, from the side of the agent. But the clarification could also start from the other side; we could say that something is designed, provided it is not the product of the free play of natural forces, in the way that a hurricane or an avalanche *are* the product of the free play of natural forces. (This is done in Ratzsch 2001: ch. 1.) These clarifications are by no means completely satisfactory. For what is it for an agent 'to intentionally bring about' something, and what is 'the free play of natural forces'? But although not completely satisfactory, they must suffice for present purposes.

[2] See Campbell (1885: 236-45). I owe the reference to Ratzsch 2003.

Now when exactly is a basic belief *properly* basic? Plantinga's theory of warrant provides, roughly, the following answer: A basic belief is properly basic when it has warrant in the basic way. And a belief has basic warrant when it is non-inferentially formed by a cognitive faculty that is functioning properly, in the sort of environment for which it was designed (by God or evolution, or both) according to a design plan successfully aimed at the production of true beliefs. In addition, warrant requires, roughly, that the subject has no undefeated defeater for his belief. Also, and this is *very* rough, it is irrational for a subject to believe something for which she has a defeater that is not defeated.

Defeaters come in two sorts: some *rebut*, others *undercut* the target belief. In case the target belief is a basic belief, this pans out as follows. One acquires a rebutting defeater for one's basic belief that p when one becomes convinced of the truth of a proposition that is incompatible with p (it entails the denial of p). One acquires an undercutting defeater for one's basic belief that p when one becomes convinced that there is something in the situation in which one formed the basic belief that p that nullifies or neutralizes the (non-inferential) grounds of that basic belief, i.e. when one has a good reason for thinking that the belief has not been reliably produced. An example, also used by Plantinga, might help. Suppose you form, in the basic way, the belief that there is a sheep in the field. As you come closer, you become convinced that you have mistaken a sheepdog for a sheep and accordingly form the belief that there is a sheepdog in the field. Then you have acquired a rebutting defeater for your original belief. But suppose you didn't come closer, and someone who sees you staring at what you believe is a sheep tells you that very often sheepdogs frequent that field. If you take his words seriously and believe him, you have acquired an undercutting defeater for your original belief.

There is an interesting difference between the two defeaters. In case you have acquired a rebutting defeater for your belief that p, it would be irrational to continue believing p; rationality requires that you (start to) believe not-p.[3] But in case you have acquired an undercutting defeater for your belief that p, it isn't necessarily irrational to continue believing

[3] Also possible is the following scenario: you believe p and you come to believe q equally strongly, and you furthermore see that p and q are incompatible. In that situation your belief that p rebuts your belief that q, vice versa, but it would be irrational for you to believe the denial of p (or the denial of q, for that matter). Here suspension of belief is the rational response.

that p. (After all, in the scenario in which you didn't come closer, what you see in the field might, for all you know, still be a sheep.) Having acquired an undercutting defeater for one's belief that p, a whole range of responses might be rational, depending on the strength of the defeater (and the strength of the defeater depends in part on other beliefs that the subject has); the range encompasses near disbelief, grave uncertainty, a severely less firmly held belief, as well as a somewhat less firmly held belief. Undercutting defeaters, Plantinga suggests, come in degrees.[4]

We have design beliefs, but we also have chance beliefs, i.e. beliefs to the effect that something or other is 'due to chance'. Many philosophers and scientists seem to adopt the idea that design and chance are mutually exclusive[5] and hence that both of the following implications hold:

I1: If X is designed, it cannot be chancy (i.e. cannot be a chance event, nor the product thereof).

I2: If X is chancy, it cannot be designed.

In terms of defeaters these implications tell us that design beliefs are defeaters for chance beliefs, and *vice versa*. The main task for this paper is to investigate whether this is correct. First I investigate whether or when design beliefs are defeaters, either rebutting or undermining, for chance beliefs. Second I investigate whether or when chance beliefs are defeaters for basic design beliefs. In the course of the discussion the notion of 'chance' will be elucidated.

DESIGN BELIEFS AS DEFEATERS FOR CHANCE BELIEFS

Let us first consider a couple of cases in which someone holds a chance belief and subsequently acquires a design belief, in order to see whether the latter really rebut or undercut the former. Suppose you are on vacation in Austria, and while roaming Vienna, you bump in on your old high school class mate Harry, whom you haven't seen for years. You are, of course, surprised by this event, unexpected and remarkable as it is, and you find yourself believing it is chance event. It is not implausible to think that what your belief amounts to is that the event *bumping in on Harry in Vienna* is a chance event, so an event that has the property of being chancy. Now this property, rather obviously, is a *relational property*,

[4] Plantinga (2011: 252).

[5] See Dawkins 1986, Dembski 1998.

for the event isn't unexpected and remarkable *as such* (or *intrinsically*), but unexpected and remarkable *for you*. But this means that the event that is chancy (in the sense intended) for you, need not be chancy for someone else. It need not be, for instance, for Harry himself. He might have been scheming to get in contact with you in a way that you wouldn't expect. So long as it isn't revealed to you that Harry has been scheming to see you, you will continue to believe the meeting was a chance event. Your belief involves the following notion of chance:

> Chance_1 = the relational property of being remarkable for and unexpected by someone who is unaware of anyone bringing about the remarkable and unexpected event.

It is clear that chance_1 and design are compatible, so that neither I1 nor I2 are true if the notion of chance in them is chance_1.

Suppose now that after some time Harry reveals to you that he had been scheming to meet you in Vienna and you acquire the belief that Harry plotted the event. Would that constitute a defeater for your chance_1 belief? It certainly would. For after Harry's revelation you *are* aware of someone scheming for the remarkable and unexpected event, hence, unless you have a defeater for your defeater, you can no longer rationally believe that the meeting is chancy_1, for you have a defeater for that belief – a *rebutting* defeater. (A defeater for this defeater would be your belief that Harry's revelations are generally false. If you have that belief, you can rationally continue believing the meeting in Vienna was a chance event.)

But not all uses of 'chance' are specified by Chance_1 as the following case bears out. Suppose McBride idly shakes two dice, nothing is at stake, and he throws 'snake eyes'. This outcome is in no way remarkable or unexpected. Of course, he expected *some* outcome, but as snake eyes is as likely an outcome as any, he didn't expect (or not-expect) it more or less than any other. So we may say that the outcome is not chancy_1. What is correct, though, is that the outcome was unpredictable, i.e. prior to throwing unknowable. Unpredictable outcomes are sometimes called chance events. Throwing snake eyes is a chance event in this sense – and this is what McBride believes. But now suppose there is a Laplacian Intellect that fully knows the botching of the dice in McBride's hand, the impulse they have upon leaving his hand, the physical properties of the surface on which they are thrown, the collision laws, etc. That Intellect could predict the outcome (at least if we assume determinism – something Laplace

did assume). What is unpredictable for McBride, isn't unpredictable for a Laplacian Intellect. (Karl Popper was right when he said that when we call the event of throwing dice a chance event, we thereby indicate our ignorance of laws and initial conditions.)[6] Hence, the notion of chance at hand, like $Chance_1$, is person relative.

Suppose now McBride sees someone throwing snake eyes and accordingly forms the belief that the outcome is chancy. Suppose next that the person who threw the dice reveals himself as the Laplacian Intellect and furthermore tells McBride that he intended to throw snake eyes and brought it about.[7] Then McBride will, assuming he has no good reasons for thinking no such Intellect exists, or that that the Intellect is misleading him, form the belief that someone plotted for this event that was unpredictable for him. This belief would constitute a defeater for his initial chance belief – a rebutting defeater. It would be irrational for him, after the Intellect's revelation, to continue believing that the snake eyes outcome is chancy in the following sense:

> $Chance_2$ = the relational property of being unpredictable for someone who is not aware of anyone intentionally bringing about the unpredictable event.

(I will comment on the second part of this definition in a moment.) It is clear that if an event is $chancy_2$, it can at the same time be designed, and hence that I1 and I2 are false for this notion of chance as well.

There are notions of chance still other than $Chance_1$ and $Chance_2$. Let us see how beliefs involving any of these fare, once the person holding such a belief acquires a design belief.

Shakespeare and Cervantes died on the very same day. Someone who relates this coincidence (as Aristotle would have called it), could do so by using the words: 'By chance, Shakespeare and Cervantes died on the same day.' If Shakespeare and Cervantes had killed each other in a duel, or when a poetry hater bent on eradicating poets from the surface of the earth had shot both men on the same day, or when God, by whatever means, brought about these joint deaths, their dying on the same day would *not* be a chance event. Furthermore, if it were a law of nature that poets with the sorts of properties that Cervantes and Shakespeare have die on the same day, just as it is a law of nature that water freezes when

[6] Popper (1968: 205).

[7] There is a good question about this example that I won't go into now, viz. can a Laplacian Intellect intentionally do something if determinism is true?

the temperature sinks below 0 degrees Celsius, their deaths would not be chancy in the sense intended either. Saying they died on the same day by chance, then, is saying that their deaths are *not brought about by a human or non-human agent who intended them to happen, nor necessitated by a law of nature.* We may note that this notion of 'chancy' is not person relative, as it makes no sense to say that an event is chancy in this sense 'for' you, but not 'for' your neighbour. What we have, then, is a third notion of chance:

> Chance_3 = the non-relational property of not being intentionally brought about by a human or non-human agent, nor being necessitated by a law of nature.

When we return to I2 with Chance_3 in mind, we can see that it is true. If an event is chancy_3, it cannot be designed. Let us see how this work out in terms of defeaters.

Suppose that Jan believes that Cervantes's and Shakespeare's dying on the same day was a chance_3 event. Then it is easy to see that by believing any of the following Jan would have acquired a defeater for her chance belief, viz. (i) Cervantes and Shakespeare killed each other in a duel, (ii) Cervantes and Shakespeare were killed by a poetry hater on the same day, (iii) God saw to it that Cervantes and Shakespeare died on the same day. All of these are *rebutting* defeaters. But what would be an *undermining* defeater for her chance belief? This would be a belief to the effect that, *for all she knows*, (i), (ii) or (iii) is true. That is, all she needs to believe is that it is epistemically possible that any one of these propositions is true. Now we have very good reasons to think that (i) and (ii) are *not* epistemically possible: we know them to be false. But we don't have those sorts of reasons for (iii) – that proposition may be true; it certainly isn't the case that we know it to be false. We don't know that it is false because God's existence is epistemically possible, and so is the existence of divine reasons for seeing to it that Cervantes and Shakespeare died on the same day. What holds for Jan's chance_3 belief, can be generalized. When people believe that X is chancy_3 and furthermore notice (and hence believe) that it is epistemically possible that God exists, as well as that it is epistemically possible that God has reasons for seeing to it that X exists (or comes about, or happens), they thereby have acquired an undermining defeater for their chance_3 belief.

[8] Simpson (1949: 93); Beatty (1984: 186).

In evolutionary biology mutations are oftentimes qualified as random, other times they are characterized as (products of) chance events. Saying that mutations are chancy, has been explained in various ways, for instance as *occurring regardless of the organism's needs,*[8] or *occurring independent of what is advantageous for the organism'soff-spring.*[9] The notion of chance that is used here is non person relative. Even if neither you, nor any other human being existed, a mutation could still be chancy in this sense (although there would be no one around to *call* it chancy). Hence, when we say that a mutation is chancy (or random), we ascribe to it the following property

> Chance_4 = the non person relative property of not being caused by the organism because of any possible beneficial effects it might have for its offspring.

With respect to I2 we may note that it is false if the notion of chance in it is chance_4. We can see this in some detail as follows. Suppose Theodozius believes that this particular mutation M is chancy_4 and subsequently comes to believe that M is divinely created. Has he thereby acquired a defeater for his chance belief? He has not, for, and here I entirely agree with Plantinga (although he uses somewhat different terms[10]), a mutation's being chancy_4 is compatible with that mutation's being caused by God. It is, of course, possible, in theory, that Theodozius acquires a defeater for his chance_4 belief. A *rebutting* defeater would be evidence to the effect that organisms *do* cause mutations because of the possible beneficial effects they may have for their offspring. An *undercutting* defeater for his belief would be evidence to the effect that the evidence that has been marshalled in favour of his chance belief, is polluted, or seriously incomplete. My point is that although Theodozius' chance belief can, in principle, meet with a defeater, his theistic design belief is not one of them. The belief that mutations are divinely caused doesn't constitute a defeater for the belief that mutations are chancy_4. Some chance beliefs involve yet another notion of chance. Laplace held that there is no chance in nature. This fact, he thought, makes it possible for the Laplacian Intellect to predict all future events. But what exactly is it that nature lacks according to Laplace when it lacks chance events? It is this: it lacks events that are without physical causes, i.e. that are physically undetermined. A chance event, in his sense of the word, then,

[9] Sober (1984: 105).

[10] Plantinga (2011: 12).

is an event that lacks a physical cause. It seems clear that this notion is not person relative. So here we have

Chance$_5$ = the non relational property of being physically uncaused.

There is an issue as to whether the property of chance$_5$ is ever instantiated. Laplace, of course, thought not. But in 1927 Heisenberg enriched physics with the Principle of Uncertainty, one explanation of which is that quantum events such as the emission of a photon are such that they are not determined by antecedent physical conditions: there are no necessary and sufficient physical conditions such that if they obtain, the quantum event *will* take place. On this explanation such events are chancy$_5$, which is sometimes also called 'deep chance'.

Suppose now that Nils, who believes that a certain quantum event is deeply chancy, comes to believe that, somehow, God is the creator, sustainer and ruler of the universe. Has he thereby contracted a defeater for his chance$_5$ belief? He has not, or not necessarily. The point is, of course, that a chance$_5$ event is an event that has no *physical* causes. But Nils might assume that there are causes other than physical causes. He might believe, for instance, that there are agent causes, and furthermore that God is the prime agent cause in the universe. He might furthermore take up Plantinga's suggestion that from a theistic perspective quantum events may be interpreted as agent-caused by God.[11] So, if Nils also believes in divine agent causation, his belief that God is the creator, sustainer and ruler of the universe is no defeater for his chance$_5$ belief. (I add that it would be an odd combination of views if Nils were to believe that certain quantum events are deeply chancy, and furthermore believe that God, somehow, rules the universe, but not believe in divine agent causation. For it would certainly seem that belief in God's creating, sustaining, and ruling the universe *entails* divine agent causation. But if this entailment could sensibly be denied, this might mean that Nils would have a defeater for his chance belief.)

This all goes to show that I2 is false if the operative notion in it is Chance$_5$. It is false that if an event is chancy$_5$ it cannot be designed.

CHANCE BELIEFS AS DEFEATERS FOR DESIGN BELIEFS

Let us now turn the tables and imagine William who holds the basic design belief that the mammalian eye was created (and so designed)

[11] Plantinga (2011: 113-121).

by God. Which beliefs involving chance could constitute a defeater for his belief? Let us start with the relational notions of chance. Suppose William comes to believe that the mammalian eye, or its emergence, is something remarkable and unexpected by him, so is $chancy_1$. Then this belief won't constitute a defeater for his design belief. The same is true if he acquires the belief that the eye's emergence was unpredictable for him, so is $chancy_2$: this belief is not a defeater for his design belief. Chance beliefs involving relational concepts of chance are no defeaters for design beliefs. This conclusion was already reached earlier on when I argued that for $Chance_1$ and $Chance_2$, implication I1 is false. Let us next turn to the non-relational concepts of chance.

Were William to acquire the belief that the mammalian eye is $chancy_3$, so not intentionally brought about by a human or non-human agent (nor necessitated by a law of nature), then that belief would constitute a rebutting defeater for his design belief. Now on what basis could William acquire this belief? One possibility is that he picked up the idea from reading Richard Dawkins' *The Blind Watchmaker* in which it is argued that contemporary evolutionary science 'reveals a universe without design'.[12] But if William subsequently were to read Plantinga's discussion of the argument, he would acquire a defeater-defeater. For, as Plantinga convincingly argues, Dawkins' argument shows at best that 'given a couple of assumptions, ... it is not astronomically improbable that the living world was produced by unguided evolution and hence without design'. He continues by saying that 'the argument form "p is not astronomically improbable, therefore p" is a bit unprepossessing',[13] which is, of course, a marvellous understatement. And so, William's design belief stands undefeated. What this little discussion does show, however, is that if we take I1 to be concerned with $Chance_3$, it is true. If something is designed, it cannot be $chancy_3$.

Suppose now that William has the basic belief that human beings are created, so designed, by God. And suppose furthermore that he gets a good college education and learns that human beings have evolved from non-human ancestors through a process that involves random genetic mutation, so through a process that involves $chance_4$. Has he thereby acquired a rebutting defeater for his design belief? No, he has not, for, as indicated earlier on, the chance property at hand is the mutation's

[12] As the subtitle of Dawkins 1986 has it.

[13] Plantinga (2011: 24-5).

property of not having been caused by the organism because of any possible beneficial effects it may have for its offspring. But a mutation with that property can, of course, be caused by God. So the fact, assuming it is a fact, that evolution involves $chance_4$, is not a rebutting defeater for the belief that evolved human beings (or any other creatures, for that matter) are created by God. And this means that I2 conceived of as concerning $Chance_4$ is false. William's basic belief that humans are created by God meets no rebutting defeater when he comes to believe that humans have evolved through a process that involves $chance_4$. (Of course, had William believed that God created human beings in the way young earth creationists believe he did, then his belief that human beings have evolved from non-human ancestors through a process that involves $chance_4$, would constitute a defeater for that particular design belief. But this does not invalidate the point just made, which could also be formulated by saying that $chance_4$ belief is no rebutting defeater for what could be called basic 'bare' design belief.)

Finally, assume again that William has the basic belief that humans are divinely designed. If upon reading Jacques Monod's *Chance and Necessity* he comes to believe that humans have evolved through a process that involves mutations, and that mutations are (the products of) quantum events, so are $chancy_5$, i.e. such that no necessary and sufficient conditions for their occurrence exist, has he thereby acquired a defeater for his design belief? No he has not. For by believing that humans are designed by God, he has committed himself to the belief that there is an agent cause (in contrast with an event cause). And what is $chancy_5$, may very well be agent caused by God. This is why I1, conceived of as involving $Chance_5$, is false too.

I round off by pointing out that the discussion in this section is limited in at least one important respect: it only discusses possible defeaters for basic design beliefs that involve chance. It does not discuss possible defeaters for design beliefs that involve notions other than chance, such as evil and bias. And such possible defeaters have been proposed in the literature. It has been argued, for example, that basic design beliefs about natural objects find defeaters in the evils of animal suffering and also in a cognitive bias to the effect that humans are prone to see design where there is none. Given the limited task set for this paper, however, this was inevitable, and a fuller discussion of these possible defeaters must await another occasion.

CONCLUSION

My conclusion, then, is that the implications I1 and I2 do not, in general, hold. Furthermore, it isn't, generally speaking, true that one's chance belief finds a defeater in design, nor is it, generally speaking, true that one's basic design belief finds a defeater in chance.[14, 15]

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[14] In van Woudenberg & de Ridder unpublished, we argue for an even stronger conclusion, viz. that design claims cannot be refuted and are, dialectically speaking, in the same boat as radical sceptical hypotheses.

[15] For discussion and comments I am indebted to Jeroen de Ridder, Rik Peels, Emanuel Rutten, and Joëlle Rothuizen-van der Steen. It is thankfully acknowledged that work on this paper was made possible by a grant from the Templeton World Charity Foundation.

AN ATHEISTIC DEFENCE OF CHRISTIAN SCIENCE

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Should the Christian community engage in Christian science – doing science starting from the standpoint of the Christian evidence base? Plantinga asks this question, and I argue that the answer is 'yes'. Moreover, this is an answer that both Christians and atheists can agree upon. Scientific progress should not be shackled by methodological naturalism; instead we need an ecumenical approach to science, which will allow for various high-level research programmes to count as science (including Christian science). If one does science by giving scientific arguments for or against such research programmes, one will fulfil the goal of having science be objective, open, and universal, not constrained by a methodology that favours the naturalistic worldview.

I. CONCORD AND CONFLICT

I'm tempted to say: there is superficial concord but deep conflict between Plantinga and me – we agree on certain methodological claims about science, and disagree about whether God exists. But in fact, I want to argue in this paper that the concord is more than superficial – our similar views about how Christians should do science, given what they believe as Christians, are non-trivial – and it is the point of this paper to elaborate on that. But still, the conflict should be acknowledged, so for starters let's turn there.

Plantinga is a Christian and I am an atheist, and we both understand Christianity, properly construed, to be a robust metaphysical position. One reason Plantinga endorses Christianity is that he believes he has a sensus divinitatis, a cognitive faculty that allows him to perceive God's presence and properties and demands. But Plantinga holds that the sensus divinitatis of contemporary humans is corrupted by sin. And as an atheist, my sensus divinitatis may well be more corrupted

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than Plantinga's (though not necessarily through any fault of my own, thankfully).[1]

I reject this account, of course. Why am I an atheist? I used to maintain that the main reason was the problem of evil, but I no longer maintain that. Part of the reason I don't is that Plantinga has famously provided a variety of promising responses to the problem of evil.[2] But more importantly, I've recognized that I wouldn't believe in God even if there were no evil. Imagine a world like this one, but without evil – it is full of happy bunnies and awe-inspiring rainbows and well-behaving people. Still, in such a world I wouldn't see any positive reason to believe in God – I wouldn't believe in God, because of the *lack of evidence*. (This is not meant to be a rejection of reformed epistemology; just a statement of why I don't believe.)

This is why I'm interested in the project of finding evidence for the existence of God – I want to know whether I'm wrong; I want to know whether the evidence is really there. I'm sceptical of the sensus divinitatis, the historical evidence is inconclusive at best, and the ostensible deliverances of revelation are wildly contradictory. But science – science provides a potential means of providing the sort of objective evidence for the truth of Christianity that I seek.

So can the Christian do it? Can the Christian appeal to science to provide evidence to atheists like me of the truth of Christianity? I'll start by looking at a popular objection to this project, based on the misguided claim that the methodology of science excludes supernatural hypotheses. Then I'll talk about how to understand science as involving competing high-level research programmes, including the scientific research program based on the doctrines of Christianity. Despite my willingness to include a Christian research programme as part of science, there are some restrictions I want to place on scientific methodology; I'll outline those restrictions next. Finally, I'll remind the reader that I think this project of looking to science to support Christianity – intriguing and promising as it is – will ultimately be unsuccessful.

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[1] Alvin Plantinga, *Warranted Christian Belief* (Oxford: Oxford University Press, 2000), p. 214, note 22: 'It is no part of this model to say that damage to the *sensus divinitatis* on the part of a person is due to sin on the part of the same person.'

[2] Alvin Plantinga, *The Nature of Necessity* (Oxford: Oxford University Press, 1974), Chapter 9; Alvin Plantinga, 'Supralapsarianism, or "O Felix Culpa"' in Peter van Inwagen (ed.), *Christian Faith and the Problem of Evil* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 2004), pp. 1-25.

II. AGAINST METHODOLOGICAL NATURALISM

How is science currently practiced? Many people attribute to current science a commitment to *methodological naturalism*. Plantinga is one of these people; he says that 'Contemporary science, science as it is currently practiced, is characterised by methodological naturalism, either weak or strong.' Weak methodological naturalism holds that a scientific evidence base will not include the proposition that there is such a person as God; strong methodological naturalism will add the denial that there is a God to the scientific evidence base.[3] When scientists follow methodological naturalism, they sometimes will, unsurprisingly, produce theories incompatible with Christian belief. Plantinga calls the sort of science that follows methodological naturalism, and produces theories incompatible with Christian belief, 'Simonian science'.

Plantinga correctly points out that when Simonian science reaches conclusions incompatible with the tenets of Christianity, that does not automatically constitute a defeater for the Christian tenets with which those conclusions are incompatible. The reason that does not automatically constitute a defeater is that Simonian science is describing how things look from what, by Christian lights, is a restricted evidence base. The restricted evidence base does not include the evidence that Christians take to support Christianity – if scientists took that evidence into account, then they would no longer be following methodological naturalism.

Plantinga then asks some important questions. In addition to understanding phenomena from the perspective of Simonian science,

> shouldn't the Christian also want to know how the phenomena in question look from the standpoint of the Christian evidence base? ... Shouldn't the Christian community engage in Christian science – not in the sense of following Mary Baker Eddy, but in the sense of engaging in empirical study unconstrained by methodological naturalism?[4]

Plantinga says that these are 'excellent questions', but addressing them in his book would take us 'too far from the main line of argument'.

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[3] Alvin Plantinga, *Where the Conflict Really Lies* (New York: Oxford University Press, 2011), p. 174. Plantinga's definitions of weak and strong methodological naturalism are a bit more complicated than I've stated, and it's not clear to me that as stated they capture what he's trying to capture, but readers of Plantinga (and this paper) can get the basic idea. Plantinga likes to occasionally leave projects to readers as asides, so in that spirit I'll leave this one, of working out the correct definitions of weak and strong methodological naturalism.

[4] Alvin Plantinga, *Where the Conflict Really Lies*, p. 190.

Here I have a minor note of disagreement with Plantinga. If Plantinga wants to argue that there is concord between Christian belief and science, then these excellent questions are not too far from the main line of argument. The reason is that, if science is committed to methodological naturalism, one will not be able to, in the course of doing science, provide evidence for non-naturalistic hypotheses. Plantinga writes: 'I've argued that science doesn't conflict with Christian belief: can we go further, and say that science offers positive support for it?' He tries to argue that we can, by taking up the fine-tuning and biology-based design arguments – these arguments use scientific discoveries as premises for arguments for the existence of God. But if science is really committed to methodological naturalism, then these arguments automatically violate the methodology of science – we can only support naturalistic hypotheses in the course of doing science. (And moreover, using Simonian scientific claims as premises in arguments for theism is questionable, given that Christians have reason to question the truth of the scientific claims, since the scientific claims were arrived at subject to the limiting constraint of methodological naturalism.)

Plantinga and I both believe that this restriction on science is unwarranted though. Science *can* in principle provide evidence for the existence of God, and Plantinga gives an impressive and nuanced discussion of the extent to which the fine-tuning argument and biology-based design arguments do so. Science should not be restricted to following methodological naturalism.

Here's one reason why. If science really is committed to methodological naturalism, then it automatically follows that the aim of science is not generating true theories. Instead, the aim of science would be something like: generating the best theories that can be formulated subject to the restriction that those theories are naturalistic. More and more evidence could come in suggesting that a supernatural being exists, but scientific theories wouldn't be allowed to acknowledge that possibility. Imagine what might happen if the evidence becomes overwhelming – scientists might privately come to believe in the supernatural being, but scientific theories wouldn't be allowed to acknowledge that possibility. Long after overwhelming evidence has convinced everyone that the supernatural being exists, scientists would still be searching for naturalistic causes.

In this scenario, science would rightfully find itself a marginalized intellectual discipline. What would be the point of spending all the resources scientists have investigating natural causes, when it is evident

that the causes are supernatural? I'm not saying that society would want to completely stop investigating the possibility of naturalistic causes, but by failing to countenance the possibility of supernatural hypotheses, scientists would be missing out on a revolution in our understanding of the world.

Thus, if evidence comes in against naturalism, investigation of the world that assumes naturalism has the potential to become otiose. Given the commitment to methodological naturalism, the success of science hinges on the contingent fact that naturalism is true.[5]

The lesson I draw from this is that scientists shouldn't build naturalism into the methodology of science. Imagine if they had done this sort of thing in the past; imagine if alchemy seemed to them like such a successful theory that they decided to follow methodological alchemism, the methodology that says that one should generate the best theories that can be formulated subject to the restriction that those theories are compatible with the fundamental principles of alchemy. Following such a methodology would have obviously impeded scientific progress.

Have scientists done something similar with naturalism? Plantinga says that they have, but I'm not convinced. Certainly, many scientists do say that they follow methodological naturalism. But I'm not convinced that they really mean it; I think they only follow methodological naturalism given their current perceived lack of evidence for alternative non-natural views. If evidence were to come in for non-naturalism, they would not exclude the non-natural interpretation of such evidence on methodological grounds. Or at least, they should not, and I'm confident that some scientists wouldn't. If the evidence for non-naturalism were strong enough, then the scientists who wouldn't exclude non-natural interpretations of the evidence would be the scientific revolutionaries, leading science from the old naturalistic paradigm to the new non-naturalistic science that would eventually become normal science.

III. ECUMENICAL SCIENCE

Let's look in more detail at how this ecumenical science might go, where science is not restricted to the standard naturalistic methodology. As philosophers of science like Lakatos have spelled out, science can be viewed as a competition between research programmes. This can

[5] For more on this and related issues, see Bradley Monton, *Seeking God in Science* (Peterborough, ON: Broadview Press, 2009), Chapter 2.

happen at a low level (e.g. different research programmes for how to best do spectroscopy), but it can also happen at a high level. Here are five competing high-level research programmes:

(1) Perennial naturalistic science – the standard naturalistic science as practiced in the 20th century, excluding non-standard naturalistic alternatives such as the ones below.[6]

(2) Creative anti-realist science – science based on the view that 'we are actually responsible for the basic lineaments, the fundamental structure and framework of the world itself'.[7] This idea crops up in various places, such as in the interpretations of quantum mechanics that hold that observers create reality.[8]

(3) Christian science – the programme of doing science starting from what one believes as a Christian. (Plantinga also calls this 'Augustinian science'.[9])

(4) Teleological science – the programme of looking at the world as having a fundamental teleological structure, but one that is not provided by any sort of supernatural agent. This is the research programme endorsed in Thomas Nagel's new book *Mind and Cosmos*.[10] While technically naturalistic (Nagel does not endorse the existence of the supernatural), this is so different from standard naturalistic science that it constitutes a different high-level research programme.

(5) Simulation science – the programme of looking at the universe that we observe as being a simulated universe. Some higher-level

[6] Note that this is not the same as Simonian science – Simonian science is characterized as science that produces theories incompatible with Christian belief, and while perennial naturalistic science may well do that, other types of science (such as the second high-level research programme I list, creative anti-realist science) could do that too.

[7] Alvin Plantinga, 'Christian Philosophy at the End of the 20th Century', in Sander Griffioen and Bert M. Balk (eds.), *Christian Philosophy at the Close of the Twentieth Century*, (Kampen: Kok, 1995), pp. 29-53 (p. 31).

[8] See for example the article about physicist John Wheeler's views by Tim Folger, 'Does the Universe Exist if We're Not Looking?', *Discover Magazine*, June 2002. Available at: <http://discovermagazine.com/2002/jun/featuniverse> [accessed 17/09/2013]. Especially pertinent in this context is the quote from prominent physicist Andre Linde: 'The universe and the observer exist as a pair. You can say that the universe is there only when there is an observer who can say, "Yes, I see the universe there."' (From context it's clear that Linde is talking about naturalistic observers.)

[9] Alvin Plantinga, 'Science: Augustinian or Duhemian?', *Faith and Philosophy*, 13 (1996), 368-394.

[10] Thomas Nagel, *Mind and Cosmos* (Oxford: Oxford University Press, 2012).

> civilization is running a computer simulation of a universe, and the computer simulation is detailed enough that it simulates our brains, in a detailed enough way that it gives rise to our consciousness. Simulation science is compatible with naturalism (maybe the physical reality of the higher-level civilisation is all there is to reality), and with non-naturalism (maybe there is a God in the higher-level civilization, who may or may not care about simulated observers).[11]

These five are simply a representative sample of high-level research programmes one could follow. On my ecumenical view of science, all of these research programmes are legitimate ways of doing science. Thus, in response to Plantinga's excellent question of 'Shouldn't the Christian community engage in Christian science?', my answer is 'yes'. Moreover, this is my answer as an atheist; this is the answer that all atheists, and indeed all practitioners of science, should give.

Why is this the right answer? As I'll explain, there are three reasons: allowing for different scientists to follow different high-level research programmes encourages different avenues of inquiry; it opens up possibilities for interpreting data (which leads to new theory development); and it enables competing worldviews to be treated on a par on the scientific playing field.

I'll take these up in turn. First, allowing for competing high-level research programmes encourages scientists to pursue different experimental areas of inquiry, areas of inquiry that those scientists who are following perennial naturalistic science might not contemplate. For example, a proponent of Simulation science would be especially interested in doing experiments to determine the values of the dimensionless fundamental constants, specifically how many significant digits they have. For example, if all dimensionless fundamental constants went out to 16 significant digits, with 0's as far as we could tell afterwards, this would provide some evidence that our universe is being generated via a base-2 computer simulation. Proponents of perennial naturalistic science might put their experimental resources elsewhere – they might not be as interested in establishing the values of the dimensionless constants to as many significant digits as they can.

[11] For an argument that starts from certain not implausible premises, and concludes that we are probably living in a computer simulation, see Nick Bostrom, 'Are You Living in a Computer Simulation?', *Philosophical Quarterly*, 53 (2003), 243-255.

Second, allowing for competing high-level research programmes opens up new possibilities for interpreting data – and, importantly, that leads to new avenues for theory development. For example, consider the new discovery that there is much less useless 'junk' DNA in the human genome than was previously thought.[12] This can be taken to provide support for Christian science – arguably, God the designer wouldn't design us such that our genomes had useless parts. More importantly, though, this can lead to new theory development. People sometimes criticise intelligent design theory for not making new predictions, but in fact intelligent design proponents do make such predictions: for example, they predicted that so-called junk DNA would turn out to not be useless.[13] But what some critics are looking for – at least, what I am looking for – are worked-out alternative theories that can compete with the existing perennial naturalistic ones. It's not easy to do, but having differing interpretations of the data is the first step toward providing these worked-out alternative theories. Such alternative theories will, hopefully, make empirical predictions at variance with the standard perennial naturalistic ones, and the predictions will, hopefully, be such that we have the ability to do empirical investigation to adjudicate which theory is empirically more accurate.

Third and finally, allowing for competing high-level research programmes enables competing worldviews to be treated on a par on the scientific playing field. Science is meant to be an objective endeavour that all people who strive to be rational can participate in. Being a Christian, as Plantinga has argued, may well be rational, and so science should not be done in such a way as to exclude Christianity. (And the same holds for the other high-level research programmes mentioned above.) As Plantinga rightly points out, if science is presented in such a way as to

[12] See, for example, Gina Kolata, 'Bits of Mystery DNA, Far From "Junk," Play Crucial Role', *The New York Times*, September 5, 2012.

[13] See, for example, Jonathan Wells, *The Myth of Junk DNA* (Seattle: Discovery Institute Press, 2011). Other predictions include the predictions that the fundamental physical laws that describe the universe are simple and beautiful; that the fundamental physical laws are comprehensible to us; that we are in a location in the universe that is ideal for both survival and making observations to learn about the universe; that the universe had a beginning; that the biological realm is fundamentally good (that predators kill their prey quickly, for example); that many molecular machines are irreducibly complex; and that the prevalence of functional protein folds with respect to combinatorial sequence space will be extremely small. This list is purposefully varied from very general to very detailed, and could continue.

exclude religious belief, this 'damages science ... because it forces many to choose between science and belief in God'.[14] One of the virtues of ecumenical science is that it treats competing worldviews on a par – the methodology of science does not privilege the naturalistic worldview over others. Thus, ecumenical science allows science to live up to the typical laudatory characteristics ascribed to it, that it's objective, open, and universal.

But even though I count all these high-level research programmes as scientific, my view is not 'anything goes'. In the next section, I'll discuss an important restriction on what arguments can be used within science to support these research programmes.

IV. FOR METHODOLOGICAL NEUTRALISM

Suppose that Ric, a Christian, decides to do Christian science, and he decides to do Christian science by telling us about his sublime religious experiences he's had of the Christian God. Such testimony may well be accurate, and may well provide Ric – and us – warrant for believing that Christianity is true. But these are matters for philosophical debate, not scientific debate. In appealing to his religious experience, and principles in the epistemology of testimony, Ric is providing an argument for Christianity, but he's not providing a *scientific* argument for Christianity.

Contrast that with intelligent design proponents predicting that so-called 'junk' DNA is actually not useless, and then subsequent scientific investigation confirming that prediction. That is part of the standard methodology of science: one makes predictions that are either confirmed or disconfirmed by subsequent experiment.

I want to draw a line between these two sorts of cases. To do so, I endorse a principle I'm calling *methodological neutralism*. This principle can be understood as having two key components. First, when giving arguments for or against research programmes, one should not assume the truth of one particular research programme – the arguments should strive to be neutrally evaluable by proponents of any research programme. Second, the neutrally evaluable arguments one should give should be scientific arguments.

Of course, it would be nice if I had a characterization of what counts as a scientific argument. Philosophers have tried and failed to give

[14] Plantinga, *Where the Conflict Really Lies*, p. 54.

such a characterization – the project of demarcating between science and non-science is fraught with difficulty, and its past is littered with failure, and that has led many philosophers of science to give up on the demarcation project.[15] But that does not mean that a demarcation does not exist – Ric, in appealing to his religious experience, is not doing science, while the intelligent design proponents, in making a empirically testable prediction about junk DNA, are.

It's important to note that methodological neutralism does not place restrictions on belief, or reasons for belief. It's permissible to believe the worldview behind the high-level research programme one is following.[16] Moreover, it's permissible to believe the worldview for non-scientific reasons: for example, one could believe the worldview because one has been convinced by a philosophical argument (rare though that may be).

The restrictions that methodological neutralism does place are on what arguments one puts forth to the tribunal of science. It's not within the realm of science to investigate historical arguments for Christianity, or Nagel's argument for teleological science, or Kant's argument for creative anti-realism, or Bostrom's argument for simulation science – or, for that matter, the philosophically-minded arguments that people like Dennett and Dawkins and Hitchens give in favour of naturalism.[17]

V. CONCLUDING THOUGHTS

I believe that Christian science is a degenerating research programme; Plantinga believes that it is a flourishing one. But this sort of conflict, in

[15] See, for example, Larry Laudan, 'The Demise of the Demarcation Problem', in R.S. Cohen and L. Laudan (eds.), *Physics, Philosophy, and Psychoanalysis* (Dordrecht: Reidel, 1983); reprinted in Michael Ruse (ed.) *But is it Science?* (Amherst, NY: Prometheus Books, 1988), pp. 337-350.

[16] Note that one can follow a research programme without having the corresponding belief in the truth of the worldview: one could accept the research programme, in the sense of committing to use it when doing science, without actually believing the worldview behind the programme. This distinction between acceptance and belief is famously made by Bas van Fraassen, *The Scientific Image* (Oxford: Oxford University Press, 1980).

[17] Here I have in mind, for example, the key argument against the existence of God presented in Richard Dawkins, *The God Delusion* (New York: Houghton Mifflin, 2006). The basic structure of Dawkins' argument is: the physical universe is complex, so anything that created the physical universe would have to be at least as complex, but the more complex some postulated being is the less likely it is to exist, so God is very unlikely to exist. Each step in this argument is a questionable philosophical step.

principle, can be resolved on a scientific level. The evidence against junk DNA may well be an important piece of evidence in favour of Christian science. But the evidence that one can give a scientific, naturalistic account of why people are predisposed to form religious beliefs is, I maintain, undercutting evidence against Christian science.[18] Those are just two examples of how the start of the debate could go.

But much more would need to be said. Why hasn't it? Well, science has developed a lot in the 20th century, but this development has mostly happened without the input of Christian science. The historical reasons for this are complex, but mirror to a large extent the reasons that Christian philosophy wasn't done during much of the 20th century – Christian philosophers and Christian scientists kept their heads down, and did philosophy and science without taking into account what they believed as Christians. In philosophy, this situation famously changed in the latter part of the 20th century, thanks largely to the work of one Alvin Plantinga. By approaching philosophy starting from what he believes as a Christian, Plantinga has helped develop a philosophical research programme that can compete with other, naturalistic ones. Having such a competition is the best way for philosophy to flourish – this is a position on which both atheists and theists can (in principle) agree.

Just as Plantinga improved philosophy by doing Christian philosophy, so we need scientists to improve science by doing Christian science. We need people to be explicit that they are following that research programme, and to follow it where it leads. Plantinga admires the work of Michael Behe, even while disagreeing with the details, and I do too. But Behe and other intelligent design proponents often shy away from their Christian commitments, and from attributing particular characteristics to the nature of the intelligent designer they're postulating.[19] There should be no need for them to do so. Let the Christian – and other high-level – research programmes bloom, and the truth will out.

Or at least, letting these research programmes bloom is the best way to get at the truth from a scientific perspective (subject as it is to the

[18] For a brief presentation of my reasoning behind this, see Bradley Monton and Logan Paul Gage, Review of Plantinga's *Where the Conflict Really Lies*, *International Journal for Philosophy of Religion*, 72 (2012), 53-57.

[19] Presumably, intelligent design proponents do not actually want their arguments to promote simulation science as much as they promote Christian science. By being more clear regarding the nature and workings of their hypothesized designer, they can avoid this undesired result.

constraints of methodological neutralism). We can also do philosophy, and compare the competing research programmes in that discipline, and that will also help us to get at the truth. We can also reflect on our sinful natures, and on whether we have an innate faculty of perceiving divinity in the world that is corrupted by this sin. I maintain that Christian philosophy encompasses a false worldview, and that Christian science, even when it is further developed, will still be a degenerating research programme. But I recognize that, from a Christian perspective, in saying that I can see this, my sin remains.[20]

[20] For helpful comments, thanks to Brian Kierland and Ashley Taylor.

RESPONSE

ALVIN PLANTINGA

University of Notre Dame

First, thanks very much to my commentators and interlocutors, and to the editors of the *European Journal for Philosophy of Religion*. I'm delighted to be a part of this symposium.

AD MONTON

I'll start with some comments on Bradley Monton's stimulating piece. There is much to talk about here, but I'll concentrate on just three topics: 'Methodological Neutralism', 'Anti-realistic Science', and 'Simulation Science'.

'Methodological Neutralism', as Monton conceives it, consists of two parts: First, when giving arguments for or against research programmes, one should not assume the truth of one particular research programme – the arguments should strive to be neutrally evaluable by proponents of any research programme. Second, the neutrally evaluable arguments one should give should be scientific arguments (p. 49-50).

I'll comment just on the first part.

Christian scholars or scientists, I believe, should think of themselves as addressing at least two different audiences: on the one hand, the *Christian* scholarly or scientific community, and on the other hand the scholarly community at large. That is because Christian philosophers or scientists (more exactly, perhaps, the Christian philosophical or scientific community) should engage in two different projects. One project involves starting from, assuming, taking for granted the whole Christian story, and then working at the relevant philosophical or scientific questions from that perspective. Another way to put this: in any scholarly project, there is the relevant 'evidence base', as I call it: the

set of propositions to be taken for granted and appealed to in conducting the inquiry in question. I was thinking that for the project of Christian philosophy ('Augustinian Philosophy', as we could call it), the evidence base would include the main lines of the Christian story. (Here Monton (p. 45) slightly misunderstands me: he takes me to be suggesting that the evidence base for Augustinian philosophy will include the *evidence* for Christian belief; I was taking it to include Christian belief *itself*.)

My thought is that the intended audience here would be the Christian philosophical community, or the Christian academic community, or perhaps the Christian community as a whole; this would be fundamentally an *intramural* project. Of course others not within the walls might find these discussions of interest, and of course they would certainly be welcome to follow the discussions, and make their own contributions if they wish. But the intended audience is other Christians – maybe Christian philosophers, maybe Christian academics generally, maybe Christians generally. In *that* context, I should think it would be perfectly appropriate to assume the truth of a particular research program, or at least to assume the truth of Christian belief. I should think the same would go for atheists: they too could sensibly address some of their arguments and discussion just to other atheists. Again, non-atheists would presumably be welcome to listen in on the conversation, and even make their own contributions to it (as long as they didn't behave like trolls); but the fundamental audience would be other atheists.

Monton speaks of 'competition between research projects', and he thinks of Christian scholarship as a 'degenerating research project', which suggests that it is losing out in this competition. I'm not entirely sure how to understand this. Is the idea that we (we human beings) who engage in *different* research projects are also engaged in the *common* project of seeing which program will win? (What would constitute winning or losing?) I think another appropriate project here, for followers of any of the 5 projects he mentions, would proceed in a slightly different direction. Suppose I am convinced that Christianity is true (or, for that matter, that naturalism is true). I may then want to learn more about my world. In so doing, I will presumably want to use all that I know or think I know. So if, as I see it, I know that Christianity (or naturalism), is true I will include Christian belief (or naturalism) in the evidential base for the inquiries I carry out. Now under Monton's suggestion, I might do the same thing. I will have an evidential base for my inquiries, and if I am pursuing a Christian, (or naturalistic) project, my evidential base

for that project will include Christian belief (or naturalism). But I get the impression Monton thinks my aim (one of my aims?) in so doing is to take part in a sort of mega-project – trying to see which projects are degenerating and which project is the winner.

Perhaps this would be in the same spirit as the following. Monton mentions Thomas Nagel's suggestion for a research project as an alternative to Augustinian science and naturalistic science: Monton calls it 'teleological science'. Now Nagel is a bit hesitant and tentative about this alternative – or if *he* isn't, someone else might be. Such a person might be interested in working at this project, in part, as a means of coming to a judgment about the viability of its underlying metaphysical underpinnings. A naturalist or an Augustinian Christian might do the same sort of thing: work at naturalistic science or Augustinian science in the interests of coming to decide whether or not to adopt, or stick with, or reject the underling metaphysical underpinning – in the case of Augustinian science, Christian belief, and in the case of naturalistic science, naturalism. This seems to me to be very much in the spirit of Monton's suggestion.

Once again, however, there is quite another spirit in which to engage in such a program: you might be convinced that the underlying underpinning is correct. You might not be trying to discover *whether* it is, or to discover evidence for or against it; you might instead start from the assumption that it *is* correct, and try to learn more about the world, assuming that this perspective is correct. I think this is in fact how many naturalists do approach naturalistic scholarship. They are completely convinced of the truth of naturalism, and engage in scholarship, not to confirm or reject naturalism, but just to learn more about what the world is like, taking for granted that naturalism is the truth of the matter. (Of course this doesn't imply that a Christian or naturalist who adopts this posture would refuse to consider potential or actual defeaters of the metaphysical underpinning in question.)

The point would be this: in arguing against other projects, you could be addressing others who share your basic commitments; and in so doing you could perfectly sensibly presuppose the truth of your basic commitments. So my main point here, again, is that a Christian or naturalist scholar is a member of several different communities, and properly takes for granted different commitments in addressing these different communities.

In conclusion, a comment or two on a couple of the other large research programs Monton identifies. First, antirealist science. I said one sort of stance someone who pursues one of these programs might take, is that of assuming that the metaphysical foundation in question is correct or true, and then trying to learn more about the world, taking for granted the truth of that metaphysical foundation. But how would this work for antirealism? Monton doesn't identify the variety of anti-realism he has in mind; I take him to be thinking about *anti-realism with respect to truth*, the idea that there really isn't any such thing as truth understood the common sense way, as independent of what we think and how we act (at least for truths that aren't about what we think and how we act). Such anti-realisms tend to follow Richard Rorty in taking truth to be a social construction of some kind, in Rorty's words, 'what your peers will let you get away with saying'. How could we think of science or scholarship from this perspective? Would it be a matter of trying to find out what truths we have constructed in various areas? And would the truths about what truths we've constructed in various areas themselves be socially constructed, constructed by us? If so, is that a problem?

Second, simulation science. Apparently some people seriously believe we are (or at least might be) existing in, or living in, or elements in, a computer simulation (the 'simulation hypothesis'), where this simulation is perhaps being run by scientists from some advanced civilization. Perhaps these scientists are running computer simulations of entire universes, and you and I are people in such a universe. But what does this mean, and what would it be like to conduct science from this perspective?

First, what exactly is a computer simulation? What is its ontological status? Well, perhaps it's an event of a certain kind, an event consisting in the running of a program on a computer. And what sort of thing is a computer program? Something like a set of instructions to a computer, perhaps in a computer language like Fortran. We can think of that language, like other languages, in various ways – as sequences of abstract types, or as physical exemplifications of such types; but in any event the program is such that running it on a computer results in the computer's behaving in a certain way, doing the various things specified by that program. The running of such a program would presumably be a complex event – an event consisting in the occurrence of many component events or subevents. And if I am an element in a computer simulation, if I am an element in such an event, I am presumably then

myself an event. What kind of event? Presumably some kind of pattern of electrical activity – not an abstract pattern, but the exemplification of such a pattern in the activity of a concrete computer. It looks as if (on the simulation hypothesis) I would have to be an event consisting of the instantiation of certain patterns of electrical activity.

But is that the sort of thing I could be? I can think about the moon and make decisions; I can love and hate. Could a pattern of electrical activity do these things? It's hard to see how. Further, events seem to have essentially properties of the sort I seem to have accidentally. An event with which I am identical would have to consist in very many subevents – roughly 80 years worth. Now I could have died and gone out of existence at the age of 5 (I do accept the Christian hope of immortality, but that this hope is fulfilled is contingent). If I were an event, therefore, it would have to be possible for that event to exist even if very many of its subevents – presumably *most* of its subevents – had not existed. That seems to me to be false: events that consist in other events have essentially the property of consisting in those other events.

But perhaps the crucial factor here is the following.[1] Consider a simple simulation of a traffic accident: I say, 'Here's the black Buick' (holding up the salt shaker) and 'Here's the red Nissan' (holding up the pepper shaker); and 'Here's how they collided' (moving the salt shaker from left to right and the pepper shaker perpendicular to the path of the salt shaker). In the same way, a more elaborate representation of a Civil War battle might employ toy soldiers and toy cannons to represent the two armies and their armaments, maybe a light bulb to represent the sun (if the sun's light and direction was a factor in the battle), and perhaps still other objects. The key point here is that we use these things of one kind to *represent* things of another, in order to learn or demonstrate something about those things of the second kind.

And isn't this how it is with a computer simulation? We get the computer to do various things; we then take some of those events to represent a tornado and what the tornado does. But of course nothing the computer does actually is or generates a tornado.

Similarly, if these advanced alien scientists are running a computer simulation of a universe, they will take various activities of the computer to represent elements in a universe – you and I, perhaps. Naturally enough, however, these activities will not actually *be* or *constitute* you or

[1] My thanks to Harry Plantinga and Del Ratzsch for help here.

I or anybody else. So I don't see how you or I could be part of a computer simulation, although of course there could be computer simulations elements of which represent us, and represent us as doing this or that.

One final point. Suppose I *do* wind up thinking I am an element in a computer simulation. Now in such a simulation, the programmer gets to decide what happens. So if I am an element in a simulation, the programmer could be deciding what I think and whether I form true beliefs. Now suppose all I believe on this topic is that I and the rest of us are elements in such a simulation: I have no beliefs on the question of whether our programmer has made it the case that our beliefs are for the most part true, or whether our cognitive faculties are reliable. If I ask myself about the probability that our faculties *are* reliable, I'll presumably think it's pretty much an even bet. But how, then, should I think about the scientific enterprise? Suppose I think the aim of science is to learn about and discover truths about the world. Given that my beliefs are as likely to be false as true, I should presumably think this effort to discover truth is fundamentally futile. And even if I follow van Fraassen and think of science as an effort to come up with empirically adequate hypotheses (whether or not they are true), I'll have the same problem: my beliefs about whether a given hypothesis *is* empirically adequate are as likely to be false as to be true. So won't I properly think the whole scientific enterprise is an absurd undertaking, a fool's errand, a snipe hunt? Of course the same considerations apply to my reflections about the feasibility of the scientific enterprise, and to my reflections on *those* reflections, and so on. I have a sort of defeater for the whole intellectual or cognitive enterprise, and a defeater for *that* defeater, and a defeater for *that* defeater ...

The moral: if I think I am an element in a computer simulation, then (given that I do raise the question of the reliability of my cognitive faculties) I'll be able sensibly to engage in science only if I also think that the programmer (the Programmer?) has given me for the most part reliable faculties.

AD VAN WOUDENBERG

I turn next to Rene van Woudenberg's careful and fruitful investigation of some of the meanings of the word 'chance', and how chance and design are related. As far as I can see, what van Woudenberg says is correct. That leaves me, as a commentator or respondent, in something of

a quandary; a responder is supposed to take issue with at least something the respondee has said. Since I am a follower of William of Ockham (*discidia non sunt multiplicanda praetor necessitatem*), I will not invent a disagreement, but instead talk about a couple of other issues with respect to chance and design.

In 'The Place of Chance in a World Sustained by God',[2] Peter van Inwagen suggests that a chance event is one that is not part of anyone's plan; it's an event that hasn't been planned or intended by anyone. Now van Inwagen's ideas as to what God's plan includes are rather restrictive. As he puts it, God's (eternal) plan is the sum total of what God has unconditionally decreed. And he suggests that very often God intends a certain result to occur, unconditionally decrees that it occur, but doesn't care in which particular *way* it occurs. Thus perhaps God intends that I have hair, or even a lot of hair, but doesn't care about the precise number of hairs I have. Perhaps the fact is I have 132,241 hairs on my head at present. If it isn't part of God's plan that I have that many hairs on my head at present, then that I *do* have that number of hairs now is a matter of chance (assuming that it wasn't part of anyone *else's* plan that I have 132,241 hairs). Van Inwagen also suggests that it may be a matter of chance that there be human beings. No doubt it was (is) part of God's plan that there be rational free creatures capable of loving each other and loving him: but perhaps God didn't care precisely what form such creatures would take. Perhaps dolphin-like creatures (or maybe even crocodilians?) would do just as well as hominids. Similarly, someone's dying in a car accident could be a matter of chance: perhaps it is not part of God's plan that Alice die in this way; assuming that it is not part of anyone else's plan either, that death would be a matter of chance. (Of course in another sense of 'chance' it might not have been a matter of chance: there might have been an explanation in terms of failed brakes, excessive speed, inattention and the like.)

Now if God intends that I have a lot of hair, then that I have a lot of hair is not a matter of chance; God unconditionally decrees that I have a lot of hair. What sort of form would such a decree take? Van Inwagen suggests that God might issue *disjunctive* decrees. He might say: *Let it be that A or B, and I really don't care which*. Perhaps God can also issue *indeterminate* or *vague* decrees: *Let it be that Alice have a lot of hairs, but*

[2] In *God, Knowledge, and Mystery: Essays in Philosophical Theology* (Ithaca: Cornell University Press, 1995), pp. 42-66.

I don't care just how many (or how long). (This would be a vague decree, in contrast with a disjunctive decree like *Let Alice have n or n+1, or n+2, or ... n+n hairs*.)

These possibilities raise the question of what we might call *deep* chance. Suppose at creation God decrees: *Let there be about* 10^{80} *elementary particles, but I don't care exactly how many.* Now suppose exactly 10^{80} plus 17 show up. Then that there are just *that* many particles is a matter of deep chance. There is no explanation of it at all; it can't be explained in terms of earlier occurrences in the world, obviously, and also not in terms of God's will or decree; it simply happens, with no cause (i.e., there being *that* many as opposed to three fewer has no cause). Deep chance, so specified, stands in contrast to the sorts of chance van Woudenberg mentions. And of course an event's happening by deep chance is incompatible with its happening by design.

But is deep chance really possible? That's a good question. Leibniz, certainly no slouch, would have thought not – deep chance would violate the 'Principle of Sufficient Reason'. If there were such a thing as deep chance, furthermore, would it be *necessary* that there is? Presumably not: presumably God was not obliged to create anything at all; and if he had not created anything, there would have been no deep chance events. Would deep chance be inevitable if God did create? Again, presumably not: God could have issued maximally specific decrees, in which case there would again be no room for deep chance. Would deep chance be inevitable if God created free creatures – free human beings, for example?

As far as I can see, this too would not guarantee deep chance, at least if we make a small clarification or addition to van Inwagen's definition of chance. For suppose I freely buy a horse. Then God doesn't decree that I buy a horse, so that my having a horse is not part of God's plan. On the other hand, it's no part of *my* plan that, e.g., this horse's maternal grandfather preferred clover hay to alfalfa. So consider the conjunctive state of affairs consisting in my owning a horse whose maternal grandfather preferred clover to alfalfa hay. That state of affairs is not as such part of God's plan, and also not as such part of my plan – or presumably anyone else's plan. Nevertheless, of course, it might have been part of God's plan that this particular horse – call it 'Sam' – have a maternal grandfather of that sort. Hence, if we think of this state of affairs as a conjunctive state of affairs, one conjunct is part of my plan and the other part of God's plan. The definition of 'chance' should be such as to exclude such event or states of affairs as chance events.

Now return to the question of divine disjunctive decrees, and suppose God, as Christians think, is omniscient. Add that omniscience includes knowing what would happen if God issued a disjunctive decree: if God issued the decree

Let it be that A or B, and I don't care which,

God would know which of A or B would occur or be actual. (This sort of knowledge – knowledge of chance counterfactuals – would go middle knowledge one better). Suppose what God knows is that if he issues that decree, it is A that would occur. Under those conditions, would there really be any relevant difference between God's issuing the decree

Let it be that A or B, and I don't care which

and his issuing the decree

Let it be that A?

I'm not sure what to say here. If God knows that if he issues the disjunctive decree, it is A that will be actual, then if he *does* issue that decree, would it not be the case that he intends A? And if he intends A, will it not be the case that A does not occur by chance?

I'm not sure what to say; therefore I will leave this question as homework.

AD HALVORSON

As far as I can see, Hans Halvorson and I have little to argue about. He comments on four issues; I'll say just a bit about each of those comments.

First, he says, 'Plantinga indicates that if God acts in history, then the laws of physics are not deterministic. But from the point of view of Reformed epistemology, the character of the law of physics should be irrelevant to one's warrant for believing that God has acted.' 'God has acted'; here I was thinking of 'special' divine action: i.e., action that goes beyond creation and conservation; so think of God's acting in history as special divine action. Miracles would be an example. Now Halvorson says that according to me, if God acts in history (if God acts in a way that goes beyond conservation and creation) then the laws of physics are not deterministic. I didn't intend to say that, and I'm inclined to doubt that it's true. First, what is it for the laws to be deterministic? Presumably the issue, here, is the issue between classical mechanics and quantum theory: a law is deterministic just if, given the appropriate input, the law's

output is a *particular* outcome – rather than, as in quantum mechanics, a distribution of probabilities over possible outcomes. But as far as I can see, it's entirely possible both that God acts specially in the world and that the laws have this deterministic character. The reason is that, as I see it, the natural laws should be thought of as with a proviso, so that the form of a law is

> When God is not acting specially in the world, *p*

where *p* would be the usual formulation of the law; for example,

> When God is not acting specially in the world, total energy is conserved.

But then of course special divine action is perfectly compatible with the laws being deterministic; for any time at which God acts specially is a time at which the antecedent of the laws is not fulfilled. So understood, the laws say nothing about what happens when God *is* acting specially in the world; hence they can hardly be taken to imply that God does not act specially in the world. Another way to put it: the laws, so conceived, do not themselves entail that their antecedents are satisfied.

We might ask instead whether special divine action is compatible with *determinism* (as opposed to the proposition that the laws are deterministic in the above sense). How shall we think of determinism? It's quite common, nowadays, to define determinism as the following proposition: given the natural laws and a true statement completely describing what happens at a particular time *t*, what happens at any other time *t** deductively follows:

> (D) For any times *t* and *t**, a complete description of the state of the universe at *t* conjoined with the natural laws entails a complete description of the state of the universe at *t**.

Let's take (D) as our account of determinism. Now I think we can see that determinism, thus specified, is compatible with special divine action. For suppose some form of occasionalism is true, so that God causes whatever happens in the (physical?) world. Then God's actions would certainly go beyond creation and conservation; but determinism (as specified by (D)) might still be true. For suppose the laws are true universal generalizations describing God's action in the world; it could be that these generalizations are rich enough so that their conjunction with a complete description of the universe at a time t is sufficient to entail a description of whatever happens at any other time. But then

determinism in the sense of (D) would be true, and it would also be true that God acts specially in the world. So determinism and divine special action are compatible.

Why is it tempting to think that determinism and special divine action are not compatible? I think this temptation arises from the following picture. Think of the world as something like a vast machine created by God, and created in such a way that it evolves according to laws that God sets for this vast machine. These laws therefore determine what happens in the universe. God upholds the universe in existence; but he doesn't, or at least ordinarily doesn't, directly cause what occurs in the world. Now take these laws to be deterministic, i.e., non-probabilistic: their predictions are specific states of affairs, not the distribution of probabilities over possible outcomes. Suppose further that (D) holds: the state of the universe at any time conjoined with the laws, entails the state of the universe at any other time. Then there would be no room for special divine action. For suppose God acted specially at a given time t. By (D), the complete description of the universe at t – call it 'U_t' – is entailed by the laws together with the state of the universe at some previous time t*. But then if God acted specially at t, he would have to act in such a way as to make U_t false. So determinism is incompatible with special divine action.

As we saw above, this picture is seriously misleading. That is because (as I said above) determinism in the sense of (D) is consistent with occasionalism, according to which God is *always* acting specially in the world. Perhaps occasionalism is true and God is the only causal agent in the physical universe. The laws, then, would be a description of what God does in the universe; how he treats it and how he acts in it. Those laws might be rich enough so that their conjunction with a complete description of the U at any time, entails a complete description of the universe at any other time. So determinism in this sense is certainly compatible with God's acting specially in the world – acting in ways that go beyond creation and conservation.

Given certain conceptions of natural law, furthermore, determinism is consistent with God's *sometimes* acting specially in the world, and sometimes not. It would be consistent with God's being the cause of some of what happens in the universe, and secondary causes (human beings, e.g.) being the cause of other things that happen. Footnote 24 of chapter 3 of WTCRL outlines the Humean/Lewisian conception of laws of nature, according to which the laws are exceptionless universal generalizations supervening on what in fact does happen in the universe.

Given such a conception of the laws, determinism would pretty clearly be compatible with God's only sometimes acting specially in the world.

Determinism so taken would also be compatible with human freedom, understood as the thought that at a given time *t* it is sometimes within the power of a person to perform a given action *A* and also within that person's power to refrain from performing *A*. For even if an exceptionless generalization entails that I don't (for example) raise my hand at a time *t*, it might still have been within my power to do so. (Of course if I *had* done so, that generalization would not have been exceptionless, and hence would not have been a law.) Given this conception of the laws of nature, therefore, compatibilism, the thought that human freedom and determinism are compatible, would obviously be the truth of the matter.

Now for a couple of desultory remarks on Halvorson's remaining three comments.

First. Halvorson says

> ... while I agree with Plantinga's hedging of the Newtonian laws, I don't like the idea that these laws are hedged because the universe is an 'open system' in the sense that local physical systems can be 'open'. Typically, by 'open system' we mean a subsystem of a larger *physical* system. But since God is not physical, the universe is not a subsystem of some larger physical system (p. 25).

Certainly physicists, when speaking of open systems, typically think of such a system as a subsystem of a larger physical system. But consider Halvorson's statement of the (Newtonian) law of conservation of energy: 'CE: When a system is causally closed, then its total energy is conserved.' Isn't it entirely consistent with Newtonian physics that there be causal influence from outside the physical universe? The claim that there is no such causal influence would presumably not be part of Newtonian physics as such (and of course Newton himself would not have endorsed such a statement); it would be more like a philosophical or theological add-on. Presumably Newtonian physics just doesn't address this topic. Why think CE really includes or entails, somehow, the proposition that the physical universe *is* causally closed? But if not, wouldn't it follow that special divine action in the world is not precluded by CE?

Second. I suggested that perhaps the GRW interpretation or version of quantum mechanics is the truth of the matter, and that God typically acts in the world by way of divine collapse causation. Halvorson has his doubts about this suggestion:

> But what would be the point of saying such a thing? Ideally relating theology to science would help theology to say truth things and to avoid saying false things. But the DCC story does not make any interesting predictions about what divine interventions did or did not occur. Thus while DCC provides an interesting 'just so' story attaching it to theology wouldn't make our theology anymore scientific (pp. 27-28).

Agreed. But I wasn't making this suggestion in order to make our theology more scientific. I was instead thinking about this question of intervention, and the way the members of the Divine Action Project were trying to come up with a version of divine action that was not interventionistic. I pointed out that it is exceedingly hard to see what intervention would *be*, given quantum mechanics. Even so, I suggested, perhaps there is a way of thinking about divine action in the world that would avoid what they take to be the difficulties or problems with intervention. The chief difficulty, I thought they thought, was that God would sometimes be treating his world in one way and other times treating it in a different way, if he sometimes intervened; this would reveal a sort of inconsistency. As Ernan McMullin put it, for God to intervene is for him to 'deal in two different manners' with the cosmos he has created. I suggested that Divine Collapse Causation would be a way in which God could act in the world without this alleged inconsistency: he is *always* acting in the world, and in that respect is not dealing in two different manners with his world.

Third. Halvorson proposes that the usual worries about divine action and the deliverances of current science is due to an inadequate philosophy of science, and in particular to reliance on the notion of a 'law of nature'. Here he quotes Reijer Hooykaas:

> Calvin, too, ... makes no essential distinction between ordinary events, belonging to the order of nature (the rising and setting of the sun) extraordinary events (great drought) and miraculous events. The term 'supernatural' is not used. ... He recognizes that God has instituted an order of nature and invested things with powers, but he reject the idea that only 'special' events require divine intervention. God's providence works in the most insignificant things: the sparrow in the roof, the lily of the field are under his personal care. (pp. 28-29)

This seems to me quite right. And indeed, it is one of the virtues of the DCC story that it precludes precisely the notion that only special events

require divine intervention or special divine action: nearly all events involve special divine action.

AD BERGMANN

Michael Bergmann's admirable and densely reasoned piece asks whether I am a friend of evolutionary science. As he points out, this question is not entirely clear, and I'd like to add another question about the question. Suppose you are a friend of evolutionary science: does it follow that you *believe* current evolutionary theory – i.e., the current scientific theory of evolution? Well, suppose you are a friend of current physics: does it follow that you *believe* current quantum mechanics? I'd say not. I should think someone like Bas van Fraassen is indeed a friend of quantum mechanics, but I doubt that he believes it. What he believes instead (as I suppose) is that current quantum mechanics is empirically adequate or nearly so: that its predictions are for the most part borne out when tested by experiment.

Of course van Fraassen's brand of anti-realism could be mistaken; perhaps the job of science is to come up with theories that are *true*, not just empirically adequate. Even so, however, you might still be doubtful about the truth of a theory, but nonetheless count as a friend of science in the relevant area. For example, it seems that current quantum mechanics and current general relativity are hard to harmonize; you might therefore be doubtful about the truth of either or both of them, but still be an enthusiastic partisan of contemporary physics. So this question as to what counts as being friendly to science, or to a particular scientific theory, is multi-faceted and difficult. I shall therefore pursue it no further, but instead try to answer the three questions Bergmann asks.

First question:

'Am I right', says Bergmann, 'in saying that, in WTCRL, your answer to key question 1 is "maybe" and that you take both option 3a and option (3b) in response to question (3)?'

Here (to spare you some labour) is key question 1:

> (1) Do you think God is involved in some special, out-of-the-ordinary, non-routine way in the unfolding of evolutionary history?

And here are options (3a) and (3b):

> (3a) Given the evolutionary evidence, it *may, for all we know, be* prohibitively improbable that there is an evolutionary pathway (that

> would fit within the allotted time frame and involve only unguided mechanisms such as natural selection, spandrelism, and genetic drift) from simple unicellular life to some actual complex organisms we know of, in which case these organisms may be better explained by appeal to at least some special activity of God than by completely unguided naturalistic mechanisms.

and

> (3b) Religious evidence of some kind (e.g., sacred texts or religious experience) strongly suggests that God intentionally brought about humans in particular and that may, for all we know, have happened via God's being specially involved in the unfolding of evolutionary history.

By way of answer, first, along with most Christians I believe that God has created us human beings in his own image. This means at the least that God intended that there be creatures of a certain kind, and took action that he knew would result in the existence of creatures of that kind. Therefore it is not by unguided natural mechanisms that human beings have come to be. The process by which we have come to be is a *guided* process, where I'd count as *guided* a process God initially set in motion, and that required no further tinkering or special action on his part for it to issue in the outcome he originally intended. Now suppose God had created human beings in that fashion: he chose a set of initial conditions that he knew would lead to the existence of human beings, and set the process in motion, engaging in no further special action. Would that mean, according to Bergmann, that God has been involved in some special, our-of-the-ordinary, non-routine way in the unfolding of evolutionary history, as in question 1? No; Bergmann is talking here about the *unfolding* of evolution; not about the process by which the original conditions were set.

Given that qualification, however, I would indeed answer 'Maybe' to question 1. I would also endorse option 3b. As I say, it is part of Christian belief that God has created human beings in his image. He could have done so in several ways. (a) He could have created by way of divine collapse-causation; in this case he would be constantly and intimately involved in what happens in evolutionary history. However this, says Bergmann (p. 9), would not be a case of God's being involved in some special, out-of-the-ordinary, non-routine way in the unfolding of evolutionary history. (b) Perhaps he could have done so by establishing

the right initial conditions and the right laws, and let things go forward from there, without any further tinkering; this too would not be a case of God's being involved in some special, out-of-the-ordinary, non-routine way. (c) God could have created appropriate initial conditions and laws, set in motion a process, and then occasionally or often intervened, redirecting and guiding the process. This *would* be a case where God is involved in some special, out-of-the-ordinary, non-routine way in the unfolding of evolutionary history. Because it seems to me a real possibility, I'd answer question 1 with 'Maybe.'

But what about option 3a? This wouldn't be part of my reason for answering 'Maybe'. That is because I'm committed *ab initio* to the idea that if the living world has come to be by way of evolution, then it is by way of guided evolution. As far as I am concerned, our coming to be by way of unguided evolution is not one of the options. Still, we can speculate about the probabilities of the living world's having come to be by way of unguided evolution, by way of the processes Bergmann mentions. Of course one monkey wrench in the machinery here is that along with many other believers in God, I take God to be a necessary being. Now could God have brought it about that the living world came to be by way of unguided evolution? Again, this is a sizeable question that I can't enter into properly here. I'd say that this is perhaps barely conceivable, but it certainly isn't clearly possible.

Still, setting aside God's being a necessary being (pretending for the moment that atheism is possible) and setting aside also the difficulties in seeing how life could have come to be in the first place, how probable is it, given atheism, that the living world should have come to be (in the time available) by way of the naturalistic unguided processes that Bergmann mentions? I'd say it is extremely, enormously, overwhelmingly improbable. Thomas Nagel came to a similar conclusion in *Mind and Cosmos*; he went on to declare that this view is almost certainly false. For this he paid the expected price: fellow atheists (feeling betrayed?) suggested that Nagel is arrogant, dangerous to children, a disgrace, hypocritical, ignorant, mind-polluting, reprehensible, stupid, unscientific, and in general not a nice man. In a more restrained vein, however, several reviews chided him for failing to note that many scientific theories – general relativity and quantum mechanics come to mind – are monumentally improbable, at least from a common-sense perspective, but none the worse for that. This is indeed true. The crucial difference, however, is that there is solid *evidence* for these other theories. But where is the evidence for *atheistic*

evolution? Perhaps there is excellent evidence for universal common ancestry and for descent with modification.[3] Perhaps there is also reasonably good evidence for the thought that the main process driving descent with modification is natural selection working on genetic variation. But where is the evidence for the claim that this process is *unguided*?

As I say, Nagel goes on to declare that atheistic evolution is almost certainly false. What he means, I think, is that atheistic evolution is so enormously improbable that it isn't a real competitor; it isn't a real possibility; we have to look for some other theory. Here things get stickier. How improbable does a theory have to be, to be inadmissibly improbable, such that it isn't even in the running? And is atheistic evolution as improbable as that? I'm not sure I see any way of telling. What is clear, however, is that atheistic evolution is enormously less probable than the thought that the living world has been brought about by God.

Next, question (II): 'Do you think that your view on whether the evolutionary evidence supports EP makes you at least somewhat unfriendly toward evolutionary science?' EP, says Bergmann, is the claim that 'a not-too-long evolutionary pathway from unicellular life to the mammalian eye (in a system without any special divine tinkering) is not prohibitively improbable'.

Now my view is that the evolutionary evidence does not support EP. But does this make me unfriendly towards evolutionary science? In what way would that view plausibly be thought to be unfriendly to evolutionary science? Well, I suppose it would be unfriendly if it were part of current evolutionary science to assert that EP is true, or that the evidence supports EP. But *is* that part of current evolutionary science? I'd say not. Perhaps it is part of evolutionary science to assert that there is good evidence for the thought that the mammalian eye has come to be by way of evolution, and that there is a not-too-long evolutionary pathway from unicellular life to the mammalian eye that is not prohibitively improbable. But evolutionary science doesn't take a position on whether the whole process is guided or unguided. It doesn't take a position on whether God has guided this whole process by creating initial conditions and laws that would ensure the outcome he intends; and it also doesn't take a position on whether God from time to time takes special action in

[3] Although Steven Meyer's new book *Darwin's Doubt* (San Francisco: HarperCollins, 2013) proposes some good reasons for doubting universal common ancestry.

the process of evolution (i.e., engages in 'tinkering'). Therefore, it is no part of current evolutionary science to assert that there is a not-too-long evolutionary pathway – one that involves no divine tinkering – from unicellular life to the mammalian eye. And if that is so, then as far as I can see, evolutionary science doesn't take a position on whether the *evidence supports* the thought that there is such an evolutionary pathway.

Now perhaps most evolutionary scientists think the process of evolution is in fact unguided, and that EP is in fact true. Disagreeing with them on that point, however, doesn't mean that I am unfriendly to evolutionary science. Suppose most physicists thought that the laws of physics were set for the material universe by God, and suppose someone denied that: would that make such a person unfriendly to physics? I'd say not: it would only make her unfriendly to philosophical views held by most physicists. Similarly here: suppose most evolutionary scientists do in fact think this process is unguided, and that EP is in fact true. This opinion contains a philosophical or theological component with which I disagree. Even if most of the biological experts endorse this theological component, that doesn't convict me of being unfriendly to evolutionary science in disagreeing with them. It just makes me unfriendly to a philosophical or theological add-on those experts endorse. And their expertise, while admirable and extensive, does not extend to philosophy or theology.

Finally, question (III): 'Do you now disagree with your earlier claims (e.g., in 'When Faith and Reason Clash') suggesting that, in light of the evolutionary evidence, Darwinism is unlikely to be true?'

I made those earlier claims quite a long time ago, and I've been reading and thinking about this subject off and on from that time to this. Rightly or wrongly, my thinking has not changed much during that time. In 'When Faith and Reason Clash', I said I thought it was more likely than not that the common ancestry thesis was false. If I had to bet, I'd still bet on that horse, fortified, now, by the suggestive but not conclusive arguments against common ancestry offered by Stephen Meyer in *Darwin's Doubt*. I still see little reason to believe that universal ancestry is true (although since I am not a biologist, I take my failure to see such reason with a grain of salt). Perhaps God did it by way of common ancestry; perhaps not. Perhaps human beings are related in this way to simian forebears; but also, again, perhaps not. Perhaps God specially created a human pair ('Adam and Eve' as we may call them) at some time in the past; then they would not have had simian or nonhuman

ancestors, and the common ancestry thesis would be false. On the other hand, perhaps at the time of the most recent bottleneck in the lineage leading to contemporary humanity, God picked out a particular human pair and bestowed on them a property whereby they could be said to be in the divine image; if that property were heritable, and dominant, this pair would be ancestral to all contemporary human beings. That scenario, unlike special creation, is compatible with universal common ancestry. I really can't see any reason for thinking one of these scenarios much more likely than the other.

The main thing to see here, I think, is that we aren't obliged to have a firm opinion on this topic. The main lines and central tenets of Christian belief are clear; and the wise believer will invest considerably more credence in those central tenets than in propositions, like common ancestry or its denial, lying near the periphery.

GOD, EVIL, AND ALVIN PLANTINGA ON THE FREE-WILL DEFENCE

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Abstract. In this paper we will give a critical account of Plantinga's well-known argument to the effect that the existence of an omnipotent and morally perfect God is consistent with the actual presence of evil. After presenting Plantinga's view, we critically discuss both the idea of divine knowledge of conditionals of freedom and the concept of *transworld depravity*. Then, we will sketch our own version of the Free-Will Defence, which maintains that moral evil depends on the misuse of human freedom. However, our argument does not hinge on problematic metaphysical assumptions, but depends only on a certain definition of a free act and a particular interpretation of divine omniscience.

I. INTRODUCTION

We share Robert M. Adams' influential view, expressed here:

> No-one has contributed more than Alvin Plantinga to the development of an analytical tradition in the philosophy of religion, and his studies of the problem of evil are among his most important contributions to the field. (Adams 1985: 225)

However, we believe that at least one aspect of Plantinga's philosophy of religion, his Free Will Defence (FWD, from now on),[1] is puzzling. In this paper we will show that Plantinga's argument is based on a set of assumptions which are hard to maintain. Then we will develop another kind of FWD not grounded on Plantinga's metaphysical assumptions and we will discuss some consequences of our view. In particular, section 2 deals with three basic aspects of Plantinga's FWD: the difference between defence and theodicy, the existence of conditionals of freedom and the concept of transworld depravity. These three concepts are critically discussed in section 3. Section 4 sketches out an alternative FWD not based on Plantinga's problematic assumptions.

[1] Cf. Plantinga (1967), Plantinga (1974a), Plantinga (1974b), Plantinga (1985).

II. PLANTINGA'S FREE WILL DEFENCE

The basic idea of both defences and theodicies based on free will is that evil is a consequence of free human actions and that not even God, even though He is omnipotent, can remove evil depending on free will. This approach has been criticized from several angles. One of the most interesting objections is advanced in J. L. Mackie's seminal paper *Evil and Omnipotence*.[2] Mackie concedes that the existence of free beings is a good worthy of being pursued by God and that some free beings sometimes choose evil. However, Mackie claims, there is no contradiction in the concept of a person who always chooses good. If the existence of morally perfect persons is logically possible, why didn't God actualize these persons? Had he done this he would have preserved freedom without bringing suffering and evil into the world in order to do so.

In a series of papers written over a long period, Plantinga has developed and defended a counter-argument to Mackie's thesis that theistic belief is irrational. Plantinga's idea is that it is not true that an omnipotent God can actualize a state of affairs like that described by Mackie, i.e. a world in which free persons always choose good. Even if this is not explicitly stated by Plantinga, it is important to note from the start that the modality whereby God cannot do something is metaphysical. The three basic points of Plantinga's argument are: the formal structure of the argument (i.e. that it is a defence and not a theodicy) the existence of true conditionals of freedom, and the concept of transworld depravity. We will consider them in this order.

2.1. Defence and theodicy

The logical problem of evil concerns the contradiction between two propositions:

(G) An omnipotent, omniscient, and morally perfect God exists

(E) Evil exists

In short, the argument is as follows: (G) and (E) cannot both be true; since (E) is true, (G) must be false. The theist's task is to show that (G) and (E) do not actually contradict each other; this task can be carried out by finding a proposition (L) which is not contradictory to (G) and which, together with (G), implies (E). According to Plantinga, the difference between theodicy and defence consists in the different epistemic statuses

[2] Mackie (1955: 209).

of (L). If a theodicy is the aim, one must not only show the coherence of (G) and (L), but also defend the truth of (L). On the other hand, a defence need not show the truth of (L): it is sufficient to argue that (G) and (E) are not contradictory if (L) is true, i.e. that there exists a possible word in which (L), (G), and (E) are all true.[3] Since a defence need not be committed to the truth of (L) but only to its possibility and coherence with (G), it is a much less demanding task and, as such, more easily feasible.

2.2. Conditionals of Freedom and Leibniz's Lapse

To respond to Mackie's objection, a proposition, (L), must be found that is both possible and consistent with (G), and that implies the existence of evil. To do so, Plantinga raises some metaphysical issues. He asks: can God do everything that is logical possible? His answer is no. Among the possible worlds that God cannot actualize are some which involve free human actions. Plantinga's favourite example is the following: suppose that Curley Smith, the Mayor of Boston, is offered a bribe of $35,000 by the directory of highways, Smedes. Smith accepts. Smedes wonders whether he could have bought Smith for $20,000. We have two different propositions:

(i) If Smedes had offered Smith a bribe of $20,000, he would have accepted it.

(ii) If Smedes had offered Smith a bribe of $20,000, he would not have accepted it.

(i) and (ii) are usually called counterfactuals because the antecedent describes a situation which did not obtain (i.e. it is false), but which could have obtained. (i) and (ii) make reference to something which could have obtained in the past and which actually did not obtain. However, it is possible to reformulate (i) and (ii) in a way that does not make reference to the past:

(iii) If Smedes were to offer Smith a bribe of $20,000, he would accept it.

(iv) If Smedes were to offer Smith a bribe of $20,000, he would not accept it

(iii) and (iv) are conditionals of freedom. In a conditional of freedom the antecedent is a logically possible state of affairs, while the consequent is a state of affairs which depends on the agent's free action. Let's fix the following notions: S' is a complex state of affairs containing every state of

[3] Cf. Plantinga (1974a: 28).

affairs in the world prior to Smith's choice. S' contains the offering of the bribe, but neither Smith's possible refusal nor his possible acceptance. Plantinga calls S' a *maximal world segment*. We might think of it as the history of the world until Smith's choice. Suppose that A is the acceptance of the bribe and ¬A its refusal. We can outline the situation as in figure 1:

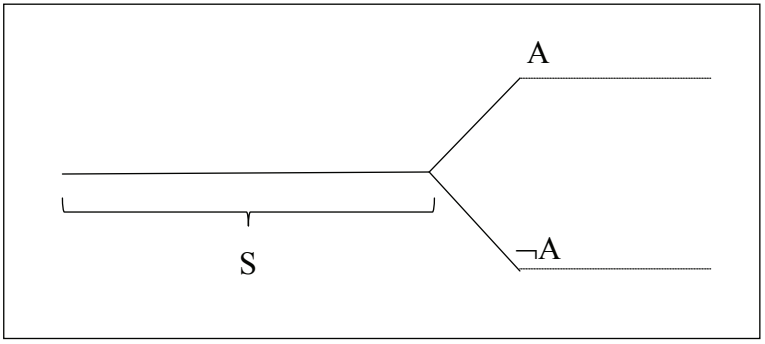

Figure 1

Smith can accept the bribe or not. If he accepts, he actualizes the state of affairs A; otherwise, he actualizes the state of affairs ¬A. Let's call W the world containing the maximal world segment S' + A and W' the world containing the maximal world segment S' + ¬A. Suppose that (iii) is true, i.e. that if $20,000 were offered to Smith, he would accept. Then, although W' is a logically possible world, it could not be actualized by God, as we will now explain. In order to actualize W', God must actualize S'. However, given this maximal world segment, Smith would freely choose to accept the bribe. So W, and not W', would be actualized. On the other hand, if God actualizes S' and forces Smith to refuse the bribe, Smith is no longer free; in consequence, God is not actually actualizing W' because in W' Smith is free to accept or refuse and, in fact, refuses. On the other hand, if (iv) is true (if Smith refuses the bribe), a perfectly symmetrical line of reasoning can be followed. In both cases, there is at least one possible world which God cannot actualize. In sum, Plantinga's argument is that, if free agents are involved, there is some aspect of the world which depends on their choice and not on God's action. Plantinga challenges Leibniz's definition of omnipotence as the possibility of doing everything which is logically possible. In fact, there are possible worlds which God cannot actualize.

2.3. Trans-world Depravity

However, Plantinga has not yet rebutted Mackie's argument. He has only showed that there are possible worlds that God cannot actualize. Plantinga has still to demonstrate that Mackie's possible world, i.e. a world in which free beings always choose good, is one of the worlds that God cannot actualize. To show this Plantinga introduces the concept of transworld depravity, which can be informally defined as follows: a person *p* suffers from transworld depravity (TD) iff in every possible world in which *p* exists there is at least one morally significant action for *p* such that *p* acts wrongly with respect to that action. Plantinga claims that it is logically possible that someone suffers from TD. However, if this is true, it is also true that it is logically possible that every human being suffers from TD. Indeed Plantinga asserts (1974: 49ff.) that TD might not be a contingent feature of human beings: human beings' essence might suffer from TD. If it were so, TD would not depend on the fact that persons' essences have been actualized in particular real persons. On the contrary, it could be possible that TD characterizes the essences themselves of human beings, i.e. that every human being cannot always go right. This, together with the impossibility of actualizing every logically possible world, is enough to refute Mackie's objection. Although Mackie's world (a world in which only saints exist) is logically possible, because of TD it is also possible that there are always situations in which human beings act wrongly. In the situations in which TD is true, God cannot actualize Mackie's world for the same reason why He cannot actualize a world in which Smith freely refuses the bribe. In sum, Plantinga thinks he has rebutted the atheist's argument that the existence of God is incoherent with the existence of evil. There is a proposition, (L) – God cannot create a world containing only moral good and no moral evil – which is consistent with the existence of God (G) and which, together with (G), implies the existence of evil, (E). Since we are concerned with a defence and not a theodicy, (L) need not be true but only possible.

In the following section, we will see that Plantinga's argument is much more problematic than it might seem at first due to the metaphysical assumptions on which it is based. We believe that, in spite of Plantinga's defence, theism is still under attack.

III. DOES PLANTINGA'S FWD WORK?

3.1. Middle Knowledge

Plantinga's FWD is grounded, among other things, on conditionals of freedom. A conditional of freedom says how a free being acts in a certain situation. Plantinga assumes that conditionals of freedom:

(i) have a determinate truth value and some of them are true;

(ii) are known by God, if they are true (and presumably God also knows that false conditionals of freedom are false);

(iii) are not in contradiction with the freedom of human beings.

These assumptions are rather demanding, as we will shortly see. In particular (ii) implies what was called *scientia media* by Luis de Molina (1535-1600). According to de Molina, God can foresee what a human agent *x* will do because He knows which conditionals of freedom are true: by actualizing a state of affairs S' and by the knowledge of the conditional of freedom 'if S', then *x* freely performs A', God foresees that *x* will freely perform A in S'. However, as Adams shows,[4] it is hard to see how conditionals of freedom can be true. If we assume, as Plantinga does, libertarianism, we must say that the state of affairs S' is insufficient to determine the choice of *x*. Given S' there is a possible history of the world in which S' $\rightarrow$ A and an alternative history in which S' $\rightarrow \neg$A; hence, in the first history S' $\wedge$ A is true and in the second one S' $\wedge \neg$A is true.

Craig (2001) claims that the law of the excluded middle must be true also of conditionals of freedom. In consequence, S' $\wedge$ A and S' $\wedge \neg$A must both be true or false. Since God is omniscient, He must know which conditionals of freedom are true and, in particular, whether S' $\wedge$ A or S' $\wedge \neg$A is true. However, it is not clear if the law of excluded middle must hold for conditionals of freedom. In fact, we believe that it is part of libertarianism that certain propositions do not have a truth value. If *x* is free to do A or $\neg$A, then before *x*'s choice it is neither true nor false that *x* will do A. Here we sketch out a model that is able to account for this indeterminism. First the model will be applied to the problem of future contingents, then to that of conditionals of freedom.[5]

[4] Cf. Adams (1973) and (1978).

[5] As amply discussed in the literature, for instance by Otte (1987) and O'Connor (1992), it is natural to apply the solution given to the problem of future contingents to conditionals of freedom as well.

The classical structure of branching time will be assumed, i.e. given a world w and a present time t_0, there exists only one past history, but many possible future histories.

The moments 'cut' histories, in the sense that more than one history can pass through the same moment. Suppose that in a moment t_1 such that $t_1 > t_0$ the agent x must choose between A and ¬A. Since x is free there is at least one future history h_1 in which x performs A at t_1 and at least one different future history h_2 in which x performs ¬A at t_1 (cf. figure 2).

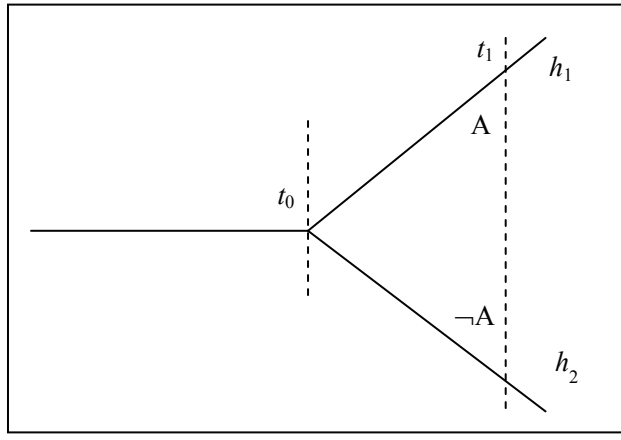

Figure 2

In the branching time model, 'time moves forward': in particular, when the present time is t_1, x's choice is made and one of the histories h_1 or h_2 is 'removed'. Suppose that x does A at t_1 and that history h_2 is removed. Only history h_1 'survives' when the present time is t_1 (figure 3).

Let's assume van Fraassen's supervaluation theory (cf. van Fraassen 1966). We can suppose that a proposition p is evaluated with respect to a time t and to a history h and supervaluated with respect to all histories that pass through t. It follows that when the present time is t_0, it is true that x does A at t_1 in h_1 and false that x does A at t_1 in h_2. However the supervaluation of the proposition 'x does A' at t_1 is neither true nor false because there is a history in which the proposition is true and another history in which the proposition is false. The same holds for the proposition 'x does ¬A'. When time goes on from t_0 to t_1 only history h_1 survives and therefore the proposition 'x does A' becomes supertrue at t_1 and the proposition 'x does ¬A' becomes superfalse at t_1.

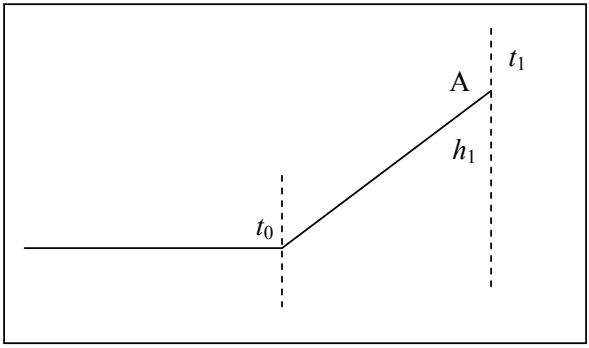

Figure 3

This model accounts for the fact that the proposition 'x does A at t_1' has no truth value before x's choice to do A or ¬A at t_1: when the present time is t_0, the supervaluation is indeterminate. When x takes a decision to do A, every history in which x does ¬A is removed and the supervaluation of the proposition becomes true.[6]

The same model can be applied to conditionals of freedom: given a world w, let's call S' the state of the world till t_0 and A the action that x can perform at t_1. Since the value of the proposition 'x does A at t_1' is indeterminate before x's decision to do or not to do A at t_1, the conditional of freedom S' $\rightarrow$ A has an indeterminate value until x's decision. This conditional is true in some histories (those in which x does A) and false in other histories (those in which x does ¬A), so until x's decision there is no way to give a truth value to the conditional of freedom. The conditional becomes true or false *after* x's decision, too late to be of use for God when deciding which world to actualize.

Molinists might claim that conditionals of freedom are true or false because, given S', there exists only one history of the world. In this history x does A or ¬A and God knows this unique history. However, this does not seem to be compatible with libertarianism because libertarianism

[6] This model has the advantage of preserving logical truths: for instance, the proposition 'at t_1 ($p \vee \neg p$)' is supervaluated true even when the present time is t_0 because $p \vee \neg p$ is true in every history passing through t_1. In the same way, 'at t_1 ($p \wedge \neg p$)' is superfalse. Øhrstrøm (2011) objects that 'it seems odd that a disjunction could be true when neither of the disjuncts is true, and a conjunction false when neither of the conjuncts is false'. However, it seems to us that just the opposite is true: if x is free, it is indeterminate today if x will do A tomorrow, but it is not indeterminate today if x will do A or ¬A tomorrow. In the same way, we know today that x will not do both A and ¬A tomorrow.

implies that S' does not determine *x*'s action, so that many histories of the world are compatible with S'.

Alternatively, Molinists can state that there are many future histories, but that one of them is the unique 'true history'.[7] The position held by these Molinists is similar to that of thin red line theorists, who claim that a 'true future' exists among contingent futures. However, Thomason (1970) and MacFarlane (2003) have questioned the compatibility of the thin red line theory with the idea that the future is really indeterminate. If one possible world history is the true history, it is not indeterminate at t_0 which the future history of the world is: the other histories of the world do not seem to be real possibilities open to the agent. In the model we presented, the "true future" is determined only when the agent decides, i.e. only when the future is no longer future, but present. Usually, thin red line theorists maintain that the true future is the future which will happen. However, in our model, when the present is t_0, there is not a unique future that will happen and therefore no 'true' future. On the contrary, there are many possible futures, none of which is (yet) the future which will happen. Only when time moves forward to t_1, does the proposition that *x* does A at t_1 receive a truth value.

It might be objected that the thesis that conditionals of freedom have no truth value implies that God does not foresee human actions and that therefore God is not omniscient. Answering this objection in detail goes beyond the aims of this paper. Here it will be sufficient to note that, besides Molinism, there are other ways to reconcile divine foreknowledge and human freedom which do not presuppose the truth of conditionals of freedom. We think that one of the most attractive theories affirms that God is external to time and that He has not actual foreknowledge of human actions, but only knowledge of them. This solution has not been exempt from criticisms,[8] but, as far as the problem we are dealing with here is concerned, it allows us to assert that God knows every human choice without having a *scientia media*.

3.2. Transworld Depravity

The third aspect, which we analyzed, of Plantinga's FWD is Transworld Depravity, that is a property that all human beings might possess and that

[7] This seems to be the position defended in Otte (1987) and Gaskin (1998).

[8] Cf. Zagzebski (1991).

forces them to act wrongly at least on some occasions. In our opinion TD encounters three kinds of problem:

I. Let's fix some terminology in order to face the question:

Let's introduce an infinite set of individual variables (x, y, z, ...) and three primitive predicates:

Fx:	x is free
Ey:	y is an evil action
$D(x,y)$:	x does y

TD can be defined as follows:

$\mathrm{TD}(x) \leftrightarrow \Box\,(Fx \rightarrow \exists y(Ey \wedge D(x,y)))$

An individual x is transworld depraved iff in every possible world in which x is free there is an evil action committed by x. For convenience the following definition is introduced:

$Mx \leftrightarrow (Fx \wedge \exists y(Ey \wedge F(x,y)))$

Then a person x suffers from TD iff necessarily Mx.

The first thing to note is that TD is a property that implies a necessity. Since Plantinga develops a defence and not a theodicy, he says that it suffices that TD is possible:

$\Diamond\exists x\Box M(x)$

However, this is not an innocent move, as we will see shortly. It is remarkable that neither Plantinga in his presentation of FWD nor his commentators in the following debate have specified the modal system in which they are working. This is peculiar in light of the fact that TD has a clear modal status. It is likely that, since logical and metaphysical modalities are involved, a good candidate is S5.[9] Now, since Plantinga assumes that $\Diamond\exists x\Box M(x)$ must be true in the actual world, there must exist a possible world w accessible from the actual world in which $\exists x\Box M(x)$ is true. Hence, w contains at least one person who suffers from TD. If $\exists x\Box M(x)$ is true in w, it follows that $\Box\exists xM(x)$ is also true in that world, that is in every world accessible from w it is true that $\exists xM(x)$. However, since the relation of accessibility is symmetrical in S5, $\exists xM(x)$ will be

[9] The modal system S5 is characterized by two axioms: the first declares that if something is necessary, then it is also actual ($\Box A \rightarrow A$); the second that if something is possible, then it is also necessary that it is possible ($\Diamond A \rightarrow \Box\Diamond A$). This system calls for models characterized by a very strong accessibility relation, apt to represent the notions of logical and, perhaps, metaphysical possibility.

true in the actual world. From an 'innocent' commitment to a *possibility* ($\Diamond\exists x\Box M(x)$) the *actuality* of $\exists xM(x)$ follows. Of course something like this does not always follow in S5, but only when a necessary property is involved.[10]

There are at least two consequences for Plantinga's FWD: *firstly*, Plantinga's argument seems to be a theodicy rather than a defence. Indeed, he cannot assume only that it is possible that people are evil but he has to affirm that all people are actually evil. In formal terms, Plantinga is compelled to assume (*):

(*) $\forall x\Box Mx$

If (*) is the proposition (L) which makes the existence of God compatible with the existence of evil, then what Plantinga is actually stating is the truth of (L) and not only its possibility. Since Plantinga's argument requires the truth of (L), it is a theodicy, against his own intentions. As such, his position is much more demanding and more vulnerable, as we will see in a moment.

Secondly, it is not clear in what sense people affected by TD are still free. If we know a priori that the space of possible choices is limited (not logically but perhaps metaphysically) by this particular feature of human soul, we should conclude that human agents are not totally free, inasmuch as they are affected by TD. If TD is a necessary feature, how could Mackie's hypothesis still be available? It should be noted that this is not directly concerned with God's being unable to actualize Mackie's world but with real possibilities, given TD.

II. As we have said before, Plantinga's commitment to the truth of (*) weakens his position. It could be asked, for instance, on what TD depends. There are at least two alternatives: human beings are corrupted because their ontological constitution is corrupted or they are corrupted because of freedom itself. Both ways, however, seem to be puzzling. The first option has a venerable history and it might be defended with reference to the fundamental metaphysical distinction between the infinite Creator and a finite creature. However, lacking further metaphysical principles, this approach is not very helpful; if this essential corruption of human beings depends on our very constitution, why weren't we created in

[10] More generally, in S5 the following 'reductions' hold: $\Box\Diamond$ ... $\Box A \rightarrow \Box A$ and $\Diamond\Box$ ...$\Diamond A \rightarrow \Diamond A$. Less formally in S5 there are only two modalities: necessity and possibility (of a state of affairs) and iterations can be reduced to these basic modalities.

a different way? What kind of reason could God advance to explain His choice of actualizing transworld depraved people? Furthermore, if human beings are necessarily corrupted, why did God create human beings and not other free agents, immune from TD?

To make Plantinga's thesis more plausible, the proposition (*) has to be true not only of human beings but of every free agent God could have created. It is of course possible to refer to a metaphysical necessity which presides over the creative power of God, but there is no evident reason why God should be forced to create free beings, who are essentially corrupted.[11]

If we take the second alternative, we state that TD depends on freedom or on freely acting. But, if this is true, why is God immune? That is, why does God, who is free, make only right choices? A tentative answer might specify the difference between our freedom and God's, but the point is that, lacking any account of it, transworld depravity seems to be too strong a concept and to involve unjustified premises.

III. Finally – as a third criticism – for Plantinga's argument it is not enough that some people suffer from TD but it is necessary that all people (or, better, the essences of all people) possibly suffer from TD.[12] In other words, Plantinga seems to state something as the following:

(Gen)$\Diamond$TD(x_1), $\Diamond$TD(x_2), $\Diamond$TD(x_3), $\Diamond$TD(x_4), ... therefore $\Diamond\forall x$TD(x)

If it is possible that person x_1 is transworld depraved and if it is possible that person x_2 is transworld depraved and if it is possible that person x_3 is transworld depraved and so on, then it is possible that all people are transworld depraved. It is clear enough that this inference, in this form, is not valid. Let us consider, for instance, a case of murder: surely, it is possible that the first accused is innocent, and the same holds for the second, the third and so on. However, obviously, it is not possible that all people are innocent, since there must be a culprit. Alternatively, let us take a similar argument, aiming to demonstrate that there exists no possible world (viz. it is not logically possible) where Charles and Joanna get married: is there *one* world conceivable in which Charles and Joanna don't get married? Of course. Are there also two such worlds conceivable?

[11] It might be possible to postulate a metaphysical axiom which states that every being created by God is finite or, at any rate, different in some aspect from its Creator. Of course, the task then is to find independent reasons to justify this assumption.

[12] Plantinga (1974: 48).

Absolutely. *Three*? Yes. So, is it therefore reasonable to believe that in *every* possible world they don't get married? Not at all![13]

So reformulated, Plantinga's argument does not seem so convincing; but there is a reason whereby Plantinga doesn't consider this aspect problematic: this sort of inference is valid, or at least plausible, insofar as the property which is predicated of all possible individuals is an *essential feature*; otherwise, if it is a contingent property as in the examined cases, the inference is not valid. As a matter of fact, if it were, hypothetically, essential to Charles and Joanna not to get married, then their marriage would not take place in any possible world.

However, if we already assume, *ab initio*, that the property is essential, then the generalization is plainly valid: if P is essential to individuals x_1, x_2, x_3, ... of a certain kind, then $\forall xPx$ holds. This is true even without appeal to any modal notion. To return to the original question, Plantinga maintains that transworld depravity is an essential feature of the human soul; but this, as we have seen before, involves two very strong consequences: firstly, since TD is a necessary feature of human beings, then if it is possible that human beings are transworld depraved, it follows that they are – given modal system S5; secondly, we have seen that all people are corrupted. All this has relevant consequences from a metaphysical and moral point of view; for this reason, Plantinga cannot entrench himself behind the, at first sight, innocent assumption of the logical possibility of transworld depravity.

IV. AN ALTERNATIVE FREE-WILL DEFENCE

4.1. Freedom and Evil

Plantinga's free-will defence is not, however, the only available free-will defence; in particular it is possible to elaborate on the intuition according to which moral evil stems from the free actions pursued by free agents without presupposing Plantinga's problematic assumptions. Here, we try to delineate an argument like this.[14] The strategy is as follows: first of all, we will establish a few principles that essentially link freedom – or better, a certain kind of freedom – with the possibility to perform

[13] A similar argument is in Howard-Synder and O'Leary-Hawthorne (1998).

[14] Our defence shares some intuitions with Pruss (2003). Unlike Pruss, however, we specify the primitive concepts employed and we prove, as theorems, the assumptions of Pruss' work.

certain actions; then, we will proceed, so to speak, backward, moving from Mackie's objections and trying to defend a more plausible version of FWD, deflating the problematic principles of Plantinga's metaphysics.

Given the nature of FWD, it is crucial what concept of freedom is assumed. Plantinga assumes an incompatibilist view of human free will and this is likely the only way to make sense of FWD. However, according to the incompatibilist approach:

(i) An agent is free when she auto-determines her choices – that is, she is the causal principle of her action.

(ii) An agent is free when she could do otherwise.

The conditions (i) and (ii), although necessary for FWD, are not sufficient; take as an example the following case:

Tom can eat the chocolate cake or the cream cake.

Clearly, to employ the concept of free-will in FWD it is indispensable that this is *morally* characterized. Moral free-will concerns states of affairs morally characterized, that is good or evil states of affairs.[15] In this sense, being morally free means being free to perform a right or evil action. So, let us recall the following fundamental relation:

(1) $D(x,\mathrm{B})$ The agent x does B; x performs the action B

Let us define the derived relation F:

(2) $F(x,\mathrm{B})$ The agent x is free to perform B[16]

This last relation is connected with the first one. As a matter of fact, if an agent is free to perform the action B, it is possible that the agent refrains from performing the action B. Therefore:

(3) $F(x,\mathrm{B}) \rightarrow \Diamond D(x,\neg\mathrm{B})$

Clearly, if an agent is free to perform the action B, then that agent can perform the action B. So:

(4) $F(x,\mathrm{B}) \rightarrow \Diamond D(x,\mathrm{B}) \wedge \Diamond D(x,\neg\mathrm{B})$

Let us introduce, at this point, the idea of morally free-will:

(5) $F^{\mathrm{M}}(x)$The agent s is morally free

Where the predicate of moral freedom is analyzed as follows:

(6) $F^{\mathrm{M}}(x) \leftrightarrow \exists\mathrm{A}(\mathrm{A}$ is evil $\vee$ A is good $\wedge F(x,\mathrm{A}))$

[15] It goes beyond the aims of this work to establish what is meant by 'good state of affairs' and 'bad state of affairs'; the argument we offer is, from the ethical point of view, completely formal.

[16] $F(x,\mathrm{B})$ could be intended as the abbreviation of $F(x,D(x,\mathrm{B}))$.

That is

(7) $F^{M}(x) \leftrightarrow \exists A(A \text{ is evil} \vee A \text{ is good} \wedge \Diamond D(x,A) \wedge \Diamond D(x,\neg A))$

What does it mean to say that s is morally free? It means that she has a moral alternative, she can actualize a right or evil state of affairs.

Now we have the resources to prove the theorem we need for our version of FWD. Given an agent x and an action B

(Theorem) $\neg\Diamond D(x,B) \rightarrow \neg F(x,\neg B)$

That is, if the agent cannot perform an action, B, then she is not even free to refrain from performing B. This is plausible: if I cannot climb Everest, I can't say that I freely refrain from doing so.

This is easy to prove. Let us start from $F(x,\neg B) \rightarrow \Diamond D(x,B) \wedge \Diamond D(x,\neg B)$. By logic, we have that $\neg(\Diamond D(x,B) \wedge \Diamond D(x,\neg B)) \rightarrow \neg F(x,\neg B)$; by logic, the antecedent of the implication is: $\neg\Diamond D(x,B) \vee \neg\Diamond D(x,\neg B)$. But by hypothesis, $\neg\Diamond D(x,B)$. So, we have $\neg F(x,\neg B)$.

Now, we can instantiate the general theorem just proved with a particular action, E, which is, by assumption, evil: $\neg\Diamond D(x,E) \rightarrow \neg F(x,\neg E)$. However, by definition (7) we have:

(Conclusion) $\neg\Diamond D(x,E) \rightarrow \neg F^{M}(x)$

This is a very important result: if an agent cannot perform an evil action, she is not meaningfully free with respect to it. By contraposition, we have found that if an agent is meaningfully free, then it is logically possible that she perform an evil action. It is worth noting that we have reached a result analogous to Plantinga's one with no commitment to puzzling metaphysical assumptions.

4.2. Answering Mackie's Objection

The result above does not answer yet Mackie's objection. The point, as we have seen before, is the following:

> [T]here was open to him the obviously better possibility of making beings who would act freely but always go right (Mackie 1955: 209).

Indeed, the conclusion says that if someone is free then it is possible that she does wrong whilst Mackie's hypothesis concerns agents who are free and do not actually perform anything evil.

To answer this objection let us assume a number, n, of actual and possible free agents. We can assume, without problems, that the number of actual free agents is *finite* but the number of possible free agents

infinite. Every actual free agent will make, in her life, a series of free and morally relevant choices: sometimes, she will choose the right action, sometimes the wrong one. We can assume possible agents will do the same, once actualized, with respect to their possible choices. Now let us suppose that God can know, for every agent x, the space of her possible choices. Let us indicate with G a right action and with E a wrong action. A possible world can be characterized by an array like this:

x_1: G, E, E, G, G, G, E, E, E, G, ...
x_2: E, G, E, G, G, E, E, E, G, G, ...
x_3: E, E, G, E, E, G, E, G, G, E, ...
...

It matters neither how complex the array is nor if the choices are infinite. The crucial thing is the following: since we take into account possible agents and possible choices (besides the actual ones), it is rational to maintain that in this total space there will be *all* the infinite number of possible combinations. However, since there are all the combinations, we will expect at least one sequence of this kind:[17]

x_k: G, G, G, G, G, G, G, G, G, ...

To be more precise, it must be logically possible that at least one agent makes only right choices. If this is correct, we can reformulate Mackie's criticism in these terms: why doesn't God actualize x_k? It is important to note firstly that for every good action of x_k, it is possible that x_k does not do a good action and secondly that this is the guarantee of her real freedom.

The reason why God cannot actualize x_k is, very briefly, that God cannot know that x_k will perform this array *before* x_k makes this series of choices. God, being omniscient, knows the space of possible alternatives, but *only when the agent has actually taken a decision* does God know the choice of that agent and, therefore, which is the actual course of events.

We have previously ruled out that God has some form of *middle knowledge*: God cannot, on the basis of this alleged *scientia media*, actualize a world in which He knows that the agent, x_k, will make only right choices, by creating a set of conditions, S, in which x_k will always act rightly, since the conditions S always underdetermine x_k's choices.[18]

[17] That a sequence like this is possible was noticed by Pike (1979).

[18] As we noted in 3.1, if S determined any of x_k's choices, x_k would not be free in a compatibilist sense. In fact, by actualizing S, God would indirectly determine x_k's choices.

So God cannot actualize a state of the world which includes free agents who always do good actions since this world, though logically possible, is made not only by God's will *but also* by the free choices of agents.

One might object that, by denying divine foreknowledge of human actions, we are denying that God is omniscient. Actually, our view does not have this consequence. A being is omniscient if and only if he knows all true propositions (in formal terms $p \leftrightarrow K(p)$).[19] But we are not denying that if x_k performs the action, A, God knows it. What we are denying is that God knows what x_k does because He actualizes a world, W, in which the maximal segment, S, determines that x_k does A. We state, on the contrary, that God knows that x_k does A *because* x_k does A.

One may object that, even if God's omniscience is preserved, nevertheless our position involves at least that God does not foreknow human decisions. *Before* x_k does A, God does not know that x_k will do A. As already noted in the paragraph 3.1, answering this objection is beyond the aim of this work. Nevertheless, we suggest that if God is outside time, then there is room to maintain that God atemporally knows that x_k does A just because x_k does it – at a certain time – and not because God actualizes a world where x_k does A.

4.3. An Unlucky God

What are the consequences of this view? We have seen that:

(i) Meaningful freedom involves the possibility of doing evil actions

(ii) Not even God can actualize people who always act rightly.

Therefore, we conclude that, whilst a world which contains free agents and no moral evil is logically possible, unfortunately, that is not our world. God actualized a world where free agents historically made wrong choices and God could not have foreseen that by any sort of middle knowledge, as we discussed above.

There are relevant differences with Plantinga's FWD: first of all, there is nothing similar to conditionals of freedom. These conditionals do not have a truth value and so they cannot be known either by God or by anyone else. Secondly, we don't make any appeal to the puzzling concept of *transworld depravity*: there is no metaphysical feature whereby

[19] More accurately, the left-to-right version, $p \rightarrow K(p)$ would suffice: if a proposition is true, then it is known by God. The converse is true by the definition of knowledge. Things are different if the omniscience is defined in terms of belief; in that case, we should postulate both $p \rightarrow B(p)$ and $B(p) \rightarrow p$, i.e. that the God's beliefs are infallible.

people, or free agents in general, must be corrupted in some way. On the contrary, we postulate that there exists a logically possible course of events where all people are perfectly good. If we maintain the distinction between a defence and a theodicy, our view is surely a defence: there is no contradiction between the existence of an omnipotent and perfectly good God and the presence of evil, since there exist free agents who choose, have chosen, and, very likely, will choose evil choices.

In this sense, evil is in no way a *necessary* feature of the world. It is a contingency, the outcome of the wicked choices of free agents. This distinguishes our proposal from any form of *soul-making theodicy*, where the existence of evil has a pedagogical and improving function for the human soul. The idea of an unlucky God, i.e. of a God who gambled on human beings and lost, could appear quite unusual and very far from the perfect being of classical philosophy of religion. However, the crucial point is the concept of freedom: on our view, if freedom is understood as the possibility of alternative courses of events, then that has a strong fall-out for the divine attributes.

There is a final objection we want take into account here: what good reason does God have to create free agents? This objection has been addressed to many free-will based approaches and it questions God's basic reason to create free agents. Indeed, if God foresees the evil in the world, why does he actualize beings which are going to suffer? Put in these terms, this objection does not concern our view since God knows that there is some evil only when men choose it and, therefore, He can recognize it only once it happens.[20] One could retort that it is very likely that human beings, for instance, will do horrendous things and that caution is a value which God is supposed to have, inasmuch as He is morally perfect.[21]

However the role played by freedom here becomes essential to our case; often, it is stated that the existence of free agents is of such great value that it justifies God's risk. We want, however, to distinguish between freedom as an *absolute* value and freedom as an *instrumental* value towards the achievement of an absolute value. Mackie (1955) objected that if freedom were an absolute value, then its simple exercise

[20] From this, it follows that our thesis is compatible with the concept of divine Providence, provided that this is understood as an action of God directed against the evil done by men and assuming that this action is not conceived as the determining by God of human actions, since this determination would infringe human freedom.

[21] On this point cf. Perszyk (1998).

would be a good, even if it is employed to do something bad. However, for our purposes, it is not necessary to endorse the thesis according to which freedom is an absolute value, rather it is sufficient to state that it is a necessary precondition for actualizing moral good (where, by moral good we mean a good state of affairs actualized by a free agent). In this sense, the existence of free agents, able to do evil as well as good, is a necessary precondition for the aim of moral good. Without freedom it is not, therefore, possible to actualize moral goods and, since freedom necessarily involves the possibility of evil, the creation of any moral good by a creature entails, necessarily, the possibility that that creature could do evil and thus fail to create moral good.

So, moral evil is the outcome of the actions of free agents. They can always possibly choose good; but they do not. The end of history is known by God only *because* the moral choices are effectively made and not *before* that. On the other hand, the creation of free agents is a necessary pre-condition for every moral good; therefore, the possibility of evil is a pre-condition for the creation of beings who do good things.

There is, however, another objection: why has God, who is morally perfect and omnipotent, created finite agents who can do bad things? Why cannot He *alone* actualize an infinite number of moral goods? It seems that the only way out would be to postulate a sort of limitation on God such that the achievement of certain goods can take place only by the *necessary mediation* of other free agents. However, this point is far beyond the scope of this work.

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JOB'S DILEMMA: *FIAT JUSTITIA, RUAT CAELUM*

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Abstract. The aim of the paper is to examine the problem of suffering in the Book of Job and the possible solution it offers. For this reason, it is structured as follows: (I) In the first section, we will analyse Job's evidential argument; (II) the second section will delve into the 'friends' and their failed attempt at a retributive theodicy; (III) finally, we shall look into God's argument and try to explain Job's answer in terms of sceptical theism.

INTRODUCTION

Theodicy surely does not get a good press. Leibniz's optimism of evil being 'almost nothingness in comparison with the good things which are in the universe',[1] has always seemed rather unconvincing, especially in the light of Voltaire's Candide's sarcasm: 'If this is the best of all possible worlds, what are the others like?'[2]

Irony aside, this criticism had already been uttered by Hume in the form of the so-called 'evidential argument': rather than denying, as would Leibniz, 'the sense of human misery', one should rather think, in terms of the amount (and intensity) of evil we must endure, that 'the original Source of all things is entirely indifferent'.[3]

Of course one could wonder whether Leibniz is truly as Hume's 'Philo' portrays him, that is, denying human misery. There is one thing, though, where Hume appears to be right: 'Epicurus's old questions are still unanswered.'[4]

[1] Leibniz (1985: 135, n. 19).
[2] Voltaire (2005: 19).
[3] Hume (1998: 100, 113).
[4] Hume (1998: 100).

The purpose of this paper is to assess whether the book of Job may provide an answer to those questions.[5] It should be remembered that this paper sets out to question a well-established habit of interpreting the lamentations of the man from Uz as any believer's standard reaction, who is willing to patiently accept God's every decision on the ground of faith. After all, at the beginning of the account, Job seems to keep to his theistic belief: 'the LORD gave, and the LORD has taken away; blessed be the name of the LORD.' (Job 1:21)

But then Job protests, and what he says, in all fairness, seems closer to Hume's thought than to Leibniz's. Rather, the advocates of Theodicy are Job's 'friends', whom Job himself defines 'miserable comforters', full of 'windy words' (Job 13:2-3). All in all, we are persuaded that none of the produced arguments is truly capable of refuting Job's evidential argument. One should wonder, then, whether God can. Our assumption is that God's statement is somewhat ambivalent:

(a) on the one side, God outlines a non-anthropocentric view of the universe, where justice follows such criteria that no man can grasp. This is, the reader will understand, the strongest argument in Leibniz's theodicy. Now, in this light the issue of innocent suffering is not solved, but simply shifted enough for the evidential argument to lose his objecting momentum: God must surely have a reason to allow innocent suffering, it is us who don't understand it;

(b) On the other turn, God states (twice) that Job said 'what is right' (Job 42:7) about it. It may be argued that Job's issue is justified to the extent that the problem is an open one for God, too.

Now, this ambivalent situation may certainly be solved from the experiential standpoint: Job sees God and trusts again. From a theoretical standpoint, though, we think that one way remains to be explored: that of sceptical theism. As Bergmann and Rea maintained, sceptical theism is not theodicy, but rather a defensive strategy, 'an effort to rebut the evidential argument from evil'.[6] This is precisely what Job needs to restore his theistic belief, without censoring the reality of his suffering.

In the light of the above, the paper breaks down into three sections:

(I) In the first section, we will analyse Job's evidential argument;

[5] All quotations from the bible are taken from the New Revised Standard Version (NRSV).

[6] Bergmann and Rea (2005: 244).

(II) The second section will delve into the 'friends' and their failed attempt at a theodicy;
(III) Finally, we shall look into God's argument and try to explain Job's answer in terms of sceptical theism.

I. DIVINE INJUSTICE

Viewing the Book of Job as a philosophical problem means trying to answer Spinoza's famous objection: in his answer, God uses arguments that only Job is convinced about, and that are certainly not 'of universal validity to convince all men'.[7] Oddly enough, it is Hobbes who offered a philosophical take to the story of the man from Uz:[8]

> yet the book itself seemeth not to be a history, but a treatise concerning a question in ancient time much disputed, why wicked men have often prospered in this world, and good men have been afflicted.[9]

Not surprisingly, the issue Hobbes raises is central also to Leibniz's theodicy:

> How a sole Principle, all-good, all-wise and all-powerful, has been able to admit evil, and especially to permit sin, and how it could resolve to make the wicked often happy and the good unhappy?[10]

In the above terms, Job's problem is, according to Plantinga, too, 'really intellectual':[11] here, Job is not mad at God because he cannot see any reason for his suffering; rather, he protests because he thinks God is unfair or even unjustified in the evil he bestowed on him. Indeed, doubting God's reliability means doubting the validity of the following:

> (T) There are goods that justify God in permitting all of the various kinds of evil that we find in the world.

First, let us see how Job came to this conclusion.

We immediately come to know that Job 'was blameless and upright, one who feared God and turned away from evil' (Job 1:1). These are the exact words God will use to speak about his servant to Satan (Job 1:8). It is difficult, then, to question his innocence. Not even Satan will: his

[7] Spinoza (1991: II, 86).

[8] The 'oddity' lies in the fact that the Book of job is the only one in the Old Testament Hobbes views under this perspective.

[9] Hobbes (1994: XXXIII, 254).

[10] Leibniz (1985: 98, n. 43).

[11] Plantinga (2000: 496).

theory is that after all, Job is just 'for nothing', simply because nothing bad has even happened to him. God takes on the challenge and Job, after the first bout of ill-fortune, does not falter in his faith. This point is in favour of God who turns to Satan to point out Job's innocence in spite of his suffering: 'He still persists in his integrity, although you incited me against him, to destroy him for no reason.' (Job 2:3) As Stump points out, this seems to prove two things:

(i) God is 'in full control of the evil that befell Job';
(ii) Evil 'for no reason' is not the whim of an evil deity; rather, it is something that 'did not have anything to do with what Job merited'.[12]

(i) ensures God's power; (ii) his kindness.[13] Though after the second bout of misadventures, things are no longer that simple: Job endures terrible (in terms of intensity) and apparently uncalled for (without any apparent reason) pain; consequently, his protest is radical: 'Let the day perish in which I was born.' (Job 3:3) This is a tragic archetype, similar to Oedipus' curse (*me phynai*). Therefore we cannot construe these words as simple outrage towards someone we love.[14] What Job laments has rather the strength of an evidential argument. Let us analyse the structure, then.

Job is in despair, forced as he is to a radical theoretical impasse by his suffering. Kant did realise this: the story of the man from Uz provides an accurate picture of the antinomy of practical reason. 'At peace with himself in a good conscience', Job does not give in to the misadventure that shattered his happiness; as such, he 'indignantly protests that his conscience has nothing to reproach him for in his whole life'[15]

[12] Stump (2010: 213).

[13] Sure, one cannot but notice that 'for no reason' may be construed also from an anti-theistic angle: a God that is prone to being challenged by his creatures, without any reasons no less, becomes the direct culprit of groundless evil. This is not exactly in line with the standard theistic belief. The exegesis on this particular point in the Book of Job is rather controversial. If 'for no reason' means without any reason justifying God, two alternatives open up here: either Satan is right and those who want to believe, in spite of evil, must do so 'for nothing' (see Balentine (2003)); or Job, eventually, does not go back to his faith, but rather refuses a God that is in business with Satan (see Briggs Curtis (1979) and Krüger (2007)). We tend to prefer Stump's view, in that it allows one to prevent this diatribe and keep delving into the issue of evil while attempting at a philosophical solution to it (theodicy or defence).

[14] Such is Stump's take: 'Job is vehemently indignant against God; but anger and indignation are one way to continue holding on to a relationship of love.' (Stump 2010: 217) Thus, though, the radical nature of the doubt upsetting Job's set of beliefs seems to be played down.

This gap between virtue and happiness cannot be denied. We believe it may be interpreted and described as a true symmetric dilemma. Under normal conditions, the theistic belief implies two courses of action that are morally imperative:

(A) fear God (respect his judgement)

(B) behave fairly (defend one's own moral integrity)

Let us assume two standard deontic logic principles, applicable to both Job and his 'friends', which make (A) and (B) reasonable: the Principle of Deontic Consistency (PC) and the Principle of Deontic Logic (PD).[16]

(PC) $OA \rightarrow \neg O\neg A$

(PD) $\Box (A \rightarrow B) \rightarrow (OA \rightarrow OB)$.

(PC) simply states that an action may not be at once mandatory and forbidden. (PD) states that is A implies B and A is mandatory (morally required), the B is also mandatory (morally required). In Job's case, it is clear that following God's will would necessarily imply the moral obligation of behaving justly.

Now, the suffering of a just man causes a dilemma: either job ceases to protect his own innocence and admits that he is being justly punished by God; or God's judgement is unjust. Job, though, is not willing to give in (B): the certainty of his own integrity is all he has left. This is why he is willing to defend the justness of his condition with all means necessary, whatever the cost ('ruat caelum') and also to the point of thinking that God's justice is arbitrary: 'What he desires, that he does.' (Job 23:13) Now Job has lost, though, in that he has to give up (T): if God does what he pleases, there is no reason to justify his doing. Nor is there any good reason to keep putting confidence in it. This is the same argument Leibniz uses: to admit that God 'has a despotic power which can go so far as being able to condemn innocents', entails that 'the justice we know is not that which he observes', which means it is then impossible to believe: indeed, in Leibniz's words, arbitrary justice can 'destroy the confidence in God that gives us tranquillity, and the love of God that makes our happiness'.[17]

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[15] Kant (2001: 32).

[16] For the ensuing definition of symmetrical dilemma, see McConnell (1987).

[17] Leibniz (1985: 227, n. 166; 237, n. 177). Obviously, Leibniz intends to respond to Pope's arbitrary theory, according to which 'one truth is clear, Whatever IS, is RIGHT' (Pope 1963: 515).

Job is willing to take this risk. Against his friends' theodicy, he does not tire to defend his faultless conduct: 'Far be it from me to say that you are right; until I die I will not put away my integrity from me.' (Job 27:5) Job is on a 'legal' quarrel against God and is ready to put his life at stake: 'See, he will kill me; I have no hope; but I will defend my ways to his face.' (Job 13:15) Because, according to Job, God did him wrong: 'Know then that God has put me in the wrong.' (Job 19:6) Now, his theistic belief begins to falter. We may describe the situation as follows:

(1) OA
(2) OB
(3) $\neg\Diamond$ (A & B)

These three elements point to the existence of a dilemma produced by Job's suffering.

(4) $\Box \neg$ (B & A) (from 3)
(5) $\Box$ (B $\rightarrow \neg$ A) (from 4)
(6) $\Box$ (B $\rightarrow \neg$ A) $\rightarrow$ (OB $\rightarrow$ O$\neg$ A) (an instantiation of PD)

(6) is the climax of Job's inner tribulations: being compelled to defend his own integrity causes Job to accuse God of being unjust: 'He destroys both the blameless and the wicked.' (Job 9:17)

(7) OB $\rightarrow$ O$\neg$ A (from 5 and 6)
(8) O$\neg$ A (from 2 and 7)
(9) OA and O$\neg$ A (from 1 and 8)

(9) is conflicting with PC directly. Which means that solving the dilemma would equal, for Job, incredulity. Elifaz realises this: 'you are doing away with the fear of God.' (Job 15:4) Actually, Job becomes sceptical, to the point of requesting an unbiased request 'who might lay his hand on us both' (Job 9:33).

Now, what's interesting in this summon is the universal extent of the accusation: we believe the outcry 'Let the Almighty answer me!' (Job 31:35) implies an anti-theist thesis that transcends Job's personal case, thus doubting the accepted belief whereby God would be a thoughtful father. Sure, Job thinks God is picking on him: 'Why have you made me your target?' (Job 7:20) Not so much because God is evil, but rather – again – because it does what it wants, without any distinction: 'It is all one.' (Job 9:22) Thus, eventually, Job's case becomes the epitome of God's general lack of interest for human misadventures: 'From the city the dying groan, and the throat of the wounded cries for help; yet God pays no attention to their prayer.' (Job 24:12)

Now, this generalisation appears completely in line with Hume's version of the evidential argument, as worded by Draper in terms of 'Indifferent Deity Hypothesis' (HI):

> (HI) There exists an omnipotent and omniscient person who created the Universe and who has no intrinsic concern about the pain or pleasure of other beings.[18]

Clearly, based on (HI), (T) may not be sustained. It remains to be seen whether the 'friends' can support their theistic thesis against Job's evidential argument.

II. GOD'S LAWYERS

The attitude of his 'friends' is absolutely clear to Job: 'will you plead the case for God?' (Job 13:8) These annoying 'religious flatterers', as Kant refers to them, behave as zealous advocates of God. Job, in turn, as Kant puts it, 'speaks as he thinks', while his 'so-called friends', on the contrary, 'speak as if they were being secretly listened to by the mighty one'.[19] This level of hypocrisy may also be seen in the replies to Job's lamentations. We may describe the different conversations based on two main arguments:

(1) Elifaz, Bilad, Zofar: Retribution Theodicy

(2) Eliu: Soul-making Theodicy

(1) The retribution argument is a traditional way to support the theistic belief: (T) is true because evil is a punishment for sin. Thus, evil as a punishment is instrumental to restoring the justice we have willingly breached. This is the same argument Augustine uses in his Confessions to solve to issue of the origin of evil: 'Our free will is the cause of our doing evil and Your just judgment the cause of our suffering evil.' In truth, right after that Augustine concedes that he cannot clearly understand how that would be possible: 'I could not clearly discern this.' At the end of the thought, though, all doubts have vanished: 'We have sinned, we have committed iniquity, we have done wickedly and Thy hand has grown heavy upon us.'[20] Subsequently this sentence solves Job's dilemma: 'under a just God none can be wretched unless they have merited.'[21]

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[18] Draper (1996: 26).

[19] Kant (2001: 33, 32).

[20] Augustine (2006: 119, 136).

[21] Augustine (1999: 70). Obviously, this argument rests on the doctrine of original sin, according to Augustine: we all deserve to suffer because of the 'magnitude of the first sin' (1999: 336).

The solution is rather radical and does not rule out the issue of innocent suffering, by implication eliminating the very idea of innocence. Leibniz himself went so far as to claim that Augustine, in this specific passage 'appears obscure or even repellent'. Of course Leibniz agrees that God may use suffering 'often as a penalty owing to guilt'. Not always, though; and certainly never in cases of innocence, in that this would make it 'despotic'. [22]

Conversely, as regards Job's 'friends', the retribution argument appears completely obvious, right from the theory of the universal guilt of human kind: 'Can mortals be righteous before God?' (Job 4:17) Hence, in a perfect Augustinian style, we believe we can identify a syllogism that should shut Job's mouth:

(PM) 'How happy is the one whom God reproves.' (Job 5.17)

(Pm) 'There is no end to your iniquities.' (Job 22:5)

(C) 'Therefore do not despise the discipline of the Almighty.' (Job 5:17)

As we know, though, Job has no cause to blame himself. And if (Pm) is not true, then his suffering no longer has the value of a punishment, but becomes unjustified. Things, then, would not change if Job should admit, say, hidden iniquities in his conscience. Because the suffering he is going through is still a disproportionate punishment, especially when compared with the fact that some people are evil and happy. Then Job wonders: 'If I sin, what do I do to you?' (Job 7:20)

This strategy appears to be similar to Rowe's. If we concede that Job's suffering (JS) is an instance of a horrendous evil, which not even his 'friends' can deny, then Rowe's inference may be valid if applied to Job's situation:[23]

(P) No good we know justifies God in permitting JS

(Q) It is likely that no good at all justifies God in permitting JS[24]

The effectiveness of the evidential argument implies a rejection of the retribution theodicy. A controlling God who 'puts no trust even in his holy ones' (Job 15:15), is a God impossible to believe in. Not counting the inference from (P) to (Q) weakens the 'parent analogy' advocated

[22] Leibniz (1985: 166, n. 23; 284; 137, 227, 300).

[23] Rowe (1996: 264-265).

[24] Of course there is a difference between Rowe and Job in how the argument closes: in Rowe the horrendous evils of the world 'significantly lower the likelihood of God's existence' (Rowe 1996: 282). Conversely, Job does not question God's existence, rather his reliability.

by many theists. Job knows he is innocent; hence God cannot be his father, since no father would allow a son to suffer pain without reason. The refusal of God's paternity is total: rather than accepting it, Job would rather tell the sepulchre 'You are my father' (Job 17:4). Now, his 'friends' no longer know what to tell him: 'So these three men ceased to answer Job, because he was righteous in his own eyes.' (Job 32:1)

(2) Eliu's entrance marks a change from an argumentative standpoint. The theodicy of Job's fourth 'friend' rests upon on a much more sophisticated argument than the retribution one. First of all, Eliu leverages God's unquestionable superiority: 'God is greater than any mortal.' (Job 33:13) Hence, 'he does great things that we cannot comprehend.' (Job 37:5) Complaining, then, is pointless.

Divine superiority is also used by Eliu in another instance, also shared by Leibniz, whereby protesting is an error in judgment: God is 'greater than any mortal' not only because it is epistemologically inaccessible, but rather because his goals exceed individual expectations of happiness. As Leibniz clearly states, 'God's object has in it something infinite, his cares embrace the universe.'[25] God has to maintain the general order of creation, at the cost of a few 'local' disorders. We should also see things from his perspective, then. By doing so we would realise – maintains Eliu – we are not that relevant to God's general picture if taken individually:

> If you have sinned, what do you accomplish against him? And if your transgressions are multiplied, what do you do to him? If you are righteous, what do you give to him; or what does he receive from your hand? Your wickedness affects others like you, and your righteousness, other human beings. (Job 35:6-8)

Naturally, this superiority should not be construed as sheer indifference. It is no wonder that, when it comes to malice, Eliu also resorts to the retribution issue: men are treated justly, since they are treated 'according to their deeds' (Job 34:11). As opposed to the other 'friends', Eliu is persuaded that not only is God almighty only because of the power of his law, whereby he restores the broken order of human iniquity; rather, 'he is mighty in strength of understanding' (Job 36:5). Since God is intelligent, he can use suffering according to an intent that is not retributive, but rather pedagogical: he wants to help mankind 'with warnings' (Job 33:16) to better their conduct, so to 'spare their souls from the Pit' (Job 33:18). For this reason, states Eliu, men suffer: 'He delivers the afflicted by their

[25] Leibniz (1985: 206, n. 134).

affliction' (Job 36:15). So, if the salvation of the soul is the reward for accepting suffering as a divine warning, then salvation is the element that justifies the truth of (T).

Hence, we are in the presence of a complex argument, which may be traced back to two sub-arguments:

(i) Soul-making Theodicy;

(ii) Leibniz's principle of order maximisation.

(i) As Hick explains quite effectively, the stake is thinking of an alternative to the legal framework, thus developing a theodicy that 'does not depend upon the idea of the fall'.[26] In truth, Eliu does not base his argument against Job on the theory of universal guilt (though, as we said, he agrees with it). The issue is to prove that suffering is also a means to gain in flourishing, according to a similar approach as expressed by Aeschylus' chorus of the Agamemnon: 'pathei mathos.' The reason, continues Hick, is simple: 'the development of human personality – moral, spiritual, and intellectual – is a product of challenge and response.'[27] Hence, a world without suffering would not make sense, in that it would no longer be a 'person-making' world. Not to mention that this would eliminate a number of elements that do exist only in the relation among instances of suffering: mutual help and care.

In our understanding, this argument does not stand. Job's soul is far from bettered: 'my soul is poured out within me.' (Job 30:16) This is not merely a fleeting moment of psychological disappointment: Job chooses death over suffering 'for no reason'. Hence, as Sobel points out, there is a 'hard problem' that Soul-making Theodicy must face and which Job describes perfectly: 'souls are sometimes destroyed.'[28] Hick may try to overcome this objection only by assuming that the negative trade-off between happiness and the 'development of human personality' is upset in the afterlife: 'Without such an eschatological fulfilment, this theodicy would collapse.'[29]

This is a move Kant has already thought of in order to solve the antinomy of practical reason as exemplified by Job. According to Job, though, this makes no sense: even believing in the afterlife,[30] no reward would justify making an innocent suffer. It may come as a consolation,

[26] Hick (2001: 41).
[27] Hick (2001: 46).
[28] Sobel (2004: 446).
[29] Hick (2001: 51).

but not as an explanation. A fortiori, the final return of 'twice as much as he had before' (Job 42:10) does not solve the problem posed by Job. And maybe this doesn't even work as a happy ending: 'At the end of the day,' – writes Balentine to this purpose – 'Job's seven sons and three daughters are still dead.'[31] But why must everything come down to a matter of numbers? How can God be forced to make us suffer in order to teach us virtue? If he truly wants to save our soul from the pit, why not do it without resorting to the horrible means of suffering?

Certainly a parent, a teacher or a ruler may sometimes accept and allow evil, in that it is an inevitable means to accomplish the greater good. This means-end rationality, under the condition of causal laws unrelated to one's will, is typical of non-almighty agents. God, as Mackie highlights, is not an agent of this kind: 'If omnipotence means anything at all, it means power over causal laws.'[32]

We have reason to think that, regarding this specific passage, Job had his doubts, too. He assumes that God cannot behave like any man would. Against Eliu, then, he may once again state the doubts he had already uttered before: 'Do you have eyes of flesh? Do you see as humans see?' (Job 10:4)

(ii) Things do not improve when Eliu bends his argument in a sense that we may define as Leibnizian. Let us consider why. If God – explains Eliu – must also deal with the 'balancings of the clouds' (Job 37:16), then individual happiness becomes one of the variables in the divine scheme. God once again operates according to a means-end plan, only here the end is not to educate single creatures; rather, it is to maximise the general order of creation. Hence it may so happen that, in order to accomplish the greater good for creation, somebody has to suffer. The reason here, is not a deficit of almightiness: God could theoretically intervene every time in order to stop the suffering of all creatures, though he could do so, maintains van Inwagen, 'not without causing the world to be massively irregular'.[33] This is conflicting with the purpose of maximising the universal order.[34] Basically, this means that God acts according to an act-utilitarian standard: he is willing to guarantee individual happiness

[30] This is a strictly exegetic problem, which cannot be dealt with here, in that it depends on how Job 19:25: 'I know that my Redeemer lives' is translated and construed.

[31] Balentine (2003: 366).

[32] Mackie (1982: 153).

[33] Van Inwagen (1996: 173).

[34] Adams (1987: 52).

only as long as he has a profit in it, or if – then – he keeps a positive cost-benefit balance. By assuming this much, we may express the problem in terms of functions of utility:

(U_G) function of God's utility

(x_G) basket of God's goods

$U_G=f(x_G)$ with $dU_G / dx_G > 0$

Now, in order to maximise the harmony of creation, God may decide whether he also needs to guarantee Job's happiness; the latter, in turn, has its own function of usefulness:

(U_J) function of Job's utility

(x_J) basket of Job's goods

Hence, as long as God believes that order does not conflict with (x_J), then

$U_G= f(x_G, x_J)$ with $dU_G / dx_J > 0$, $dU_G / dx_G > 0$

The conclusion is that Job, following Eliu's reasoning, suffers merely because his wellbeing (x_J) has become too costly for God. God's benevolence applies to all creatures besides Job, as well as to all things inanimate. The final goal is to guarantee higher wellbeing for all, regardless of how wellbeing is distributed. If we assume, then, that God is a utilitarian agent, explains Holley, the typical situation that may happen is for someone to be treated 'very badly', in that this is instrumental to the general wellbeing of the universe.[35]

The problem posed by Eliu's God, then, is the following: how can one move from the standard theistic belief, according to which God cherishes everyone's wellbeing, to the idea of a God caring solely for 'aggregate welfare'? Certainly, said Leibniz, a man is worth a lot more than a lion in the eyes of God; 'nevertheless it can hardly be said with certainty that God prefers a single man in all respects to the whole of lion-kind.'[36]

One doubt may be raised here, which Job would be in agreement with: is general benevolence still true benevolence, even though it does not regard each and every creature taken individually?[37]

[35] Holley (1993: 39).

[36] Leibniz (1985: 188, n. 118). Speaking of lions, we will also see that God, in his reply to Job, uses the same anti-anthropocentric argument: 'Can you hunt the prey for the lion, or satisfy the appetite of the young lions, when they crouch in their dens, or lie in wait in their covert?' (Job 38:39-40)

For Job, and anyone else, feeling treated as means to the general good of creation is in conflict with the basic moral inferences on what fair behaviour should be like. Even more so when it comes to God's behaviour: how can one believe in a God that 'trades off our happiness to secure the most variety and order'?[38]

Things being as they are, Job is right to believe that God is not interested in the personal fate of single creatures. The evidential argument is unscathed. Now, let us analyse God's answer.

III. GOD'S THEODICY (OR DEFENCE?)

It would be too much, as Morriston does, to infer that, in his reply to Job, 'God doesn't even seem to care much for the species'.[39] To the point that we should accept that the world is not only lacking an anthropocentric teleological structure, but it is also dysteleological. The symbol of this general 'negation of purpose' would be, according to Morriston, the ostrich, which 'leaves its eggs to the earth' (Job 39:14). After all, God did not bestow intelligence on it, to the point that the animal does not even realise its negligence. Still, God did not leave the ostrich without skills. As stupid as it may be, no one can run as fast as it does.[40]

God, then, has general order in mind, where everything, even the ostrich, has a part to play. Obviously, mankind is included though it is not at the centre of the stage. On the contrary, God puts Job at the same level as non-human creatures: 'Look at Behemoth, which I made just as I made you.' (Job 40:15) Not even Leibniz supports such an egalitarian God: if it is true that the happiness of mankind is not 'his sole aim', Leibniz thinks that it is at least 'the principal part of God's design'.[41]

Job's God does not seem to have this particular preference for human happiness, nor does he mentions Job's suffering. The structure of this reasoning, though, is radically different from the theodicy of his 'friends': God does not accuse Job and does not believe – as Eliu inferred – suffering to be pedagogical. In short, God does not create any connection between his goal of maintaining the general order of creation and the existence of evil. Hence, there is no such thing as an argument in favour of the truth

[37] See Zagzebski (2007: 144).
[38] Blumenfeld (1999: 400).
[39] Morriston (1996: 348).
[40] 'When it spreads its plumes aloft, it laughs at the horse and its rider.' (Job 39:18)
[41] Leibniz (1985: 188, n. 118).

of (T). In this light, this a defence, not theodicy, so much that we believe divine egalitarianism to be enough to reject the evidential argument in two moves:

(i) weakens (HI)
(ii) stops the (P) to (Q) inference

(i) If the creator of the universe 'provides for the raven its prey' (Job 38:41), he may be concerned with the suffering and happiness of his creatures. Consequently, his rule may not be, as Job believed, completely arbitrary. On the contrary, this is what God struggles the most to clarify to Job: 'Will you even put me in the wrong?' (Job 40:8) God openly defends his own justice, since he does not want to be misunderstood on this matter. His defence, though, as opposed to the theodicy of Job's 'friends', does not serve the purpose of proving Job's fault to silence him. What God wants is to stop Job from being put in the position to defend himself against the Almighty ('to his face' (Job 13:15)). Hence God must give Job (and Leibniz) that divine justice, as unfathomable as it may be, such that it may not be incommensurable with human justice.[42]

This consistency hypothesis is validated in two ways. First, God keeps the cosmic forces of chaos (symbolised by Behemoth and Leviathan) in check and fights against human injustice (Job 38:15). Second of all, God punished the 'friends' and acknowledges Job's justice:

> My wrath is kindled against you and against your two friends; for you have not spoken of me what is right, as my servant Job has. (Job 42:7)

If being just matters to God, too, then (HI) loses validity. Not even the Almighty, then, may punish an innocent, since this would cause gratuitous suffering, or pointless evil, one being logically inconsistent with justice (human and divine alike). Since God punishes the 'friends', Job cannot accept God's justice without giving up his innocence.

Now, the problem is that God does not say what reasons would explain innocent suffering. He is 'content' with ruling out the anti-theist theory, expressed in the form of the (P) to (Q) inference, which Job also used during his protest. Our belief is that the divine strategy is comparable to the Wykstra vs. Rowe strategy. Which leads us to the second divine move against the evidential argument.

[42] As Grover quite aptly explained, for theism the price of incommensurability is too high. First, because it would no longer be possible to talk about God as a perfectly good being. (Grover 1998: 663)

(ii) If the world is not the product of divine will, then we would admit the existence of a reason governing creation, both at the 'macro' ('the foundation of the earth'(Job 38:4)), as much as at the 'micro' (even clouds are wisely numbered (Job 38:37)) levels. This reason, though, is not in our grasp. To conclude that there is no reason just because we cannot see it, would mean following a 'noseeum inference', that Wykstra knowingly attributes to Rowe, based on the 'Condition of Reasonable Epistemic Access' (CORNEA).[43]

This is also Plantinga's position with reference to the Book of Job: the fear of God not having any reasons that could explain innocent suffering rests on the fact that we actually don't see any such reason. Though, asks Plantinga, 'can we just see that he doesn't have a reason?' Since it is likely that 'God might have reasons we cannot so much as understand', we must expect instances of 'inscrutable evil'.[44]

Now, 'inscrutable' does not mean, as already reported, incommensurable. This being the case, the definition would merely be a wording trick to avoid the expression 'pointless': evil would not be comprehensible because God does not act for a reason or follows 'reasons' that have nothing in common with our rational criteria. This would make trust impossible. Conversely, in Segal, 'inscrutable' may be defined as follows:

> x is an inscrutable evil =df x is an evil, and we have thought really hard and we know of no good that would justify an omniscient, omnipotent, perfectly good being in permitting x.

If evil is 'inscrutable', then its justification is not for us to understand:

> x has beyond-our-ken justification =df there is some good g that would justify an omniscient, omnipotent, perfectly good being G in permitting x, and either the existence of g, g's being a good, or the connection between x and g, is beyond our ken.[45]

Finally, 'inscrutable' is a measure of the disparity between the human and divine vision, which God ironically explains to Job: 'Where were you when I laid the foundation of the earth?'(Job 38:4)

We believe, though, that Job knows something in the end: he knows that disparity cannot mean, even for God, a waiver to the basic principles of justice as we know it, such as fighting evil and, in spite of everything,

[43] Wykstra (1996: 126).
[44] Plantinga (1996: 73, 76).
[45] Segal (2011: 86).

behaving justly. Save for these principles, which God, if he truly is God, follows, Job may postulate the existence of a reason capable of explaining innocent suffering. To this purpose, Leibniz writes: 'A certain what it is (τι εστι) is enough for us, but the how (πως) is beyond us, and is not necessary for us.'[46] We may say, following in Leibniz's path, that Job knows his suffering is not a punishment, nor is it random misfortune; he knows not, though, how else to explain it. The issue remains open, then. In the meantime, the stakes become: if 'πως' goes beyond our comprehension, but is not irrational, then 'τι εστι' is enough to believe. This is why, eventually, we think Job's position is closer to sceptical theism. Now we may attempt at some conclusive remarks.

CONCLUSION: IS JOB A SCEPTICAL THEIST?

Obviously, we cannot open the controversial and much-debated issue of sceptical theism here. We can only assess whether it makes sense to assume it from Job's standpoint, without forgetting, of course, some objections moved against the sceptical theist strategy.

The sceptical theist, according to Bergmann and Rea, would be at the same time a theist as well as an advocate of the three following theses:

> (ST1) We have no good reason for thinking that the possible goods we know of are representative of the possible goods there are.
>
> (ST2) We have no good reason for thinking that the possible evils we know of are representative of the possible evils there are.
>
> (ST3) We have no good reason for thinking that the entailment relations we know of between possible goods and the permission of possible evils are representative of the entailment relations there are between possible goods and the permission of possible evils.[47]

Now, to accept ST1-ST3, means that the evidential argument no longer holds. Sure enough, some instances of evil will continue to appear unjustified, and we may also say that they will have 'a much stronger seeming state'[48] as compared with ST1-ST3. The point, though, is that ST1-ST3 will exert such an epistemic effect that we can no longer conclude from the appearance of unjustified evil to the belief that they really exist.

[46] Leibniz (1985: 104, n. 56).
[47] Bergmann and Rea (2005: 244).
[48] Matheson (2011: 330).

More specifically, Job will continue to be under the impression that his suffering is a pointless evil: the awareness of his epistemic distance from God is enough to stop believing that such pain is truly pointless.

Now, this seems the right moment to introduce the first objection:

> If noseeum inferences are bad, then the sceptical theist is right about the failure of the problem of evil, but she can't know that there are no tricky leprechauns who are constantly deceiving us.[49]

All in all, scepticism would be a double-edged sword, which would eventually turn against the same theistic thesis: how can one believe in a God who operates completely out of our understanding? Who can guarantee, thus, that in truth God is not a malicious creature? This is precisely Job's doubt: if his 'friends' are right, then we are doomed to live under the constant threat of a 'tricky God'.

There is also a second objection: sceptical theism leads to moral scepticism. If, given our cognitive limitation, we should concede that every instance of evil could be logically connected to a good (unknown to us) that would be otherwise impossible, then it is not worth it, if not morally detrimental, to fight it. This would explain why none of Job's 'friends' does anything to soothe his pain, since in their view, that condition is a just (hence, beneficial) punishment. But is such a moral based on the impossibility of stating that suffering is truly an evil, 'all-things-considered' (ATC), sustainable?[50]

Here's an attempt to reply to the two objections above. First, the 'tricky leprechaun' theory makes sense only by separating ST1-ST3 from the theistic theory. Then, it is clear that the sceptical way loses consistency even with common knowledge. Still, as Bergmann and Rea maintain, 'obviously enough, the sceptical theist strategy will not be deployed in a vacuum. Sceptical theists, after all, are theists.'[51] Therefore, there exist some background beliefs that save sceptical theism from radical scepticism.[52] Such assumptions, though, should not be mistaken for the

[49] McBrayer (2012: 11-12).

[50] Hasker (2010).

[51] Bergmann e Rea (2007: 244).

[52] To a similar extent, argues Beaudoin (2002: 299): 'Defensive sceptics are not committed to radical scepticism because all they need is to argue that although God has the power to make our beliefs radically in error, we have independent philosophical reasons to believe he does not do so. And defensive sceptics can enlist in this service whatever anti-sceptical considerations are available to anyone else, so long as they meet the following conditions: they neither entail nor make it likely that theism is false, and

argument: the sceptical theist strategy does not leverage on the theistic assumption to contrast the evidential argument (which, evidently, would turn into a circular argument); as we said, the argument is restricted to ST1-ST3 (a theory that atheists may also accept) and is exclusively instrumental to prevent the P to Q inference (and certainly not to refute atheism). The theistic assumptions are justly deployed to stop ST1-ST3 from leading to radical scepticism.

In Job's case, we tend to share Bergmann and Rea's position. Indeed, Job eventually comes to the conclusion that God must be almighty and just, according to a measure of justice that is compatible with the one he himself advocates. Such an agreement between the justice of human moral conduct and justice of divine doing is a good reason to believe that God has its reasons to allow this suffering, in spite of the unbearable impression of senselessness: 'I know that you can do all things, and that no purpose of yours can be thwarted.' (Job 42:2) In short, if God is just, then his almightiness is reliable and he may not be the irrational judge as it would appear from the 'tricky leprechaun'. Still, since Job comes to the conclusion that God is reliable starting from his personal experience, as such this is not valid as an argument. Nevertheless, this reasoning may be generalised to the extent in which we assume that every theist has similar background beliefs to Job's, which may be gained through philosophical reasons being independent from one's own faith.

As regards the second objection (from sceptical theism to moral scepticism), here, too, the best response appears to be to reduce the extent of the sceptical component. Clearly, ST1-ST3 is not applicable as such to Job. Job's ignorance has to do only with God's purposes relating to innocent suffering: 'I have uttered what I did not understand, things too wonderful for me, which I did not know.' (Job 42:3) Job knows well that, if he wants to preserve his own moral integrity, he must fight what is clearly identifiable as evil ATC by human reason. For the same reason, it would be unacceptable to consider his own suffering as good ATC. His scepticism, hence, is compatible with the moral obligation to provide assistance to the suffering.[53]

In order to retain consistency with Job's position, we believe the sceptical theist strategy should be formulated once again, as suggested by Trakakis and Nagasawa. Given an instance of evil E, then

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they are not based on our failure to imagine any good reason God could have for so misleading us.'

(1) Our knowledge of God's purposes is very limited.

From this, it can be inferred that

(2) For all we know, there are goods beyond our ken G which justify God in permitting E.

But, clearly, it does not follow from (1) that

(3) For all we know, there are goods beyond our ken G which justify us in permitting E.[54]

Now, as Anderson points out, there is no inconsistency between stating that an event is 'bad ATC' (and as such to be fought against) and purporting that, as far as we know, God's non-intervention is not 'gratuitous'.[55]

Finally, we believe that, within the above boundaries, sceptical theism gives a fairly accurate account of the reason why Job can desert the evidential argument without renouncing his conscience: for being righteous, in spite of evil, is the position Job holds before the issue of innocent suffering. This takes us back to a famous note by Kant: Job's argumentative strength does not lie in his faith (which he is willing to lose); rather, his argumentative strength is moral. Thus, the theistic belief he effortfully reaches in the end, is based on his 'good life conduct', which God also had to acknowledge as a principle of universally binding justice. This, according to Kant, is the 'authentic theodicy'[56] that Job seems to suggest, beyond his personal experience.

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[53] The duty of charity that, as Schnall reminds us (2007), in Judaism is strengthened by God's own commandment (see, for instance, Deuteronomy 24:19).

[54] Trakakis and Nagasawa (2004)

[55] Anderson (2012: 37).

[56] Kant (2001: 31).

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CANTORIAN INFINITY AND PHILOSOPHICAL CONCEPTS OF GOD

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Abstract. It is often alleged that Cantor's views about how the set theoretic universe as a whole should be considered are fundamentally unclear. In this article we argue that Cantor's views on this subject, at least up until around 1896, are relatively clear, coherent, and interesting. We then go on to argue that Cantor's views about the set theoretic universe as a whole have implications for theology that have hitherto not been sufficiently recognised. However, the theological implications in question, at least as articulated here, would not have satisfied Cantor himself.

I. INTRODUCTION[1]

In Cantor's philosophy of mathematics a connection is made between the mathematical universe[2] considered as a whole (the quantitative Absolute Infinite) and God. In this article we aim to investigate whether this contention is correct.

We will start by considering Cantor's ontology and epistemology of sets, and the ways in which he felt that these were connected to the nature of God's mind. Cantor essentially takes elements of Augustine's view as a point of departure, and develops them in a distinctive and innovative way. Parallel to this, we will investigate the characteristics of God

[1] Thanks to Ignacio Jané and Christian Tapp for insightful comments.

[2] In this paper, 'mathematical universe' and 'set theoretic universe' are interchangeable, as we are working from the viewpoint that set theory is foundational for mathematics. As such, any observation we make about the set theoretic universe can also be made about the mathematical universe.

according to Cantor; similarities and connections between the two will become evident. This will then allow us to develop a Cantorian argument that derives theological conclusions from reasonable assumptions about the mathematical universe considered as a whole. Crucially, however, this argument is not Cantor's own. It relies on non-19th century premises. In particular, the argument uses naturalistic assumptions about the nature of mathematical objects: it assumes certain 'naïve' commitments and beliefs that are implied by the practice of working mathematicians. When these are combined with more Cantorian elements (in particular, the existence of the set theoretic universe as a completed whole), significant theological implications can be derived; however, these implications fall short of establishing the existence of a personal God. To conclude, we will offer a defence of some of the assumptions crucial to the narrative – namely, those of naturalism and our distinctive conception of the set theoretic universe as a completed whole.

An important caveat must be made before beginning. We refer to 'God' throughout the article, but do not intend the term to be understood in the traditional theistic sense (unless otherwise implied by the context). Instead, we use the term loosely, allowing for the possibility of different sorts of religious perspectives – for example, deism or even pantheism. So, broadly speaking, we use the term to indicate something supernatural or 'divine'.

II. CANTOR'S MATHEMATICAL ONTOLOGY AND EPISTEMOLOGY

In this section, we consider Cantor's mathematical ontology and its related epistemology. In his writings, Cantor rarely clearly delineated his theological commitments from his mathematical ones and, as such, the following picture might appear obscure to many mathematicians. However, an understanding of how Cantor conceived of the mathematical universe will inform the (somewhat modernised) discussion that follows.

Kowalewski once commented that for Cantor the infinite cardinal numbers seemed 'stepping stones to the throne of God' (Kowalewski 1950: 201). Indeed, Cantor writes that God lies 'beyond the cardinal numbers' (Letter to Grace Chisholm-Young (1908), Cantor 1991: 454). The Cantorian picture seems to be one of the cardinal numbers converging to a limit that lies beyond themselves, with that limit conceived of as 'God'. It is clear that Cantor thought that God could not be investigated

mathematically, being instead the subject of 'speculative theology' (Cantor 1932: 378). Therefore, the many remarks on the nature of God that one finds in Cantor's mathematical-philosophical texts suggest that, whilst his notion of God is somehow connected with his theory of the transfinite and cardinal numbers, it is at the same time, at least to some extent, disconnected from mathematics.

Cantor was a Lutheran with deep sympathies for the Catholic church, and his conception of the nature of God (which will be considered in more detail in section 3) is tied to the Christian philosophical-theological tradition. On this subject, he primarily quotes philosophers and theologians, and this can lead to the impression that in this area Cantor had few original thoughts. This impression is unjustified, as we will see shortly.

Although Cantor held that the nature and properties of God cannot be investigated mathematically, his views on God were of crucial importance for his defence of his theory of the transfinite; he used his conception of God to motivate his conception of infinity in mathematics (specifically in set theory).

Cantor upheld the Augustinian view that mathematical entities such as numbers exist as ideas in the mind of God (Letter to Jeiler (1895), Tapp 2005: 427, our translation):

> The transfinite is capable of manifold formations, specifications, and individuations. In particular, there are transfinite cardinal numbers and transfinite ordinal types which, just as much as the finite numbers and forms, possess a definite mathematical uniformity, discoverable by men. All these particular modes of the transfinite have existed from eternity as ideas in the Divine intellect.

Like Augustine (Augustine 2003: Ch. 18), he thought that the collection of the natural numbers is 'in a certain sense' finite for, and thus knowable by, God. However, Cantor extended Augustine's underdeveloped view in a revolutionary way. On the mathematical and epistemological side, Cantor claimed that the transfinite is knowable not only by God, but also by humans. Cantor's transfinite set theory shows how *human* mathematicians are able to calculate with transfinite numbers. On the philosophical and ontological side, Cantor developed Augustine's sketchy view in a very original way. In a remarkable passage, Cantor articulates in detail *how* sets exist in the mind of God. The passage in question gives us a unique insight into Cantor's ontology and epistemology of

mathematics. We quote him here in full (Tapp 2005: 414-407, Letter to Jeiler (1888), our translation):

> God knows infinitely many things in reality and categorematically outside Himself (possible objects, objects that occur throughout the time series in the future), that admittedly do not always occur together on the side of the things, but that do have a simultaneity in their being known in God's Intellect. If only one would have convinced oneself always of this secure and unshakeable proposition in its full content (I mean, not just in general, but also in special and concrete cases), then one would have recognised in it without any trouble the truth of the transfinite, and millennia of disputes and errors would have been avoided.
>
> If we now apply this proposition to a special class of objects of God's intellect, then we arrive at the elements (elementary propositions) of the theory of infinite numbers and order types.
>
> Every single finite cardinal number (1 or 2 or 3, etc) is contained in God's Intellect both as an exemplary idea, and as a unitary form of knowledge of countless compound objects, to which the cardinal number applies: all finite cardinal numbers are therefore distinctly and simultaneously present in God's mind (Augustine 2003: book XII, chapter 19: 'Against those, who say that, what is infinite, can also not be comprehended by God's knowledge').[3]
>
> They build in their totality a manifold, unified, and from the other contents of God's Intellect separated thing in itself, that itself forms an object of God's Knowledge. But since the knowledge of a thing presupposes a unitary form, by which this thing exists and is known, there must in God's intellect be a determinate cardinal number available, which relates itself to the collection or totality of all finite cardinals in the same way as the number 7 relates itself to the notes in an octave.
>
> For this, which can be shown to be the smallest transfinite cardinal number, I have chosen the sign ω.
>
> On the other hand the finite cardinal numbers 1, 2, 3, ... form in their natural order a well-ordered collection [...]; the general form, under which this well-ordered collection of all finite cardinal numbers is necessarily conceived by God's Intellect (on reflection on them

[3] Cantor is in fact referring to the content of chapter 18 rather than of chapter 19 here.

> belonging to the ordering that I have just described), I call the ordinal number of this well-ordered collection, or its order type, and I signify it with ω; here, too, it can easily be shown that ω is the smallest transfinite ordinal number.
>
> When we abstract in ω from the ordering of its elements (which are then just units), then we will naturally obtain the cardinal number that we have denoted above by $\underline{\omega}$.
>
> This is to explain my notation; the bar over[4] the ω should remind of the abstraction from the ordering of the elements in the cardinal number $\underline{\omega}$; one can say, that the cardinal number ω originates from the ordinal number ω, when we abstract in the latter from the ordering of the units that are contained in it.

The picture that emerges is the following. Finite cardinal numbers, and even 'small transfinite numbers' such as N_0 and N_1,[5] are obtained by a process of abstraction from groupings in the physical world. This process of abstraction should not be conceived of as a human form of creation; instead, humans discover numbers as abstracta from groupings that have existed for all eternity in the mind of God. The same holds for ordinal numbers. They exist in the mind of God as abstracta of configurations in the world under the aspect of an ordering relation. When humans have knowledge of sets, they stand in cognitive contact with these mathematical forms in the mind of God.[6]

Cantor does not claim that cardinalities larger than N_1, are instantiated in the material world, and consequently it cannot be assumed that all cardinalities exist in God's mind as abstractions from groupings of material entities in the world.[7] But if the natural numbers themselves form a set in the mind of God, and all subcollections of natural numbers likewise form sets in the mind of God, then *these* entities themselves form a well-delineated totality in the mind of God, from which a number can then be abstracted (2^{N0}). We can then repeat this process; in this way, all cardinalities (finite and transfinite) are instantiated in the mind of God, and so exist as numbers in the mind of God.

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[4] We have used bars under the digits instead of above them; the meaning is the same

[5] Cantor believed that the material atoms form a countably infinite set, and that the ether particles form a smallest uncountable set (Cantor 1991: 224, Letter to Mittag-Leffler (1884)).

[6] Benacerraf (1973) asks searching questions about the nature of this cognitive relation. However, a discussion of this problem exceeds the scope of the current article.

[7] Similarly for ordinal numbers.

This conception of Cantor's ontology of sets helps to elucidate another comment made in the above passage, viz. that cardinal and ordinal numbers exist in God's mind in two ways: as unitary forms and as exemplary ideas.[8] This 'double existence' of mathematical entities in God's mind can potentially be understood in two ways:

(1) Numbers exist as two different entities in the mind of God.

(2) They exist as only one entity, but this entity has two different aspects.

Cantor seems to lean towards the first option in the quoted passage. Under this conception, the number one, for instance, exists as a 'unitary form' that is an abstractum from concrete unities in the world. But this unitary form can itself be seen as a very special singleton: the singleton of the number one. The latter object is an exemplary idea, a special instantiation of the unitary form. Similarly, the number 2 is instantiated in a very special idea in the mind of God as the set {1, 2}. The ordinal ω exists in an exemplary way as the ordered sequence < 1, 2, ... >, and when we abstract from the ordering we obtain the exemplary way in which the first infinite cardinal number exists. Continuing in this way, the ordinal number ω+ω is instantiated in a very special way as the ordered sequence < 1, 2, ... ω, ω+1, ... >, and so on. In general, Cantor's two generating principles guarantee the exemplary existence of all ordinal and cardinal numbers in the mind of God.[9] Observe that, of course, the ordinal number ω+ω also exists in 'non-exemplary ways' – for instance as the ordered sequence < ω, ω+1, ... 1, 2, ... >.

All these mathematical 'forms' taken together form the quantitatively Absolutely Infinite. This follows from an unrestricted fusion principle (not mentioned by Cantor) which says that any plurality of objects taken together form a compound object (Niebergall 2012: 277). In the metaphysical literature, this principle is mostly applied to concrete objects, but it can likewise be applied in the abstract realm. Metaphysicians tend to assume unrestricted fusion for objects[10] and – as we are considering sets as objects – we do not find it unreasonable to apply the same such principles to our own enterprise. The compound object made up by all the mathematical forms must then be 'the biggest infinity'.

[8] Thanks to Ignacio Jané for helping us understand this aspect of Cantor's view.

[9] For a discussion of Cantor's generating principles, see (Hallett 1984: chapter 2, section 2.1).

[10] See (Niebergall 2012: 276).

Nonetheless, as far as Cantor is concerned, all the mathematical forms cannot together form one well-delineated totality in the mind of God from which a number can be abstracted. Cantor does not philosophically spell out *why* this is so, but he rightly states that he never claimed that a number can be assigned to the collection of *all* cardinal (or ordinal) numbers. Of course, later in his life Cantor did know why, at least in a mathematical sense – it is a consequence of Russell's Paradox, i.e., of Cantor's own diagonal argument. However, this mathematical insight does not have a parallel philosophical-theological one – for, from the Augustinian point of view, it *does* seem that the set theoretic universe constitutes a (well-delineated) part of God's mind. As such, the Quantitative Absolute Infinity of the complete set theoretic universe does not appear to sit completely comfortably within Cantor's metaphysical picture.

What Cantor *should* have said (but did not) on this last point is the following. The mathematical realm is indeed a well-delineated part of the mind of God. But there is much else beside sets in the mind of God. Thus the question of in what sense the quantitatively Absolutely Infinite is the 'biggest infinity' indeed arises. The quantitative extent of the infinity of God is expressed exhaustively in the mathematical part of the mind of God and so, in agreement with von Neumann's principle that all proper classes are 'equally large', the whole of God's mind is in one-to-one onto correspondence with its mathematical part. Thus the set theoretic universe (V) is indeed the 'biggest infinity', and we have *some* philosophical understanding of why that is so.

An underlying assumption that has been made throughout the foregoing discussion is that the mathematical universe is unique – in other words, that when we speak of the 'mathematical universe' (equivalently, the set theoretic universe) there is exactly one thing that lies within the extension of such a description. Though this is an arguably contentious point in modern philosophy of mathematics, it is outside the scope of the present topic, and as such we will not discuss it further here.[11]

III. CHARACTERISTICS OF GOD ACCORDING TO CANTOR

It is blindingly obvious from the preceding discussion that Cantor saw a connection between his work on infinity and his concept of God. We

[11] For one form which this discussion can take, see the debate between (Balaguer 1995) and (Martin 2001).

will now consider several specific characteristics that Cantor conceived of God as having that are distinct from the above and which, if accepted, will form an independent motivation for the stipulation of a connection between set theory and theology. This sort of exposition has already been done fruitfully by Christian Tapp (see (Tapp 2005) and (Tapp 2012)) and also to some extent by Adam Drozdek (see Drozdek 1995), and we draw heavily on their work here.

Cantor's divine attributes include absolute freedom (Letter to Franzelin (1886), Cantor 1991: 258; Cantor 1932: 406), absolute goodness (Tapp 2005: 326), absolute omnipotence (Tapp 2005: 326) and absolute wisdom (Tapp 2005: 326). 'Absolute' here could (and we suggest should) be read as having a more technical definition than commonly used, one that is understood by considering its Latin roots. Tapp does this in (Tapp 2012: section 2). 'Absolute' in Latin is *absolutum*, which comes from the root *absolvere*, meaning to detach or disassociate. So, in essence, what predicating a quality (such as freedom) with 'absolute' does (for Cantor) is detach it from limitations. This might seem superfluous for the divine attributes – after all, is not the very nature of 'freedom' to be detached from limitations? However, he really does mean something stronger here; whilst describing a human as 'free' might simply denote that person's autonomy regarding their life decisions (to marry who they like, for example), when it is applied (absolutely) to God it means that He can literally do whatever He likes – even transcend the laws of physics (something impossible for a human).

When explicated in this way, it becomes clearer why there might be a connection between theological questions and infinity. Infinity is, in a sense, beyond limitations. Pre-theoretical notions of infinity tend to be of the point beyond which we can no longer 'count'; it is outside the limits of the mathematical objects we can sensically work with. Of course, much of advanced mathematics *does* work with infinity, and Cantor's mathematics even involves completed infinities (for example, transfinite numbers). However, we argue that there is nonetheless a parallel with this pre-theoretic notion of 'beyond limitations', and this is due to Cantor's absolutely infinite (informally, the 'biggest' infinity).[12] The absolutely infinite is limited only by itself – it is the domain of all other infinities and is thus in a sense a fixed object that is nonetheless unboundedly large.

[12] For a discussion of the relation between Cantor's notion of Absolute and the use of the term 'Absolute' in the history of metaphysics, see (Hauser 2011).

God, as sketched above, is a 'being' of fixed characteristics, but each of these he possesses in unbounded and yet maximum measure. The only restrictions that can be placed on absolute infinity or on God come from themselves. The similarity between these two conceptions provides some motivation for attempting to uncover a parallel or connection between Cantorian infinities and some notion of God (Cantorian or otherwise).

Another attribute of God which we can arguably extrapolate from Cantor's conception, and which will become crucial later, is that God is beyond human understanding:

> I have never assumed a 'Genus Supremum' of the actual infinite. Quite on the contrary I have proved that there can be no such 'Genus Supremum' of the actual infinite. What lies beyond all that is finite and transfinite is not a 'Genus'; it is the unique, completely individual unity, in which everything is, which comprises everything, the `Absolute', for human intelligence unfathomable, also that not subject to mathematics, unmeasurable, the 'ens simplicissimum', the 'Actus purissimus', which is by many called 'God'. (Letter to Grace Chisholm-Young (1908), Cantor 1991: 454, our translation).[13]

An independent and informal argument for the thesis that God exceeds human comprehension runs as follows. If God were understood by humans, then He would be limited by something outside Himself. From the preceding paragraph we know that God is only limited by Himself. Therefore, God could not possibly be understood by humans. The first premise of this argument requires support. Humans are outside of God (because they are created), and are also finite in their capacity of understanding. Therefore their intelligence (i.e. what they can understand) has an upper bound. So if we were to understand God, then he would have to 'lie within' this boundary. This would be a form of limitation, which, if we accept the foregoing, is impossible. So, in sum, the absoluteness of God's infinity is beyond our understanding.

So transcending human understanding can be taken to be a distinctive feature of God; this both squares with what we know about Cantor's view and is independently compelling (if one is already sold on the idea of

[13] Another passage that conveys the same message is the following: 'The Transfinite points [...] with necessity to an Absolute that cannot in any way be diminished, and that is therefore to be looked upon quantitatively as an absolute maximum. In a certain sense it transcends human power of comprehension, and in particular is beyond mathematical determination.' (Cantor 1932: 405)

a divine entity). This particular attribute is also given further support by the fact that it is traditionally taken to be a fundamental property that sets God apart from everything else in creation (negative theology).

Section 2 of this paper has already suggested Cantor's own version of this view – that the set theoretic universe as a whole (V) is a *part* of God that is too vast for human comprehension (and if a part is incomprehensible, then it stands to reason that the whole is too). However, he did qualify this to some extent. Whilst repeatedly stressing that the Absolutely Infinite exceeds 'mathematical determination', he leaves room for the hypothesis that another kind of understanding of the Absolutely Infinite can be obtained. As mentioned before, he says that the investigation of the Absolutely Infinite is the province of 'speculative theology'. We will have more to say later about Cantor's concept of speculative theology. Let it suffice for now to note that according to the standard view theology differs from philosophy in that it takes the Scripture as given in much the same way as empirical science takes empirical observations and the outcomes of experiments as given.

We argue that, as such, the possibility of understanding the divine through speculative theology is not a threat to our claim that the divine is fundamentally outside the remit of human understanding. The support for this claim has two parts. Such a form of understanding takes the Scripture (or some other sort of religious basis) as given, whereas we are aiming to take nothing 'theological' as given, and to work towards a theological conclusion using only the rules of reason and acceptable premises. Therefore the potential insight given by speculative theology is distinct from the sort of insights that our current conception of 'human understanding' might include. Furthermore, as we have already mentioned, theology and science have distinct methodologies, and so lead to different forms of understanding; in this paper, we are concerned with the sort of understanding given by the latter. Consequently, even if Cantor is correct in his claim that God can be understood (to some extent, and in some specific sense) through speculative theology, we are still legitimately able to claim that a distinctive feature of God is being beyond human understanding.

IV. THE SET THEORETIC UNIVERSE AND THE EXISTENCE OF GOD

In this section, we bring together the ideas we have outlined so far in order to construct an argument (which will be split into two subsidiary

arguments) to the conclusion that some sort of divine entity exists. We again stress that such an argument is not Cantor's own; crucially, it falls short of establishing a Christian God – or in fact any sort of personal God. We will endeavour to assess both the arguments and whether the conclusion that they might establish, mitigated as it is, is still significant.

4.1 Two Arguments

Before combining the ingredients that we have discussed to construct an argument for the existence of God, we derive a subsidiary conclusion – that the mathematical universe is an *aspect* of God. This, combined with some assumptions about set theoretic ontology and mereology, will be sufficient to create a valid argument; soundness will be investigated afterwards. Very roughly, the proposed reasoning for the subsidiary conclusion goes as follows:

Premise 1 Anything that exceeds human understanding is an aspect of God.

Premise 2 The mathematical universe exceeds human understanding.

Conclusion The mathematical universe is an aspect of God.

If this argument is accepted then, if we can also conclude that the mathematical universe exists, we can conclude that some sort of God exists (because part of God does). We now argue that the mathematical universe does exist:

Premise 1' Sets exist (in a platonic sense)

Premise 2' If a plurality of entities (such as sets) exist, then taken together they form a completed (mereological) whole

Conclusion' The set theoretic universe (equivalently, the mathematical universe) exists

We take it for granted that this argument is valid – as we have taken the set theoretic universe to be nothing but the fusion of all individual sets (see the end of section 2). In the next section, we turn to a consideration of the soundness of both arguments, denoting the first 'Argument 1' and the second 'Argument 2'. We will neither unconditionally endorse nor reject the premises of these two arguments; we shall merely argue that each of them has received enough support in the literature for it to be unreasonable to reject the arguments out of hand as unsound.

4.1.1 Argument 2

Premise 1' is an extremely contentious point in the philosophy of mathematics. A thorough consideration of it is beyond the scope of this article – books could, and indeed have, been written both in defence and in criticism of mathematical platonism. For our current purposes we shall content ourselves with saying that, in light of the naturalist stance that we have chosen to adopt, such a premise is supported by mathematical practice; as Bernays says, *every working mathematician is a platonist* (Bernays 1935). So mathematical practice, combined with our specific sort of naturalism, provides ample support for this premise.

We have remarked before that Premise 2', on the other hand, is a mereological claim that is widely held in metaphysical circles and, as such, is not greatly controversial.[14] Indeed, the completed existence of the whole of the set theoretic universe supervenes on the completed existence of the components (in this case, the sets).

However, both these premises are susceptible to criticism, especially if a naturalistic position (in the philosophy of maths) is rejected. After all, it *is* coherent to reject the claim that our best mathematical ontology can be read off from what mathematicians commit themselves to in their practice. Mathematical naturalism can even be accepted whilst denying the premises in question. However, if this line of criticism were adopted, it would follow that the commitments of mathematicians are not straightforwardly readable from their practice and, as such, that the surface structure of informal mathematical speech is not the same as its deep logical structure.[15] This in itself constitutes a mark against such a position. Moreover, such a view creates a host of other problems for the philosopher of mathematics;[16] for the purposes of this article, we will take this as substantial grounds for retaining naturalism and Premise 1.

However, it is also possible to accept the first premise but reject the second; for example, Zermelo conceived of the set theoretic universe as a potentially infinite series of actually infinite 'normal domains' (Zermelo 1930). It has even been argued that from 1896 onwards Cantor himself was well on his way to Zermelo's viewpoint (see, for example, Jané 1995).[17] This is often taken to be a more sophisticated position than

[14] David Lewis has famously championed the principle of unrestricted fusion that entails it. Nonetheless, his view has been challenged by van Inwagen (van Inwagen 1994).

[15] See, for example, Hellman's position in (Hellman 1989).

[16] For a discussion of this, see (Burgess and Rosen 1999).

that of Cantor but, again, adopting this position involves not taking set theoretic practice completely at face value. Mathematicians (set theorists) *do* talk about V as if it is an entity.

Cantor himself thought (in typical 19th century vein) that the second premise could be proved from prior grounds. His so-called 'domain principle' states that every variation of a parameter presupposes an underlying fixed domain over which the parameter varies (Hallett 1984: 7). Since in Zermelo's picture the 'normal domains' somehow vary ('grow'), there must be a completed domain over which they do this. This domain is, of course, the completed quantitatively Absolutely Infinite (V). These points will be returned to in greater detail later. But it is important to observe that, given naturalism, we need not commit ourselves to the domain principle for the argument to carry through.

Taking these two premises together, we get to the conclusion that the set theoretic universe (V) exists as a completed whole. This conclusion, aside from being the result of a valid and arguably sound argument, is also supported by mathematical practice. If one takes set theoretic practice at face value, then there does seem to be a commitment to V and other proper classes as completed wholes. After all, many (perhaps most) set theory textbooks contain class forming operations of the form $\{x|\phi(x)\}$[18] – it is just that they are very careful about the way that they are handled! In informal argumentation, set theorists have no compunction at all about speaking of the class of the ordinals, for instance. In sum, it is fair to say that we can rely on mathematical practice to assume that, for any definable condition of sets, there is a class (but crucially, not necessarily a *set*) corresponding to it containing those sets that meet the condition in question.

4.1.2 Argument 1

We now turn to the soundness of Argument 1. Premise 2 has been established to some extent by the initial part of this article, but still requires some additional elucidation and support.

The set theoretic universe is known to be beyond the grasp of set theoretic principles as a result of Cantor's diagonal lemma. However, this is not enough to conclude that it is beyond the grasp of human understanding. In order to establish such a thing, we would need to

[17] Jané later qualified this judgement: see (Jané 2010).

[18] See for instance (Drake 1974: 3).

assume that the set theoretic universe's governing principles are those of set theory, which we will take to be the principles of Zermelo-Fraenkel set theory with the Axiom of Choice (ZFC). Thus we need to support the implicit assumption that such a set theory is our most general rational theory of pluralities of sets (as we are conceiving of the set theoretic universe as a plurality of its constituent parts – namely, the plurality of all sets). The claim is essentially that, if some pluralities are not subject to the principles of ZFC, then these collections cannot really be rationally understood.

This is not entirely compelling. We have already seen that Cantor thought it possible that some non-mathematical insight into V as a completed Absolutely Infinite was possible. However, he was completely silent about what the nature of such an insight could be, and even suggested it was as much a matter of revelation as of real understanding – a matter which we have already discussed in section 3. A more threatening challenge to the assumption that ZFC is the best theory we have to understand V is to propose an alternative theory which *does* give us a mathematical understanding of proper classes: Von Neumann-Bernays-Gödel set theory (NBG).[19] However, such a claim could be challenged by replying that NBG does not really give us a treatment of proper classes as entities; it is no more than an *acknowledgement* that to every condition of sentences, a class corresponds that contains precisely those sets as elements that meet the condition. So NBG does not give us a mathematical understanding of classes. Indeed, most set theorists object to taking proper classes seriously *because* set theory is our most general theory of collections. We shall not go into this issue in any further depth here, but will return to the idea of NBG in section 5.

This, then, is how we interpret Cantor's famous dictum:

> The Absolute can only be acknowledged, but never known, nor even approximately known. (Cantor 1932: 205)

We cannot have a rational (mathematical) understanding of God; but we do have a rationally compelling argument establishing the *existence* of God.

We now turn our attention to Premise 1, which requires further defence. We have established that it is reasonable to claim that God exceeds human understanding, but not explicitly that anything that

[19] Or even the stronger class theory Morse-Kelly (MK).

exceeds human understanding is an aspect of God. We will not offer any sort of formal argumentation to this conclusion here; however, the next subsection will offer some defence of such a claim.

4.1.3 The Last Step

Cantor himself was happy to take the last step – i.e. to regard the (humanly incomprehensible) proper classes as part of something that fundamentally and maximally transcends us: God.

As far as the discussion here has gone, the arguments we are considering do seem to establish (if they are sound) the existence of a completed set theoretic universe that, as an entity, fundamentally transcends human understanding – and there is a venerable tradition of identifying God with that which maximally transcends human understanding.[20] Before considering more thoroughly whether such a tradition is justified, it is worth briefly considering whether there are other phenomena (within the mathematical sphere) which also surpass human understanding. If there are, considerable doubt would be shed upon Premise 1.[21]

Two potential candidates for this are contradictions and (tokens of) the multiplication of huge numbers. We claim that neither example poses a real threat to our claims. For example, contradictions are not beyond human understanding because, instead of being unintelligible, they are simply necessarily false. The multiplication of extremely large numbers may exceed human understanding in practice (i.e. we could not practicably carry out such multiplications), but not in principle. We have the methods to carry them out and *could* carry them out whilst remaining finite beings; we would just need certain adjustments – for example, more memory space and longer life spans. The crucial point is that such adjustments would always leave us within the finite (and, correspondingly, human) sphere. Though we will not offer more discussion of this issue here, we believe all similar proposed counterexamples can be dealt with along the same lines. Therefore, we do not have an excess of examples of things that exceed human understanding and, as such, no initial doubt is cast on the claim that anything that exceeds human understanding is an aspect of God.

So, if it is true that God can be identified with that which maximally transcends human understanding, our arguments do seem to entail that

[20] See (Drozdek 1995).

[21] Thanks to Christian Tapp for drawing our attention to the need for this elucidation.

V is somehow a part of the Divine. Nonetheless, it could be objected that such a conclusion tells us little else about the Divine. For example, it is a long way removed from establishing the existence of a *personal* God. Cantor himself saw his work as a means of bringing people to 'rational theism' (Letter to Hermite (1894), Cantor 1991: 124-125). But the argument that we have offered falls short of a theistic conclusion, and we see no means of adapting the argument to reach it. To establish this, something more would be needed (perhaps an appeal to the Bible).

In view of this, it might be argued that it is misleading to say that the arguments, taken together, establish the existence of *God*. This seems fair enough. Yet it is worth noting that the more minimalist conception of God adopted in this paper is somewhat in keeping with the properties attributed to potential divine entities in section 3. There we claimed that God exceeds human understanding and that, if anything were to be a fundamental characteristic attributable to a divine entity, that would be it. It would be unusual (though of course not impossible) for something else to possess a quality *fundamental* to God, and thus it seems compelling to suggest that anything that surpasses human understanding is (at least a part of) God. This is – again – not a formal or watertight defence of our decision to identify God with that which transcends human understanding, but we feel that it at least goes some way to establishing such an identification's legitimacy.

It is also worth mentioning another way in which our 'God' diverges from the traditional conception. This is that, upon our account, we have no assurance of God's 'goodness'; to put it in a (perhaps oversimplified) way, the divine entity our arguments, if sound and valid, would establish could just as viably be 'Satan' as God. However, this is not an issue for us. As our caveat at the end of the introduction stated, we use 'God' to refer to any sort of divine entity. As a result, such a differentiation is not relevant to us.

4.1.4 Why Care?

Let us for the moment reject the objections to the soundness of the arguments presented and suppose that our proposed responses to them are accepted. In this case, it seems that the arguments must be basically sound. The arguments in themselves are certainly not very complicated, and so it seems that something like them must have occurred to theologians, philosophers, mathematicians, and indeed maybe even to Cantor himself, at some point. Indeed, at least in embryonic form, the

argument that we have tried to spell out in some detail has appeared in the literature:

> Cantor joins Augustine in theological pronouncements and – as far as mathematics allows him – he also shows that it is a mathematically proven fact. There is no set of all sets, the number of infinities surpasses any number. This fact can be used by theologians [to show] that God simply must surpass all infinities and in this sense he is not infinite – he is the Absolute. (Drozdek 1995: 139)

This leads to the question of why such arguments have not been investigated and discussed in any detail before. We consider briefly why this might be the case, but claim that they are nonetheless still of merit – especially for philosophers.

The most likely reason that theologians have not been interested in such argumentation is that – as articulated before – the existence of a personal God is not established by it – and a personal God would be of the most interest to them.

Mathematicians (and in particular set theorists) are only interested in what *is* subject to the laws of mathematics. V, at least as far as the arguments at hand are concerned, falls outside the scope of this, even if its existence has to be acknowledged to some extent in mathematical practice. As such, strictly speaking, conclusions that can be derived from a consideration of V are outside the remit of their interests.

Cantor himself did not articulate such arguments. The reason seems to be that for him platonism about sets (Premise 1) is *derived* from prior premises of a philosophical and / or theological nature:

> [...] a relation analogous to that between theology and metaphysics can be ascertained to hold between on the one hand the latter (metaphysics) and on the other hand mathematics and the other natural sciences. The foundation of the principles of mathematics and the natural sciences is the responsibility of metaphysics; she must therefore regard them both as her children and as her servants and helpmates, which she cannot afford to lose out of sight but instead must always guard and control, and which must produce from the wide scope of the material and mental realm the building blocks with which her palace can be completed, like the queen bee residing in her apiaries sends out thousands of bees into the garden to suck nectar from the flowers and then together and under her supervision transform it into honey. (Cantor, Letter to Esser (1896), Tapp 2005: 308-309, our translation)

It is for this reason that Cantor takes recourse to ideas from Augustinian theology. In other words, he rejects the mathematical naturalistic stance that has become popular since the work of philosophers such as Gödel, Quine, Putnam and others and, in essence, works backwards from theism to platonism. We, in contrast to Cantor, take platonism to be grounded in mathematical practice. More precisely, it can be inferred from mathematical practice by inference to the best explanation (essentially an *indispensability argument)*.[22] Cantor would also have objected to our minimalist conception of God: he upheld the idea of a personal God and in fact rebelled vehemently when he was charged with pantheism (Letters to Franzelin (1886), Cantor 1991: 254-258), and he also objected to deism. He insisted on a conception of God that does not leave deism or pantheism viable possibilities.

In light of this, it is important not to lose sight of the fact that, if the premises hold, the arguments do establish something. They are non-circular: the existence of something that exceeds the limits of human intelligibility is derived rather than presupposed. As such, it seems that philosophers at least should be interested: philosophers follow arguments where they lead as long as the conclusions are significant, even if they fall short of what theologians are interested in. Henceforth, we shall refer to the philosophical position which we have adopted as the 'naïve stance' (for obvious reasons), and shall give reasons for preferring it to arguably more sophisticated views.

V. THE NAÏVE STANCE

We have seen that from certain 'sophisticated' philosophical perspectives, one or more of our premises can be challenged. We have not refuted the challenges from these perspectives, and nor do we think we could: the perspectives are wholly coherent. Nonetheless, there are reasons for preferring the naïve naturalistic attitude that we have adopted in this article.

Firstly, as we saw earlier, the platonism that it involves is the ontological stance that mathematicians implicitly adopt in their practice. It is also heuristically immensely fruitful, as is universally acknowledged. Even the 'working mathematician' who does not, upon reflection, endorse the platonistic stance that she adopts in her mathematical working hours

[22] For a discussion of indispensability arguments in the philosophy of mathematics, see (Colyvan 2011).

will recognise that it is in practice impossible to do mathematics without adopting the naïve stance.

Secondly, one can formulate *a class theoretic reflection principle* that expresses that V is ineffable in a very specific sense (Welch and Horsten 2012). The principle in question states, *roughly*, that V is second order elementary equivalent to some set sized initial segment V_κ,[23] in the sense that every second-order formula is true in V with all its proper classes if and only if it is true in the structure $<V_\kappa, V_{\kappa+1}, \varepsilon>$. This principle is called the *Global Reflection Principle* (GRP). It can be shown that if GRP is added to a weak (set theoretic conservative) class theory such as a fragment of NBG, strong large cardinal consequences follow.[24] At the same time, the theory NBG+GRP can be shown to be set theoretically sound from certain large cardinal axioms (the axiom of subcompact cardinals). Thus it seems *right* to say that the mathematically Absolutely Infinite is mathematically unknowable in a very fundamental sense.[25] And this class theoretic reflection principle can *only* be formulated against the background of a class theory (such as NBG) in which V is recognised to exist. Thus we can extend the scope of the indispensability argument from sets to proper classes. The outcome is that support is given to the claim that the set-theoretic universe exists as a mereological whole of all individual sets.

The global reflection principle is a principle *about* V. We have argued that it is true. Thus it could be objected that it seems that, after all, it is possible for us to have some mathematical (rational) knowledge of V after all; as such, it would be an exaggeration to say that we can have no knowledge about the about the Absolutely Infinite at all. However, GRP does say that a certain kind of knowledge can never be had of V. We have to acknowledge that it is not a set, but at the same time we cannot know any proposition of it that, when relativized to any initial segment V_α would be false. This is enough, we submit, to claim that V fundamentally exceeds human comprehension.

The derivation of these large cardinal consequences (i.e. the existence of unboundedly many Woodin cardinals) from GRP is currently the only way of providing intrinsic support for them. But it seems that GRP is most straightforwardly motivated against the background of

[23] V_κ is the set of those sets of ordinal rank smaller than k.

[24] In particular, NBG+GRP entails the existence of unboundedly many Woodin cardinals.

[25] This argumentative move is an instance of Inference to the Best Explanation.

an actualist platonist stance about sets and proper classes.[26] This is, we submit, testimony to the fruitfulness of the naïve stance that we have adopted in this article.

VI. MATHEMATICS, METAPHYSICS, AND THEOLOGY

The initial part of this paper was dedicated to supporting the claim that, contrary to popular opinion, Cantor had a largely coherent and defensible view of how the set theoretic universe as a whole should be considered. His conception of such a universe was not restricted to the mathematical sphere; for Cantor, the domains of discourse of mathematics and theology were thoroughly intertwined:

> [...] the unbreakable bond that connects metaphysics with theology; where on the one hand the latter is the lodestar to which the former directs itself and from which it receives its light, when the natural and ordinary lights fail; on the other hand, theology needs for its scientific development and for its representation the whole of philosophy, which therefore stands to it in a subservient relationship. This has three consequences: a), that theology inevitably is a participant in any metaphysical discussion; b), that any real progress in metaphysics also strengthens or multiplies the tools of theology, indeed, in certain circumstances can lead human reason [...] with respects to mysteries of faith to deeper, more contentful symbolic insight than could have been expected or suspected beforehand. (Letter to Esser (1896), Tapp 2005: 308, our translation)

Moreover, Cantor, contrary to what we would say today, classifies his own work in set theory as metaphysics (in a subsequent letter to Esser from 1896):

> The general theory of manifolds [...] belongs entirely to metaphysics. You can easily convince yourself from this, when you examine the categories of cardinal number and ordinal type, these fundamental concepts of set theory, with respect to the degree of their generality and besides will remark, that in them thought is completely pure, so that there is not even the least scope for the imagination to play a role. This is not altered in the least by the images, to which I, like all metaphysicians, from time to time help myself, and also the fact that the works of my pen are published in

[26] An attempt to motivate GRP without assuming that the concept of set and of proper class are instantiated is given in (Welch and Horsten 2012: section 7).

> mathematical journals, does not modify the metaphysical content and character of them. (Tapp 2005: 309-310, our translation)

This leaves the reader of Cantor's works with a mixture of mathematical, metaphysical and theological elements that are related to each other in complicated and at times confusing ways. For this reason, it is not easy to find a coherent rational argumentative structure in Cantor's views. Nonetheless, we have attempted to do this, paying especial attention to his characterisation of the mathematical universe, his conception of the divine, and the similarities between the two.

We then attempted to use Cantor's insights into the parallels between the Absolutely Infinite and God to construct a rational argument for the existence of some sort of divine entity. Whereas Cantor worked from a theological standpoint to mathematical platonism, we have attempted to motivate a theological standpoint upon the assumption that mathematical platonism is correct. Our arguments, if sound, establish the existence of a divine entity – but crucially fall short of establishing the personal 'God' one might hope for. The 'God' that they establish is more akin to a pantheistic one, identified to some extent (or in part) with the mathematical universe.

We acknowledge that our arguments rely heavily on the acceptance of controversial premises and concepts. Mathematical platonism is often especially unpalatable to philosophers; the Cantorian actualist conception of the mathematical universe is unpalatable to many mathematicians and philosophers; a minimalist conception of God (compatible with deism or pantheism) is unsatisfactory to most theologians. Nonetheless, we believe that the arguments we have proposed are interesting and fruitful avenues to go down, whoever you are and whether you agree with them or not.

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GENERIC THEISTIC RELIABILISM

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Abstract. In this paper, I present the recently much discussed Value Challenge for Theories of Knowledge and formulate Generic Theistic Reliabilism as a theory, which can answer this challenge, with respect to Theism and the proposition 'God exists'.

INTRODUCTION

Recently, The Value Problem has provoked much attention in epistemology.[1] In this paper (1) this problem is presented as a challenge for Theories of Knowledge, (2) Generic Theistic Reliabilism is formulated as a Theory of Knowledge which can answer the challenge, with respect to Theism and the proposition 'God exists' and (3) answers to two possible objections to the theory are offered. Theism is defined as follows:

> *Theism*: The belief that (a) there is a person holding the *title* of being God, (b) God is morally perfect, all-knowing and almighty, and (c) God wants a loving relationship with all humans.

[1] See for instance Wayne Riggs, 'Reliability and the Value of Knowledge', *Philosophy and Phenomenological Research*, Vol. 64, No. 1 (2002), pp. 79-96; Wayne Riggs, 'The Value Turn in Epistemology' in Vincent Hendricks and Duncan Prichard (eds.), *New Waves in Epistemology* (London: Palgrave Macmillan, 2007), pp. 300-23; Ernest Sosa, 'The Place of Truth in Epistemology', in Michael DePaul and Linda Zagzebski (eds.), *Intellectual Virtue Perspectives from Ethics and Epistemology* (Oxford: Oxford UP, 2003), pp. 155-79; Jonathan Kvanvig, *The Value of Knowledge and the Pursuit of Understanding* (Cambridge: Cambridge UP, 2003); and John Greco, 'The Value Problem' in Adrian Haddock *et al* (eds.) *Epistemic Value* (Oxford: Oxford UP, 2009), pp. 313-21.

THE VALUE PROBLEM

The Value Problem goes back to antiquity. John Greco writes:

> In an often cited passage from Meno, Socrates points out that mere true belief seems to have the same practical value as knowledge – the man who truly believes that the road leads to Larissa is as well served as the man who knows that it does. The problem then is this: We think that knowledge has value over and above its practical value as useful information. How do we explain that extra value? This is something that a good theory of knowledge should do.[2]

In other words, true belief and knowledge seem to have the same instrumental or practical value, but yet, we think of knowledge as more valuable than true belief. Let us call Greco's challenge for Theories of Knowledge The Value Challenge and state it by posing the following question:

> *The Value Challenge*: How do we explain why knowledge is more valuable than mere true belief?

Linda Zagzebski has argued that The Value Challenge is especially problematic to answer for various forms of Reliabilism. If we define Generic Reliabilism as follows:

> *Generic Reliabilism*: A person S knows a proposition p if (a) S holds p as true, (b) p is true and (c) p is produced by one or more reliable processes or faculties[3]

Then we can formulate a rough version of her argument like this:

(1) Knowledge is more valuable than true belief
(2) Generic Reliabilism can only explain the value of true belief
(3) Therefore: Generic Reliabilism cannot explain the value of knowledge

Premise (1) is uncontroversial and widely accepted in literature.[4] To vindicate premise (2) Zagzebski draws an analogy between reliably produced espresso and reliably produced true belief. She writes:

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[2] John Greco, 'The Value Problem', pp. 313-14.

[3] Obviously (a), (b), and (c) are not sufficient conditions for knowledge. At least a condition (d), which solves Gettier cases, is needed and if (c) doesn't answer the Value Challenge, a further condition (e), which answers The Value Challenge, is also needed.

[4] See for instance Linda Zagzebski, 'From Reliabilism to Virtue Epistemology' in Guy Axtell (ed.), *Knowledge, Belief and Character* (New York: Rowman and Littlefield, 2000), pp. 113-22; Linda Zagzebski, 'Epistemic Value Monism' in John Greco (ed.), *Ernest Sosa*

> [A] reliable espresso-maker is good because espresso is good, but the espresso made now is no better because it was produced by a reliable espresso machine. The Water dripping now is no better because it was produced by a reliable dripping faucet; and neither is it any worse.[5]

So, a good espresso, for example, seems to be equally good whether it is produced by a reliable espresso machine or luckily produced by an unreliable one.

Zagzebski continues the analogy:

> [...] if Adam has a reliable memory and acquired a true belief about the past as a result of using his reliable memory, his belief is no more valuable epistemically than the true belief of Eva, who has an equally reliable memory and who acquired the same belief about the past, but acquired it by a non-reliable process. Eva may be no worse off than Adam, but the important point is that Adam is no better off than Eva.[6]

Put in another way, the source by which espresso is produced, or the source by which Adam's true belief is produced, does not add value to its products, namely the product of espresso or true belief. Put it in yet another way, a reliable espresso machine or a reliable memory might be good things to have, but the value of them does not accrue to the products they produce. Thus, we may conclude (3) Generic Reliabilism cannot explain the value of knowledge.

AN ANSWER TO THE VALUE CHALLENGE

Recently, epistemologists have answered The Value Challenge by shifting focus from the reliably produced true belief to the person producing it. A person who brings about the valuable product of true belief, they claim, is admirable for having so done. In other words, the person has made a creditable achievement.[7] One way to answer The Value Challenge then is to appeal to what we might call The Achievement Thesis, which can be stated as follows:

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and his Critics (Oxford: Blackwell, 2004), pp. 190-98; Wayne Riggs, 'Reliability and the Value of Knowledge'; Ernest Sosa, 'The Place of Truth in Epistemology'; and John Greco *Achieving Knowledge* (Cambridge: Cambridge UP, 2010), pp. 91-102.

[5] Linda Zagzebski, 'From Reliabilism to Virtue Epistemology', p. 113.

[6] Linda Zagzebski, 'From Reliabilism to Virtue Epistemology', p. 114.

[7] John Greco, 'The Value Problem', Wayne Riggs, 'Reliability and the Value of Knowledge', Linda Zagzebski, 'From Reliabilism to Virtue Epistemology'.

> *The Achievement Thesis*: A person S' knowledge that p is an achievement creditable to S.

Thus the extra value, besides the value of true belief, which explains the value of knowledge, is the value or 'admirability' of the person achieving knowledge.

The answer above is promising indeed, but turning to the domain of religion and particularly to knowledge of the proposition 'God exists' I have one suggestion:

> *Suggestion*: The achievement, which serves to explain why knowledge is more valuable then true belief, is a moral rather than an epistemic one.

The achievements appealed to when answering The Value Challenge are usually epistemic. A person S might, for example, be very thorough and open-minded when reasoning, investigating, looking and so on. Achievements of this sort are admirable but they are epistemic achievements. However, with respect to Theism, I think the achievements might be *purely* moral ones. To show this, I will focus on condition (c) in our definition of Theism, namely the condition which states that God wants a loving relationship with all humans.

So God, by definition, wants a loving relationship with us. However, a loving relationship between God and us depends on love from both sides. Thus, a relationship with God and, as I will show, also knowledge of God makes demands on us.

One way to pin-point the demands God might have on us is to follow Apostle Paul's suggestion when he writes:

> See to it that no one takes you captive through hollow and deceptive philosophy, which depends on human tradition and the basic principles of this world rather than on Christ.[8]

Apostle Paul might be interpreted as calling for a *Christ Based Philosophy* and, by implication, a *Christ Based Epistemology*. Generally, Jesus Christ is (at least by Christians) thought of as the paradigm example of a moral and obedient character and humans are called to follow him:

> Then he called the crowd to him along with his disciples and said: 'Whoever wants to be my disciple must deny themselves and take up their cross and follow me. For whoever wants to save their life will lose it, but whoever loses their life for me and for the gospel will save it.'[9]

[8] Colossians 2:8.

Consequently, one demand for entering into a loving relationship with God might be that humans should shape their character by using Christ as a model. Another demand would be to follow Jesus' Divine Love Commandments, which say:

> 'Love the Lord your God with all your heart and with all your soul and with all your mind.' This is the first and greatest commandment. And the second is like it: 'Love your neighbour as yourself.' All the Law and the Prophets hang on these two commandments.[10]

Christian Philosopher Paul Moser comments on the implications of these 'great commandments':

> These commands, found in the Hebrew scriptures and in the Christian New Testament, give a priority ranking to what humans should love. They imply that at the very top of a ranking of what we humans love should be, first, God and, second, our neighbor (as well as ourselves). They thus imply that any opposing ranking is morally unacceptable. More specifically, they imply that human projects, including intellectual and philosophical projects, are acceptable only to the extent that they contribute to satisfying the divine love commands. [11]

So one way, from our side, to be open to a loving relationship with God might be to give up our selfish ways, follow Jesus in every aspect of our life and love our neighbour. To do this would be to do something morally good.

If trying our best to be ready for a loving relationship with God by attaining a Christ shaped character and following Jesus' great commandments, one would expect that the God of Theism, that is a God who among other things actually wants a loving relationship with us, would induce in us the belief that he exists. Obviously, a loving relationship presupposes the belief that the one one loves exists. Moreover, the belief would count as knowledge, if the belief is true and induced in us in a reliable way, for example by means of a reliable process. Furthermore, in keeping with Generic Reliabilism as an Externalistic Theory of Knowledge, we do not need to know that the source or process, by which the true belief in God is produced, is reliable. All that is needed is that the process *de facto* is reliable.[12]

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[9] Mark 8: 34-35. See e.g. also Matt 10:38-39 and Luke 9:23-24.

[10] Matthew 22:34-46.

[11] Paul Moser, *Jesus and Philosophy* (Cambridge: Cambridge UP, 2009), p. 14.

[12] For a defence of externalism see e.g. Michael Bergmann, *Justification Without Awareness* (Oxford: Oxford UP, 2006).

If we take 'G' to signify the proposition 'God exists' we can call this new Theory of Knowledge Generic Theistic Reliabilism and formulate it as follows:

> *Generic Theistic Reliabilism*: A person S knows that G if (a) S holds G as true, (b) G is true, (c) G is produced in S, by God, by the means of one or more reliable processes or faculties and (d) G was produced in S, by God, because S has made one or more moral achievements.[13]

Condition (d) answers The Value Challenge, but the moral achievements (d) alludes to, would also need to be sufficient for S to be ready for a loving relationship with God. Put in another way, God might withhold the belief that He exists from us until we achieved a moral character sufficient for a relationship with Him.

A FIRST OBJECTION AND THE POSSIBILITY OF A MULTI-APPROACH TO KNOWLEDGE OF GOD

There are at the very least two interesting objections to Generic Theistic Reliabilism. The first can be illustrated by the following case which I call *The Box-case*:

> *The Box-case:* Joe has a sealed box with 7 coins in it and he is offering a prize of $1,000 to anyone who can guess how many coins the box contains. There are four people guessing. (1) Sue guesses that there are 7 coins in the box. She believes there are 7 coins for no better reasons than that 7 is her lucky number. (2) Alice guesses 7. She infers that there are 7 coins from shaking the box carefully. She is very dexterous and has acute hearing. (3) Ted too guesses that there are 7 coins, because Joe opened the box so he could look inside. Joe did this for Ted because Ted had recently saved a child from drowning while risking his own life.[14]

We are presented with the Value Problem for knowledge, since all three, including lucky Sue in (1), are rewarded with $1,000.

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[13] Of course, for a sufficient set of conditions, a further condition (e) which solves Gettier problems would also be needed. One way to formulate (e) would be to say that G is true *because* G is produced in S, by God, by the means of one or more reliable processes or faculties. See Greco's proposed solution of the Gettier Problem in John Greco 'Virtues in Epistemology' in Paul Moser (ed.), *The Oxford Handbook of Epistemology* (Oxford: Oxford University Press, 2002), pp. 287-315 (p. 311).

[14] A version of this example was suggested to me by Professor David Hunt, Whittier College, Whittier, USA.

We may think of The Box-Case as analogous to a cases where 'Joe' is replaced by 'God' and the proposition 'There are 7 coins in the box' with the proposition 'God exists', since Joe has power to show what the box contains in the same sense as God (if he exists) has power to induce the belief that God exists in whoever He wants. Indeed Ted (3) in The Box-Case might be seen as analogous to a case where person S has formed a Christ-shaped moral character sufficient for a loving relationship with God.

The following question presents itself: How is the *knowledge* in (3) more valuable than in (2)? Since there is nothing valuable in guessing something which by luck happens to be true, the belief in (1) cannot qualify as knowledge. On the other hand, the belief in (2) might be thought of as a fairly obvious example of knowledge, since Alice has attained her true belief in a praiseworthy and intrinsically valuable manner.

However, I do not necessarily think that Generic Theistic Reliabilism is the only Theistic Theory of Knowledge in town. God might be in a position to lay out different roads for us to attain knowledge of his existence just as Joe is in a position to lay out different roads for people to attain knowledge of how many coins the sealed box contains. In other words, there might be different approaches to gain knowledge with respect to the proposition 'God exists' and perhaps, as the box-case shows, something similar might be true for other propositions as well. Perchance, there is even a multitude of approaches. With respect to the proposition 'God exists', we might simply call the type of knowledge attained in accordance with (2) *Virtue Epistemic Knowledge*, and the type of knowledge attained in accordance with (3) *Theistic Reliabilistic Knowledge*.

A SECOND OBJECTION AND THE SCEPTICAL THEISTS' RESPONSE

The second objection consists of the recognition that there are loving (say) saint-like people in non-theistic religions. These people do not, as one perhaps would expect, find themselves with the belief that the theistic God exists, even though they might seem to be ready for loving relationship with God.

However, even if a person S would seem to be ready for a loving relationship with God, God might have other to us *unknown* reasons for not inducing the belief that God exists in S.

Given that God is all-knowing and almighty and we are not, it seems odd indeed to suggest that we can know all possible reasons God might have for withholding his existence from us. To be sure, one reason might be to wait until we are ready for a loving relationship with Him, but there might be other reasons as well.

This response is in line with the position known as Sceptical Theism. Advocators for Sceptical Theism do not only hold Theism to be true, they also hold a form of local scepticism to be true. Sceptical theist Michael Bergmann describes the sceptical part of Sceptical Theism by presenting the following four Sceptical Theses (ST):

> ST1: We have no good reason for thinking that the possible goods we know of are representative of the possible goods there are.
>
> ST2: We have no good reason for thinking that the possible evils we know of are representative of the possible evils there are.
>
> ST3: We have no good reason for thinking that the entailment relations we know of between possible goods and possible evils are representative of the entailment relations there are between possible goods and of possible evils.
>
> ST4: We have no good reason for thinking that the total moral value or disvalue we perceive in certain complex states of affairs accurately reflects the total moral value or disvaluethey really have.[15]

ST1-ST4 are to my mind sensible to hold as true, since it seems difficult indeed to think of a reason suggesting that we know all possible goods, possible evils, all logical connections between all possible goods and all possible evils, as well as the real value of all possible goods and all possible evils. Furthermore, if ST1-ST4 are true, it follows that there might be a person S and a possible good X such as X would not be possible if God induced the belief that He exists in S, even if S now has a moral character sufficient for a loving relationship with God.

A contra argument to the forgoing sceptical response might be that if we cannot know if there is a good X that might justify God in withholding His existence to a person S, who seems to be ready for a relationship with Him, we cannot know if we should try to convince S that God exists.

[15] Michael Bergmann, 'Commonsense Skeptical Theism', in *Reason, Metaphysics, and Mind: New Essays on the Philosophy of Alvin Plantinga*, ed. Kelly James Clark and Michael C. Rea (New York: Oxford University Press, 2012), pp. 9-30 (pp. 11-12).

Briefly, if we try to convince S that God exists, a possible good X might be lost.

Indeed, it seems problematic to use Sceptical Theism in order to defend Generic Theistic Reliabilism, if it is the case that we cannot decide whether or not we should try to convince other people that God exists. However, in every day cases when we are not certain whether or not there might be a reason for not intervening when (say) suffering occurs, we usually act on the possibility of us actually preventing it if we intervene. In other words we act on the reasons we currently have for intervening. Justin McBrayer and Philip Swenson apply this line of *reasoning from ignorance* to a case where one might be able to convince someone that God exists. Someone, they claim, could deliberate as follows:

> I am not sure whether or not there is a sufficient reason to allow this person to be ignorant of God's existence. But since I am not sure, it is an open possibility that I will prevent an unjustified evil from occurring. So I have reason to inform her.[16]

A somewhat similar answer is to deny a version of what we might call the *Consequentialist Criterion*. This criterion, when considering rational and responsible reasoning, can be formulated as follows:

> *The Consequentialist Criterion:* A person S's decision or line of reasoning, regarding an act, is rationally appropriate if all possible consequences of the act are taken into consideration.

Endorsing this criterion would be (a) to set the standard of rational reasoning too high and it is (b) not at all consistent with Sceptical Theism. A better, more apt, criterion would be the following:

> *The Consequentialist Criterion*:* A person S's decision or line of reasoning, regarding an act, is rationally appropriate if all possible consequences S can *reasonably* predict are taken into consideration.

Of course God would perhaps meet *The Consequentialist Criterion* since he might know all possible goods and evils and thus be able to predict all possible outcomes, but given our cognitive limitations *The Consequentialist Criterion** seems more fitting to us humans. To put this in another way, how high standards we have on rational and responsible reasoning is a function of our cognitive abilities.

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[16] Justin McBrayer and Philip Swenson, 'Scepticism About the Argument from Divine Hiddenness', *Religious Studies*, 48 (2012), 129-50 (p. 146).

To sum up, we can answer The Value Challenge for Theories of Knowledge by adopting Generic Theistic Reliabilism. Moreover, we can answer the objection explicated by The Box-case by adopting a Multi-approach to Knowledge. Also, we have an answer to the objection that there are people in the world who seem to be ready for a relationship with God, but yet do not believe that God exists by adopting Sceptical Theism.

THE THEISTIC ARGUMENT FROM BEAUTY: A PHILONIAN CRITIQUE

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Abstract. In this paper I consider an understudied form of the design argument which focuses on the *beauty* of the natural world and which argues, on that basis, that the world requires a divine Artist in order to explain its beauty. Against this view, one might raise a question concerning the beauty of, and in, this divine Artist. What explains the *divine beauty*? This kind of explanatory regress objection is exactly like that used by Philo in Hume's *Dialogues* to undercut standard versions of the design argument focused on the *orderliness* of the world. Here I argue that Philo's explanatory regress objection likewise significantly undercuts versions of the design argument focusing on the *beauty* of the world.

Conceived in a broad and intuitive way, the teleological argument (or, the design argument) holds that, given the ordered beauty of the world, its delicate arrangement of parts, and its general suitability as a habitation for humans, we can legitimately infer that our world is the work of some supernatural Designer. Historically speaking, presentations of the design argument have tended to focus our attention on the *orderliness* of the world (i.e., its being subject to natural laws which do not change, and so on). In ancient philosophical theology, this orderliness of the world was construed along the lines of *organic models*: The world is like an animal body, with an organic unity. In modern times, the theist's analogy has generally turned away from the organic model of animal bodies toward the model of *complicated mechanisms*: 'Look round the world,' Cleanthes says in Hume's *Dialogues*, 'Contemplate the whole and every part of it: You will find it to be nothing but one great machine, subdivided into an infinite number of lesser machines, which again admit of subdivisions to

a degree beyond what human senses and faculties can trace and explain.'[1] Each of these different versions of the design argument looks from the world's *orderliness* to the need for a *divine Designer* to order it.[2]

But the design argument can also be presented in another, less common version which focuses its attention on the world's *beauty* and argues that natural beauty is itself a clear indication of the world's having been the product of conscious intention and design. To a very rough first approximation, if nature itself is beautiful like art, and if art requires an artist to make it beautiful, then perhaps nature itself needs an Artist. Call that *the theistic argument from beauty*. This beauty-based variant of the design argument has been defended by a number of philosophical theologians over the last 100 years or so. F. R. Tennant, Peter Forrest, Mark Wynn, and Richard Swinburne have all defended various versions of it.[3] For example, Forrest claims that if he 'had to choose one feature of the universe that *most clearly supports theism*, it would have to be the beauty of things rather than the suitability of the universe for life'.[4] Explaining and elaborating this thought of his, Forrest insists that the argument from beauty has four distinct advantages over the usual design arguments:

> The first is that [beauty] is harder to understand in naturalistic terms than is the suitability of the universe for life. The second is that ... beauty is best understood as the result of divine generosity, and like all the best gifts, its enjoyment is an end, not a means. This supports belief in anthropic rather than ananthropic theism. The third is that a sense of the beauty of creation acts as a counterweight to the emotional impact of suffering and malice, which, as I concede, provide prima facie grounds for atheism even after the undermining of all articulate formulations of the argument from evil. Finally, [the fourth is that] the theocentric understanding of beauty results in the emotional responses of both awe and gratitude, which is important because religious faith is widely granted to involve the emotions as well as the intellect.[5]

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[1] Hume (1998: 15).

[2] Wynn notes this historical shift from organic to mechanistic analogies and provides references to several ancient and modern examples (1999: 11-13).

[3] See Tennant (1930: 89-93); Forrest (1996: 38-41, 133-135); Wynn (1999), esp. Chapter 1 ('Providence and Beauty'); and Swinburne (2004: 121-122, 188-191). Wynn (1999) is far and away the most developed account of the argument and, as such, will receive proportionately more attention in my discussion.

[4] Forrest (1996: 39, my emphasis).

[5] Forrest (1996: 39).

Thus, we seem to have a prima facie case for thinking that the argument from beauty deserves more careful consideration than it has generally received. If Forrest is correct, the argument from beauty may even be stronger than the standard design arguments that focus on orderliness.

However, in this paper I will be arguing that the theistic argument from beauty can be significantly weakened, and perhaps even outright defeated, by a form of objection which has also been applied to the usual design arguments. That objection is one I will be calling *Philo's explanatory regress objection*, and it is developed by Hume (through the character of Philo) in Part IV of the *Dialogues*.[6] Thankfully, at least one of the recent defenders of the argument from beauty – Wynn (1999) – has tried to directly address this explanatory regress objection, so we can consider his reply in developing the objection. In short, I will be arguing that Philo's explanatory regress objection is forceful and that Wynn's reply to it is inadequate – leaving Philo's objection standing and the theistic argument from beauty in serious trouble.[7]

I. THE THEISTIC ARGUMENT FROM BEAUTY: AN INTRODUCTION

In presenting and defending the argument from beauty F. R. Tennant has claimed that the world itself is 'saturat[ed]' with natural beauty. Such *widespread* natural beauty, Tennant argues, is relatively unlikely to have emerged without being brought about by artistic intentions. After all, in the human case, our works are rarely beautiful unless they are consciously designed with that end in mind.[8] But if such widespread natural beauty really *is* 'relatively unlikely to obtain in the absence of artistic intent', then

[6] See esp. Hume (1998: 30-33). See also Hume (1998: 42-43 and 55-56).

[7] I should note, before moving on, that some philosophers have tried to connect (i) worldly beauty to (ii) a theistic belief, but without construing the connection between (i) and (ii) *argumentatively* (i.e., without treating the theistic belief in question as the conclusion of an *inference*). For a famous contemporary example of this non-inferential approach, one specifically drawing our attention to various cases of worldly beauty, see Plantinga (1981: 46-47); (1983: 18, 80-82); and (2000: 170-177). For a possible ancient version of the non-inferential approach, see Plato's discussion in the *Symposium* (esp. the 'ladder of love'/'ascent' passage [210a-212a]), along with further relevant discussion in the *Phaedrus*. (However, cf. Plato's *Timaeus*, where the treatment of worldly beauty appears to be more argumentatively-focused and natural-theological.) In any case, herein I will be focusing exclusively on the claim that worldly beauty can be put to use in developing an *argument* in the tradition of natural theology.

[8] Tennant (1930: 91-92). Wynn provides a helpful analysis of Tennant's argument (1999: 16-20).

that suggests that the world itself is (at least probably) the product of artistic intent.[9]

In my view, this argument is at its strongest when the focus is on the beauty of *non-human nature*, so I believe Tennant offers us an excellent starting point. Moreover, as Wynn has noted, recent empirical work on human reactions to natural beauty strongly suggests that human attraction to many kinds of natural landscapes is cross-cultural and stable.[10] Moreover, while our appreciation of human artistic products (e.g., the masterworks of Shakespeare, Bach, or Picasso),[11] or of the beauty of the human form,[12] seems possible (and perhaps even relatively easy) to explain in naturalistic terms, our aesthetic appreciation of the wonders of non-human nature – the freshly fallen snow, or the jagged mountain tops, or the grasses waving in the wind – seems somewhat harder to explain naturalistically.[13] Of course, some naturalistic explanations of our aesthetic appreciation of natural scenes have been proposed, such as E. O. Wilson's 'biophilia' hypothesis, which proposes that humans may have a partially genetic predisposition, acquired through evolutionary selection, to (aesthetically) prefer certain natural environments.[14] Defenders of the argument from beauty have, therefore, spent some time trying to address the objection that naturalistic explanations of the world's beauty (to humans) can be found and hence theistic explanations are not needed.[15]

However, even if the argument from beauty can be defended against objections arguing for competitor naturalistic explanations of our human appreciation of worldly beauty, and even if the argument from beauty can be defended against objections focusing on whether beauty is objective or merely a subjective phenomenon,[16] the argument's defenders will

[9] See Wynn (1999: 21) for the quoted phrase.

[10] See, e.g., the survey of available research in Ulrich (1993), cited and discussed by Wynn (1998: 24ff).

[11] Richard Dawkins addresses (and critiques) the argument from beauty *based on great works of art*. See Dawkins (2008: 110-112). However, Dawkins does not consider either the beauty of the human form or, more importantly, the beauty of non-human nature in his discussion.

[12] See Forrest (1996: 134 n.15, 135).

[13] Tennant (1930: 92-93).

[14] See Wilson (1984); see also Kellert and Wilson (1993).

[15] Wynn (1999: 26-35).

[16] This is a disputed issue among the defenders of the argument. Some, like Tennant, see no significant problem for the argument if beauty turns out to be subjective

still have a problem: Supposing beauty to be a real feature of the world and supposing it to have a divine origin in the beauty of, and in, God's mind, what then explains that *divine beauty*? If beauty truly is such that it rarely emerges in the absence of artistic intent, then must we hypothesize an artistic Super-God to put the beauty into God? And, if so, must we hypothesize a *Super*-Super-God to put the beauty into Super-God, and so on *ad infinitum*? Here we see the worry behind Philo's explanatory regress objection, to which we can now turn our attention.

II. PHILO'S EXPLANATORY REGRESS OBJECTION

Let's start with the Indian philosopher mentioned by Locke in several passages of his *Essay Concerning Human Understanding*.[17] If the world needs to be *supported* by resting on the back of an *elephant*, what supports the elephant? If you say the *elephant* is resting on the back of a *mighty tortoise*, then what supports the tortoise? One makes no real progress in addressing a question ('What supports X?') if the same question can be seen to simply re-emerge at the next level in the proposed explanation. One finds instead that, to avoid an infinite regress, something must be a 'brute' support, not supported by anything else.

Now consider a standard design argument focused on the world's orderliness. That kind of argument holds that since the world is so orderly, its order requires an explanation. If we make that demand into a general principle we get something like this: Things of great intricacy and complexity require an explanation and cannot be accepted as 'brute' inexplicable facts.[18] But then what about the orderly divine mind that brings order to our world? Mustn't that divine mind be *at least as complex* as the world? Indeed, one would think it must be *much more complex*. But then, given our principle, the divine mind itself would require an explanation. If, faced with this worry, the theist proposes to

(1930: 89-90); others, like Swinburne, hold that the argument may need 'an objectivist understanding of the aesthetic value of the universe, in order to have significant strength' (2004: 191). For present purposes, I propose to leave the issue unresolved.

[17] See John Locke, *An Essay Concerning Human Understanding*, II.xiii.19 and also II.xxiii.2. Hume alludes to the same story in *Dialogues* Part IV. See Hume (1998: 31). (N.B.: This edition of Hume's *Dialogues*, edited by Popkin, offers an incorrect reference to Locke's *Essay* II.xiii.2 [see p. 31, note 13], but that reference should read either II.xiii.*19* or II.*xxiii*.2.)

[18] Notice that this principle is actually much weaker (and so more defensible) than a standard version of the principle of sufficient reason.

treat the order of the divine mind as a 'brute' inexplicable fact,[19] why can't the critic simply suggest (with equal justification) that *the world itself* may have that status? The point is that everyone – theists and non-theists alike – must accept some 'brute' inexplicable fact – or else accept an explanatory regress *ad infinitum*. In contrast, the theist had seemed to suggest, in presenting the design argument, that the design argument helps to *remove some mystery* that had puzzled us, but in fact the design argument only pushes the mystery (if there is one) back one step. Moreover, given that everyone must accept some kind of 'brute' inexplicable fact, why not keep one's metaphysics more elegant and just stop at the world itself? Moving one step further and stopping at God flies in the face of Occam's Razor and, worse yet, does so without any corresponding explanatory gains.[20] This is just what Philo says to Cleanthes at the conclusion of Part IV of the *Dialogues*:

> If I am still to remain in utter ignorance of causes and can absolutely give an explication of nothing, I shall never esteem it any advantage to shove off for a moment a difficulty which you acknowledge must immediately, in its full force, recur upon me. Naturalists, indeed, very justly explain particular effects by more general causes, though these general causes themselves should remain in the end totally inexplicable: but they never surely thought it satisfactory to explain a particular effect by a particular cause which was no more to be accounted for than the effect itself. An ideal system, arranged of itself, without a precedent design, is not a whit more explicable than a material one which attains its order in a like manner; nor is there any more difficulty in the latter supposition than in the former.[21]

Now, just as the *order* of the divine mind is claimed to explain the *order* of the world, in a parallel way the *beauty* of, and in, the divine mind is claimed to explain the *beauty* of the natural world. But, as we have seen, this merely raises a further question: viz., what explains the beauty of, and in, the divine mind? Thus it would seem that the argument from beauty can offer us no explanatory gains, since the divine beauty is *at least* as puzzling as worldly beauty is, if we imagine this divine beauty as a brute

[19] Cleanthes: '[Y]ou [viz., Philo] ask me what is the cause of this cause? I know not; I care not; that concerns not me. I have found a Deity; and here I stop my inquiry. Let those go farther who are wiser or more enterprising.' (Hume 1998: 32-33)

[20] Cf. Hume (1998: 36-37).

[21] Hume (1998: 33).

fact that is beyond explanation. Indeed, the situation is arguably *worse* when the 'brute' inexplicable fact is *divine beauty*, since divine beauty would presumably *greatly exceed* worldly beauty, making it all-the-more in need of explanation. So, to summarize, moving (inferentially) beyond worldly beauty to divine beauty flies in the face of Occam's Razor, without corresponding explanatory gains, and may in fact give us an even more puzzling explanandum (viz., the glorious divine beauty itself). Can the defender of the argument from beauty solve this difficulty?

III. WYNN'S REPLY TO PHILO & A PHILONIAN COUNTER

Among the defenders of the argument from beauty, at least one has explicitly noted the apparent problem for that argument posed by Philo's explanatory regress objection.[22] Now, in the previous section I argued that it would seem that the argument from beauty offers us no explanatory gains, since the divine beauty is at least as puzzling as worldly beauty is, *if we imagine this divine beauty as a brute fact that is beyond explanation*. However, this is precisely what Wynn proposes to challenge. Wynn argues that Philo's objection can be met if 'God's beauty is to be explained by reference to God's own activity, so that it is after all explained, *and not merely posited as a "brute fact"*'.[23] So, in this section I want to attempt to lay out Wynn's response to Philo's objection, and I want to try to explain why I think that Wynn's response is inadequate.

Wynn develops his response to the explanatory regress objection in Chapter 6 of his *God and Goodness*.[24] Unfortunately Wynn's response to the objection is not articulated *qua* response to the objection, leaving the reader the task of trying to understand how the material in Chapter 6 responds to the objection. We can start by considering one *unpromising* way of understanding the (purported) divine self-expression found in natural beauty. Suppose that *God's own beauty* is somehow echoed or mirrored in natural beauty. Two problems immediately suggest themselves. First, *how* then does God's own beauty produce natural beauty? The painter of a beautiful painting need not be a beautiful painter: Ugly artists can make strikingly beautiful art. Second, if we imagine

[22] Wynn (1999). See pp. 13 and 22-23 where the explanatory regress is clearly stated.

[23] Wynn (1999: 23, my emphasis).

[24] I have confirmed this through personal (email) communication with Professor Wynn, who has assured me that his reply to the objection is contained in the material found in Chapter 6 of *God and Goodness*.

some form of 'overflowing' of the divine beauty, of which natural beauty is the spillage (as it were), this leaves that same divine beauty as an utterly 'brute' fact of the sort Wynn is concerned to avoid. After all, what would then explain the divine beauty?

Thus, what we are seeking (on Wynn's behalf, with help from Chapter 6) is an understanding of natural beauty that makes it more an *expression* of (rather than an imitative overflowing of) the Designer. Moreover, if we can connect natural beauty to *divine activity*, as Wynn seeks to, then perhaps we can make some progress toward understanding how natural beauty can be explained by something (divine activity) that is not itself in need of further explanation, without being problematically 'brute'.

And so we find Wynn arguing that the *integrated beauty of the world itself* is a product of the divine mind. Thus, worldly beauty reflects and points to divine beauty: '[T]he many diverse forms of existence which we encounter in the cosmos, when taken together, provide our clearest image of God.'[25] For it was the divine mind which designed and brought about the 'radiantly attractive synthesis' of things that is evident in creation.[26] So, again, worldly beauty reflects and points toward divine beauty. But this divine beauty, says Wynn, 'is to be explained by reference to God's own activity', namely God's synthetic or integrative work in producing a 'radiantly attractive' creation.[27]

Focusing the discussion on divine activity, then, seems to be Wynn's approach, and he spends most of Chapter 6 articulating and evaluating several competitor accounts of divine activity.[28] It seems to me, however, that nothing in any of these several accounts – including the account outlined roughly in the previous paragraph – offers us any hope of resolving the explanatory regress objection, so I am prepared to stipulate that Wynn can consider any of those accounts as established (for the sake of argument). Still, I believe the objection remains unanswered. Here's why. If God's *activity* means (among other things) *designing things*, then this reply collapses back into Philo's original objection to the standard design argument: after all, artists are indeed 'designers' in a broad sense. So even if God's beauty isn't just a fact about Him, but rather a fact about

[25] Wynn (1999: 153).

[26] For the quoted phrase, see, e.g., (1999: 155, 156, and 158).

[27] For the quoted phrase, see (1999: 23).

[28] For further details, see Chapter 6 of Wynn (1999), perhaps especially pp. 155-156 (which Wynn specifically emphasized in our correspondence).

His (designing) *activities* – achieving that 'radiantly attractive synthesis' of created things – still we can wonder how such complex abilities came to reside in God. If at this point we are told this is simply 'brute' – it's the nature of God – then Wynn has failed to meet his argumentative burden: On Wynn's account, God's beauty – which is rooted in His extraordinary design skills – is ultimately as 'brute' as the bruteness of those design skills themselves. Order and beauty in the world, we are being told, require some explanation, but order and beauty in the divine mind can be 'brute' facts not admitting of further explanation.[29] Wynn's proposal had been to avoid such bruteness, but once the details of his approach are made clear, it is likewise clear that his proposal leads us right back to Philo's original complaint.

Collecting these points together, it therefore seems that we can either think of natural beauty in relation to *God's own beauty* (of which the former is an imitative overflowing), or else we can think of natural beauty as *the fulfilment of a project of divine artistry*, conceived and executed via various divine activities. But the first interpretation – imitative overflowing – invites the explanatory regress (i.e., so who made *God* beautiful?) or else collapses into an assertion of the bruteness of God's beauty (to which we might reply with an equally justified assertion of the bruteness of natural beauty). And the second interpretation – a project of divine artistry – merely highlights the connections between the argument from beauty and the standard design arguments by treating natural beauty (like natural orderliness) as the expression of the activities of the divine mind. But if so then the second interpretation (which is Wynn's view, as far as I can discern it) actually takes us back to Philo's original worry, to wit: We are trying to explain 'a particular effect by a particular cause which was no more to be accounted for than the effect itself. An ideal system, arranged of itself, without a precedent design, is not a whit more explicable than a material one which attains its order in a like manner; nor is there any more difficulty in the latter supposition than in the former'.[30] Or, as Wynn himself states the objection early in his book, 'the argument lacks any explanatory force because it postulates a further set of facts as much in need of explanation as those which it purports to explain.'[31]

[29] Cf. again the lines from Cleanthes quoted in note 19, above.

[30] Hume (1998: 33).

[31] Wynn (1999: 13).

To avoid a vicious explanatory regress perhaps all disputants must accept some 'brute' facts. Perhaps we must accept certain 'brute' facts about beautiful things as well. But choosing to accept the bruteness of the beauty of, and in, the divine mind is no improvement over accepting the bruteness of natural beauty. Thus, the attempt to argue from natural beauty to the likely existence of a divine Artist fails. *Gloria in excelsis Philo*.[32]

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THE CLIFFORDIAN VIRTUE

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Abstract. There is a case to be made for the contention that it is a virtue to have a disposition to try to conform to W. K. Clifford's ethics of belief. The arguments are not Clifford's own but new deductive ones. There is also a discussion of some recent criticisms of Clifford. They seldom succeed against Clifford's original position and never succeed against the case for the Cliffordian virtue. It is pointed out that there need be no conflict between religion and Cliffordianism. The virtue approach emphasizes the value of striving over the value of success.

W. K. Clifford's ethics of belief is encapsulated in his slogan, 'It is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence'.[1] He has arguments for his position that are often under-estimated. Nevertheless, instead of trying to explain and support Clifford's own arguments, this paper will recast the case for the ethics of belief as a case for the development and maintenance of a virtue. Some philosophers have taken Clifford's views to be deontological,[2] relying on statements like Clifford's declaration that 'when an action is once done, it is right or wrong for ever; no accidental failure of its good or evil fruits can possibly alter that'.[3] But not everything that Clifford says can be described as deontological. Someone who wanted to characterize him as primarily a virtue theorist could point to his declaration that 'we all suffer severely

[1] William Kingdon Clifford, 'The Ethics of Belief', in his *Lectures and Essays*, Vol. 2 (London: MacMillan & Co., 1879), pp. 177-211 (p. 186).

[2] See Jan Vorstenbosch, 'W.K. Clifford's Ethics of Belief Revisited', in Anthoine Meijers, ed., *Belief, Cognition, and the Will* (Tilberg: Tilberg University Press, 1999), pp. 99-111.

[3] Clifford, 'The Ethics of Belief', p. 178.

enough from the maintenance and support of false beliefs and the fatally wrong actions which they lead to, and the evil born when one such belief is entertained is great and wide. But a greater and wider evil arises when the credulous character is maintained and supported ...'[4] But this paper is not an attempt to determine the best interpretation of Clifford.

Whatever the most plausible interpretation of Clifford himself may be, the Cliffordian virtue is, obviously enough, the disposition to do that which minimizes the probability that one will believe without sufficient evidence, or an adequate substitute for sufficient evidence. And this paper is an argument to the effect that we ought to develop and exercise the Cliffordian virtue – it is ethics, not exegesis. Naturally, developing and exercising it does not mean that the doxastically virtuous individual will necessarily achieve the morally optimal state of avoiding all over-belief anymore than being courageous means that the courageous individual will always be victorious. When it comes to virtues like courage and the Cliffordian virtue, what matters in the moral assessment of individuals is their striving and not their successes: if people are blameworthy, it is not because they have failed but because they have not tried. It is worthwhile making a case for the Cliffordian virtue because, despite a century of questionable objections, it is morally important to try to avoid over-believing.

The case for the Cliffordian virtue consists of two sets of sound, deductive arguments, three arguments in each set, which will all be set out in standard form. Presenting the arguments in standard form has the advantage that it will be clear what kind of evidence could potentially count against them. The first argument in the first set will be to the effect that we should try to avoid believing a specified subset of false propositions. The second will conclude that the only way to achieve that goal is to try to avoid over-believing. The third will specify the ways in which we can try to avoid over-believing, blocking the objection that we do not have an obligation to avoid over-believing because we cannot do so. The second set of arguments will show that the fact that we should try to acquire relevant truths also supports the conclusion that we should try to avoid over-believing. After arguing positively for the Cliffordian virtue, there will be an examination of some contemporary anti-Cliffordian arguments. It will be shown that they fail to undermine the case for the Cliffordian virtue.

[4] Clifford, 'The Ethics of Belief', p. 185.

THE CASE FOR THE CLIFFORDIAN VIRTUE

The case for the Cliffordian virtue starts with the observation that there are some *acts* that a person should not perform. Suppose that it is wrong to perform a particular act but that it is permissible to believe anything at all. Suppose also that an agent has a desire to act in a morally acceptable or praiseworthy way. Since the agent's acts are apparently determined by his desires and beliefs – barring inability or intervention – the agent's possessing an appropriate array of false beliefs will result in his performing the wrongful act in some sets of circumstances. To take a fictitious example, it is wrong to restrain someone and deliberately to inflict superficial wounds on him with a knife but if someone *believed* that the person whom he was pricking or slashing was possessed by a demon, that being possessed was an undesirable condition, and that pricking or slashing the possessed was an essential aspect of an exorcism ritual, then he might very well restrain the person and slash him, his abilities and circumstances permitting. If the exorcist's beliefs were true, he would be benefitting the person whom he was cutting. Subjectively he would be doing good, while objectively he would be doing evil.

We use the foregoing kind of explanation for actions all the time. Generalizing, if it is permissible to believe anything at all, then it is permissible to do anything at all. For any act, someone with unobjectionable or even praiseworthy desires, and with the ability and freedom to act, would perform it, provided he had the right constellation of beliefs, that is, the relevant delusions if true beliefs would not serve. If there were no moral restrictions on what he could believe, there would be no moral restrictions on what he could do. Because of the apparent causal relationship between beliefs and acts, it is self-contradictory to declare that some acts are impermissible but to say that no beliefs are. Since beliefs and (good) desires apparently cause actions, the fact that some acts are forbidden entails that some beliefs are forbidden. Of course, it is improbable that a person will actually do absolutely anything at all, because there are prudential reasons for acquiring many true beliefs and for avoiding many false ones, but it would still be morally permissible in principle for him to do anything at all.

It does not follow that all false beliefs will result directly and immediately in the believer performing wrongful acts. Nor does the case for the Cliffordian virtue depend on all false beliefs having that effect, anymore than Clifford's original argument did. Hence, it will be assumed that

the fundamental problem is that *some* false beliefs have the potential to result in the believer performing wrongful acts. It will take an argument to show that the best way to deal with them is by means of forbidding all unwarranted beliefs. The first part of the argument is as follows.

1a) People have moral obligations, which they naturally should fulfil.

1b) Some false beliefs sometimes result in people failing to fulfil their moral obligations.

1c) Therefore, people should try to avoid acquiring false beliefs that would result in their failing to fulfil their moral obligations.

The conclusion follows validly from the premises because, otherwise, it would be permissible for people to be reckless when it comes to fulfilling their moral obligations, which is self-contradictory. Taking it for granted that we have moral obligations, we have an obligation to do something about what we believe, if we are able to. That leaves the second premise.

Examples suffice to demonstrate that the second premise is true, the claim being that false beliefs sometimes have a morally deleterious effect, not that they always do. In 1932, there was a famine in Ukraine and, less severely, in other parts of the Soviet Union. Tens of millions of people were deliberately starved, which makes it the greatest case of mass torture in history, and several million died. But, in the official view, 'people who appeared to be innocent were to be seen as guilty. A peasant slowly dying of hunger was, despite appearances, a saboteur working for the capitalist powers in their campaign to discredit the Soviet Union'.[5] A decade later, Hitler believed that it was a worldwide Jewish conspiracy that had brought the UK, the USA, and the USSR into war with Germany, that 'Jews were the aggressors, Germans the victims', and inferred that, 'if disaster were to be averted, Jews would have to be eliminated'.[6] This madness resulted in the ultimate decision to implement the Holocaust.[7] In both cases, false beliefs facilitated evil acts of great enormity. In both cases, the evils would not have happened but for the beliefs. Many more examples can be adduced, although the evil is not always on the same scale. For instance, there are people in Uganda who apparently believe

[5] Timothy Snyder, *Bloodlands: Europe between Hitler and Stalin* (New York: Basic Books, 2010), p. 41.

[6] Snyder, *Bloodlands*, p. 214.

[7] Gord McFee, 'When Did Hitler Decide on the Final Solution', in *The Holocaust History Project*, 1999, available at: <http://www.holocaust-history.org/hitler-final-solution/> [accessed 18/12/2011].

that child sacrifice can enable the 'beneficiary' of the sacrifice to achieve his goals.[8] People strive for success everywhere but sacrifice children in its pursuit only where the relevant beliefs exist. In view of the foregoing examples, the second premise of the first argument is clearly true and, given that we are taking for granted that we have moral obligations, we can accept the conclusion as true and use it as a premise in a second deductive argument.

2a) People should try to avoid acquiring false beliefs that would result in their failing to fulfil their moral obligations.

2b) The only way for people to try to avoid acquiring such false beliefs is to try to avoid believing any propositions without sufficient evidence, or an adequate substitute for sufficient evidence.

2c) Therefore, people should try to avoid over-believing entirely.

The conclusion follows because, otherwise, it would at least sometimes be permissible for people not to fulfil their moral obligations, which is self-contradictory. Since the first premise is the conclusion of the preceding argument, what we need to do is to demonstrate that the second premise is true. As for that premise, any alternative to avoiding over-believing entirely would be a three-step process that involved a person first noting that a proposition is not supported by sufficient evidence or an adequate substitute, then determining that over-believing the proposition would not result in his failing to fulfil his moral obligations, and finally proceeding deliberately to over-believe it. But we cannot levitate or walk through walls, and no more can we deliberately bring ourselves to over-believe propositions when we have ourselves established that they are not supported by sufficient evidence or an adequate substitute and that believing them will have no morally untoward effects. It follows that if there are any moral restrictions on what people are permitted to believe, then it must be the case that they have to try to avoid over-believing entirely. There are moral restrictions on what people may believe, as the first argument showed. Therefore, people have to avoid over-believing entirely.

A potential objection at this point is that there is insufficient evidence for the contention that we lack the ability deliberately to over-believe when the specified conditions obtain. Proponents of a purported 'right

[8] 'Where Child Sacrifice Is a Business', *BBC News*, 11 October 2011, available at: <http://www.bbc.co.uk/news/world-africa-15255357> [accessed 18/12/2011].

to believe' might proclaim that it follows that we do not have sufficient evidence to justify believing that the Cliffordian position is true and, therefore, that the Cliffordian position is circular. There are two responses. The first is that there is as much evidence that we cannot deliberately over-believe as there is evidence that we cannot levitate and that the amount of evidence therefore is sufficient. The second is that, as Clifford says, 'there are many cases in which it is our duty to act upon probabilities, although the evidence is not such as to justify present belief ...',[9] and that the overwhelming probability is that we cannot deliberately bring ourselves to over-believe something when we know that we lack sufficient evidence for it. Given the probabilities, even if we lack sufficient evidence to justify believing it, we should assume that we lack the ability to over-believe deliberately and adopt the moral policy that is appropriate in view of the assumption. Naturally, we should be willing to revisit the policy if it were ever demonstrated that we have, or can develop, a reliable ability to over-believe propositions for which we know we lack sufficient evidence. Until that time, however, the reasonable and responsible moral policy is to assume that we cannot and to infer that we ought to avoid over-believing entirely. In other words, we can treat the case for the Cliffordian virtue as a matter of practical, not theoretical, reasoning.

It is sometimes claimed that Clifford's ethics of belief presupposes that we can believe voluntarily. Even some Cliffordians accept the claim.[10] Taken literally, however, the claim is bizarre. To avoid over-believing, it is not necessary to believe but to refrain from believing. The ability we need to adhere to the ethics of belief is not the ability to believe at will but the ability to refrain from believing under the specified conditions. However, to be charitable, the contention may be an awkward way of making the claim that we generally acquire beliefs automatically and cannot prevent ourselves from doing so. None of us can prevent ourselves from acquiring beliefs when we encounter what counts as sufficient evidence, or an adequate substitute for sufficient evidence, in light of our individual standards of evidence. The pertinent question then becomes whether we can exercise any control over our standards of evidence. If we cannot do so, then we cannot do anything that would count as trying

[9] Clifford, 'The Ethics of Belief', p. 189.

[10] Allen Wood, 'The Duty to Believe According to the Evidence', *International Journal for the Philosophy of Religion*, 63 (2008), 7-24.

to adhere to the ethics of belief. Since 'ought' implies 'can', it would follow that we have no obligation to avoid over-believing.

Fortunately for the Cliffordian but unfortunately for his opponent, we can intentionally take steps to improve our standards of evidence. In fact, we commonly do so. It is one of the purposes of acquiring an education. And we can intentionally take steps to acquire an education. Educators train nurses, lawyers, physicians, engineers, philosophers and mechanics to make them better at their jobs. As a general rule, the more training and experience someone has, the better are their standards of evidence with respect to a particular field of knowledge. Physicians who specialize are more highly trained than general practitioners and, as a result of the training, better diagnosticians with respect to a specific range of cases. Professional philosophers are better able to judge the validity of arguments than first year students, and the latter become better than people who have never studied philosophy at all. An educated and experienced mechanic is more likely to discover the problem with a vehicle than a newly trained mechanic, and a newly trained mechanic will be better than someone who is untrained. In all such cases, the process of education is intended to result in improved standards of evidence and, in most cases, the process achieves its aim. Moreover, some subjects such as logic and statistics are specifically designed to help us improve our standards of evidence. Our having the capacity to improve our standards of evidence is enough to make us morally responsible for what we believe.

It may appear to some that the argument significantly modifies Clifford's views by adding the phrase 'or an adequate substitute for sufficient evidence'. Clifford's own conclusion does not include such a clause. However, Clifford argues, in the same essay, that it is permissible to accept some propositions on the basis of testimony. If testimony did not count as sufficient evidence, then we would have to infer that Clifford contradicts himself, which would be uncharitable. Of course, it could be argued that testimony is a form of evidence. However, I do not want to enter into disputes as to what constitutes evidence and what does not. Hence, I have added the phrase, 'or an adequate substitute for sufficient evidence'. Reliable testimony counts either as evidence or an acceptable substitute for evidence. The same goes for anything else that gives us adequate reason to believe that a proposition is true. Naturally, to determine whether someone has done what he ought to do in a particular instance will require us to determine whether the grounds for his belief

constitute either sufficient evidence or an acceptable substitute for sufficient evidence. But we do not need to do that in order to establish – at the more abstract and general level on which we are operating now – that we ought to develop and exercise the Cliffordian virtue.

Contrary to the view expressed in the foregoing paragraph, critics of Clifford sometimes contend that the Cliffordian needs to explain the nature of sufficient evidence (and adequate substitutes for it). This is like asserting that someone who argues that we should try to prevent epidemics has failed to make his case unless he gives a detailed account of the appropriate public health measures. In fact, establishing that we ought to try to prevent epidemics is one thing while designing and developing public health measures is another. Establishing the former contention gives us reason to design and develop the latter. Likewise, establishing the Cliffordian conclusion gives us reason to be concerned about, and to investigate, what constitutes adequate reason to believe. Once the Cliffordian has demonstrated that we have reason to investigate what constitutes adequate reason to believe, however, his job is done. That said, we can now turn to the third argument.

3a) People can improve their standards of evidence generally by studying subjects like logic and statistics, they can gain at least one adequate substitute (on one interpretation of the concept to evidence) by learning to identify real experts whose judgment they can trust, and they can become qualified to judge claims in particular fields through study, investigation, and experience.

3b) People can thereby reduce the probability of their over-believing.

3c) Therefore, people should try to acquire good standards of evidence, to learn how to identify real experts whose judgments they can trust, and to avoid reaching conclusions about subjects they are unqualified to judge.

In short, the Cliffordian does not demand the impossible. On the contrary, his position is common sense. He demands that everyone do what professionals are routinely required to do in order to become, and remain, responsible professionals. Moreover, since the ethics of belief is a matter of avoiding over-belief, adhering to it is easy if one is aware of the kinds of issues that one is not qualified to judge – as professionals are aware of their limitations. As Clifford points out, if someone is too busy to investigate, he is too busy to believe.

William James correctly affirmed that we need to gain truth as much as to avoid error. However, the existence of this need and the fact that we sometimes over-believe beneficial truths do not entail that over-believing is permissible. Thinking that it does is like trying to justify gambling by pointing out only the wins and ignoring the losses. In actuality, if we license over-belief, we not only license lucky guesses but also denial and delusion, and denial and delusion are not always benign. Given that climate change is going to have seriously deleterious effects on human life on earth, we would indeed take action if we all believed that it would. If over-believing were permissible, however, we would also be morally free to deny it and morally free to believe that we should prepare instead for a Martian invasion. Furthermore, we do not always need specific truths to do what ought to be done – others can substitute for them. We would also take action if we believed that climate change was a serious danger and that it would be too late to prevent the deleterious effects if we waited until we were absolutely certain that they would occur, which would be when they had already occurred. At any rate, the need to gain relevant truths gives us yet another reason to reject over-believing, even when a range of alternative truths will serve equally well when it comes to enabling us to do what we ought to do. In view of the foregoing, the following deductive arguments can be presented without additional explanatory comment.

4a) People have moral obligations.

4b) People's lacking relevant true beliefs sometimes results in their failing to fulfil their moral obligations.

4c) Therefore, people should try to acquire any relevant true beliefs that are necessary for them to fulfil their moral obligations.

5a) People should try to acquire any relevant true beliefs that are necessary for them to fulfil their moral obligations.

5b) The ways in which to reliably acquire relevant true beliefs include investigation and the seeking out of real experts whose judgment can be trusted.

5b) Therefore, people have an obligation to investigate or to seek out real experts whose judgments they can trust.

6a) Possessing relevant false beliefs will result in the possessor thinking that there is no need to investigate or to seek out a real

expert, and, hence, in his probably failing to fulfil his obligation to investigate or seek out a real expert.

6b) Over-believing will sometimes result in the possession of relevant false beliefs.

6c) Therefore, in order to keep the way open for the acquisition of relevant true beliefs, people should try to avoid over-believing entirely.

In view of the foregoing arguments, the way in which to show that we have no obligation to develop the Cliffordian virtue is to argue either that it is possible to keep specific beliefs from influencing actions, or that false beliefs never cause us to act immorally, or that we have the ability to induce ourselves to believe propositions when (and even though) we know that we lack sufficient evidence for them, or that we are not capable of improving our standards of evidence, or that one of the first three arguments is invalid. Challenging the second set of arguments would leave in place a conclusive case for the Cliffordian virtue, so we need not particularly concern ourselves with them, but it is doubtful that the critic could show that we never need relevant true beliefs, that false beliefs never prevent the acquisition of relevant truths, or that one or another of the arguments is invalid.

No critic of Cliffordianism has yet challenged the foregoing contentions, of course. Moreover, the extant criticisms of Clifford himself are questionable. It is worthwhile demonstrating that they are dubious, because that will show that common objections to Clifford cannot be adapted for use against the Cliffordian virtue. I take up the task in the following sections, concentrating on recent objections to Cliffordianism.

THE CLIFFORDIAN VIRTUE AND 'EPISTEMIC NORMS'

Some philosophers contend that the ethics of belief can involve moral, epistemic, or pragmatic norms, maintain that it is important to distinguish the types of norms, and effectively suggest that Clifford's arguments are deficient because he does not explicitly identify and distinguish the norms to which he appeals. In fact, the objection involves gratuitously adding complexity and then complaining that it has not been adequately disentangled. To be specific with these allegations, Andrew Dole and Andrew Chignell write that 'there are ... different *kinds* of obligation that govern our practices of belief-formation ... The ethicist of belief will

typically try to specify which kinds, if any, he or she means to ascribe to us'.[11] They contend that 'Clifford and Locke claim that the question of whether one has done one's doxastic best is not only an epistemic but also a moral question. In other words, they think that to violate an epistemic norm is, by implication, to violate a moral norm'.[12] Later on the same page, they write: 'And, as we saw with Locke and Clifford, that there is such an epistemic norm may be the basis for an argument that there is an analogous *moral* norm.'[13] In an endnote, they suggest

> The latter sort of argument would presumably go like this:
>
> (P1) We have an epistemic obligation not to believe on insufficient evidence;
>
> (P2) We have a moral obligation to uphold our epistemic obligations;
>
> (C) Thus, we have a moral obligation not to believe on insufficient evidence.[14]

This is a mischaracterization of Clifford's original argument in that Clifford does not explicitly or implicitly appeal to the specified premises. Moreover, it is obvious that neither premise plays a role in the arguments for the Cliffordian virtue that have been set out in this paper. In both cases, the inference goes from the idea that there are moral restrictions on acts to the notion that there are derivative moral restrictions on beliefs (because of the relationship between beliefs and acts). In both cases, a detour *via* purely epistemic norms is unnecessary and unhelpful. Certainly, the arguments for the Cliffordian virtue do not need to be supplemented with the suggested premises. And, as for Clifford's original arguments, Dole and Chignell do not even make an attempt to justify their claim that the presumed reliance exists.

In a different but overlapping piece, Chignell writes that 'in some places, Clifford seems simply to presume that epistemic duty is a species of ethical duty' and 'elsewhere still Clifford seems not to recognize a distinction between epistemic and moral obligations at all'.[15] It appears that Chignell is so convinced that Clifford must appeal to 'epistemic

[11] Andrew Chignell and Andrew Dole, 'The Ethics of Religious Belief: A Recent History', in Andrew Dole and Andrew Chignell, eds, *God and the Ethics of Belief* (Cambridge: Cambridge University Press, 2005), pp. 1-27 (p. 4). The quotations come from Chignell's part of the essay – see note 15.

[12] Chignell and Dole, p. 4.

[13] Chignell and Dole, p. 4.

[14] Chignell and Dole, p. 22, n. 14.

norms' in order to get to moral norms that he thinks that Clifford must use them despite the evidence that he does not use them, or need to use them. Obviously, having asserted that a good philosopher will keep the types of norms distinct, Chignell does effectively suggest that Clifford is confused and that his work is philosophically substandard.

There is, however, one good reason to distinguish moral and epistemic norms. If one assumes that Clifford is trying to establish an epistemic norm or that he must do so to get anywhere with his moral argument against over-believing, then the case for the ethics of belief may appear weaker than it actually is. Consequently, it is worthwhile distinguishing the two to keep Clifford's critics from replacing his actual argument, or the argument for the Cliffordian virtue, with a superficially plausible straw man. Epistemic norms are justified by appeals to the intrinsic value of gaining truth or the value of avoiding falsehood. As William James put it, '*We must know the truth*; and *we must avoid error* – these are our first and great commandments as would-be knowers ...'[16] If Clifford's dictum were just an epistemic norm, it would be justified solely on the basis that it enables us to avoid acquiring false beliefs. The obvious question then would be 'Why is avoiding false beliefs so important?' Critics like James could point out – and do in fact point out – that there are other important goals and complain that avoiding error is not always the most important thing in life. Thereby, Cliffordianism would be made to appear dogmatic, unreasonable, and timorous. Alternatives, in contrast, would be made to seem more plausible. But we have seen that the need for relevant truths provides a reason to develop the Cliffordian virtue. More broadly, the point of the ethics of belief and the Cliffordian virtue is not to exalt one value above a number of competing and equally important values but to promote the moral life itself – not just an aspect of it but the whole of it. It will be recalled that the case for the Cliffordian virtue starts from the general and abstract premise that we have moral obligations.

It is noteworthy that, also in his later piece, Chignell criticizes Clifford but makes no adverse comments on James's arguments, leaving

[15] Andrew Chignell, 'The Ethics of Belief', in *The Stanford Encyclopedia of Philosophy*, 2010, available at: <http://plato.stanford.edu/entries/ethics-belief/> [accessed 19/11/2011]. This article overlaps with the Chignell and Dole essay in that Chignell, with permission, 're-use[s] a few paragraphs from his portion of the essay ...'

[16] William James, 'The Will to Believe', in his *The Will to Believe and Other Essays in Popular Philosophy* (Cambridge, MA and London, England: Harvard University Press, 1979), pp. 13-33 (p. 24).

the impression that James's views are more reasonable than Clifford's, presumably because of his supposed 'moderation'. In fact, James's views are without merit. In his attack on Clifford in 'The Will to Believe', James suggests that his audience will agree that '.. we have the right to believe at our own risk any hypothesis that is live enough to tempt our will'.[17] This appears to be in direct contradiction to Clifford, who argued that we never believe only at our own risk, but James never discusses the risks or suggests ways in which to reduce or eliminate them. What James argues instead is that it is permissible to believe in the case of genuine options, where a genuine option is one that is live, forced, and momentous. An option is live if it appeals to us, it is forced if we must either believe or disbelieve, and it is momentous if it is important enough. In essence, James's view is not that we may believe at our own risk but that we may believe even though we put others at risk, when our own goals are important enough for us. He denies the ethics of belief but ignores the case that Clifford made for it. James is presented as an alternative to Clifford but, although James purports to criticize Clifford, he actually fails to come to grips with Clifford's position.

Not only does James attack a straw man but his positive argument for his own position is questionable. There are no forced options when it comes to believing; hence, there are no genuine options either; and, therefore, the conditions under which he holds it permissible to over-believe never obtain. A forced option between beliefs is a situation in which one must either believe a proposition or its negation and cannot suspend belief, despite an absence of evidence either way. The obvious problem is that people can always suspend belief when there is no evidence. There are no circumstances in which we entertain a proposition and its negation and in which we cannot say 'I just don't know'.

It is not possible to save James by substituting pragmatic necessity for logical necessity. There are certainly forced options between courses of action. For example, waiting for more information as to whether immediate emergency procedures are necessary is effectively the same as acting as though they are not. Furthermore, it is true that James thinks that believing a proposition is a necessary condition for acting on the assumption that it is true, and it is true that there would be pragmatically forced options between beliefs if he were correct. The problem is that, contrary to James, we never have to believe *p* in order to act on the

[17] James, p. 32; italics in original.

assumption that *p*. Instead of having to work ourselves up into a state of belief, we can simply make assumptions, assumptions that we can then act on without bringing ourselves to believe them. James' view that belief is a prerequisite for action is shown to be false every time a diagnostician knows that a set of symptoms could be explained by a variety of conditions; knows that if a certain condition is the explanation for the symptoms, then a certain treatment will work; applies the treatment; observes the outcome; and thereupon acquires the belief that the suspected condition caused the symptoms or the belief that it did not. The same example confirms the view that we can act on assumptions without believing them. Not even James's famous example of the crevasse-jumper is persuasive.[18] Someone who knows that he must exert every muscle and sinew to make a leap because the outcome is uncertain will be more highly motivated and hence more likely to succeed than someone who believes that he can make the jump. Finally, even if James were right about the pragmatic need to believe and the desirability of the consequences in some cases, it still would be possible to argue that we should develop the Cliffordian virtue, because the prospective gains from over-believing might well be outweighed by the losses. As we will see in the next section, the supposed gains from over-believing are paltry and speculative.

THE CLIFFORDIAN VIRTUE AND 'PRAGMATIC NORMS'

There are two types of purported counter-examples that have become standard in the literature that is critical of Clifford. Chignell appeals to them. They purportedly show that 'pragmatic norms' are sometimes more important than moral norms. They are cases in which over-belief is supposedly beneficial.

The first kind of example first appeared in print some thirty years ago.[19] An example of this kind is provided by the case in which a parent notices an odd smell from an offspring's bedroom. The parent believes that there are at least two possible explanations. One is that the offspring is smoking marijuana. The other is that he or she is burning incense. The parent

[18] William James, 'The Sentiment of Rationality', in his *The Will to Believe and Other Essays in Popular Philosophy*, pp. 57-89.

[19] Jack W. Meiland, 'What Ought We to Believe?: Or The Ethics of Belief Revisited', *American Philosophical Quarterly*, 17 (1980), 15-24. It is described as 'the standard example' by Veli Mitova, 'Why W. K. Clifford was a Closet Pragmatist', *Philosophical Papers*, 37 (2008), 471-489 (p. 473).

believes that if he or she believes that it is drugs, their relationship with their offspring will be damaged. The parent believes that agnosticism is impossible. The parent wishes to preserve the relationship. Consequently, the parent infers that the offspring is burning incense.

There are a number of problems with this kind of example. First, this is actually an example of taking into account a lucky guess and ignoring denial and delusion. The example does not show that there are never any harmful false beliefs, or that it is possible to avoid the harmful false beliefs other than by avoiding over-belief entirely. It does not even show that the good generally outweighs the bad when it comes to over-believing. Second, the example begs the question in that the good consequences are arbitrarily stipulated rather than flowing naturally from the example. It is also possible that the offspring is smoking marijuana in order to provoke a reaction from the parent, that the offspring wants to provoke a reaction because he or she believes that the parent does not care, and that the offspring wants the parent to care. In that case, the parent's inferring that the offspring is burning incense will damage the relationship further. This underscores the fact that the critic is relying on a lucky guess. Third, the background belief that the parent's relationship with the offspring will be damaged is liable itself to be an over-belief, which means that the example begs the question in yet another way. Fourth, it presupposes that we can believe directly or indirectly at will. Obviously, one can conceive of people inferring that the best explanation for the smell is incense. What one has to imagine is people inferring that it is the best explanation when they also consciously believe that there are at least two equally good explanations, and doing so deliberately. Fifth, it begs the question in that it assumes that the only consequences are the immediate and direct ones. It ignores the fact that Clifford does not hold that all over-beliefs are harmful in themselves. Clifford's objection is that in such cases over-believing still makes us credulous, which puts us at risk of acquiring dangerous beliefs in the future even if the present over-beliefs have no bad consequences. The critic is apparently unaware that someone who makes an inference to the best explanation out of perceived self-interest in one case is liable to make the same kind of inference for the same kind of reason in other cases as well, and that the bad consequences in those cases can outweigh the good consequences in the particular case being considered.

The second kind of 'example' that is taken to support 'pragmatic norms' over moral norms concerns people like the cancer patient who

supposedly recovers because he believes he will recover. Although it is widely thought that a 'positive attitude' helps, no studies have demonstrated that it causes an improved outcome. If there is a positive correlation between them, it may be that the positive attitude and the improved outcome have a common cause, namely, factors that result in a better chance of recovery. But it is not even clear that there is a positive correlation. There are studies in which a positive attitude is correlated with a worse outcome.[20] Not only does the positive attitude potentially have a negative effect on the outcome, but also it can have an obviously negative effect on the mental state of the person with cancer (or other condition) by making him feel guilty for not getting well. There is nothing good about making someone feel guilty for not being able to change something that they cannot change.

Earlier in this paper, I presented several examples that showed that over-believing can cause people to violate their moral obligations. The examples are from history and from the contemporary human situation. In contrast, critics of Cliffordianism rely on fictional instances of phenomena that have not yet been shown to occur in the actual world. That is no way to do moral philosophy. Consequentialists could not show that a course of action was the best one by appealing to a mix of real and imaginary consequences and giving the latter the same weight as the former. They should not do so either. The same goes for critics of Cliffordianism.

PETER VAN INWAGEN'S NEW ATTACK

Peter van Inwagen has produced a new paper attacking Cliffordianism, his argument being based on the existence of philosophical disagreement between equally able and eminent philosophers.[21] It is similar to the argument he made in a paper published in 1996, in which he argued that Cliffordians unfairly single out the religious for criticism while ignoring people who disagree about political or philosophical issues.[22]

[20] See Barbara Ehrenreich, *Smile Or Die: How Positive Thinking Fooled America And The World* (London: Granta, 2010).

[21] Peter van Inwagen, 'Listening to Clifford's Ghost', *Royal Institute of Philosophy Supplement*, 65 (2009), 15-35.

[22] Peter van Inwagen, 'Is It Wrong, Everywhere, Always, and for Anyone, to Believe Anything upon Insufficient Evidence?', in Jeff Jordan, ed., *Faith, Freedom, and Rationality: Philosophy of Religion Today* (Lanham, Md.: Rowman and Littlefield, 1996), pp. 137-153.

The unfairness objection is readily refuted.[23] There is no double standard because many religious over-believers explicitly commend and promote over-belief while the other groups typically neither question nor criticize the desirability of having sufficient evidence for their positions. The Cliffordian is concerned that people accept the ethics of belief. The Cliffordian leaves it up to the participants in the various debates to determine which positions are best supported by the evidence, and that is as it should be. It is therefore natural and understandable that Cliffordians object more strenuously to over-believing religion that commends over-belief than to politics or philosophy.

Furthermore, when Cliffordians object to over-believing religion, they are objecting to the over-believing and not necessarily objecting to the religion. Cliffordianism is not necessarily anti-religious unless religion essentially involves over-belief. It can be added that if God commands us to do good and if over-believing can result in our doing evil despite our good intentions, then God implicitly commands us to avoid over-believing. It is hardly anti-religious to promote conformity with God's commands. Finally, since the case for it starts with the idea that we have moral obligations to act or to refrain from acting, the Cliffordian virtue can and should function as an auxiliary to any normative moral theory, from which it follows that it can and should function as an auxiliary even to the divine command theory.

At any rate, the conclusion to van Inwagen's new (or renewed) attack is that, in view of the fact that philosophical claims are contested claims, philosophers who do not want to be immoral (because they believe propositions without sufficient evidence) must either believe no philosophical claims at all, or be so arrogant as to think that they are right about every position that they hold. Van Inwagen appears to interpret Cliffordianism as a deontological position and I am willing to concede that van Inwagen succeeds against the deontological Clifford. However, success against deontology does not guarantee success against virtue theory. In light of the ethics of belief *qua* the need for us all to develop the Cliffordian virtue, no part of van Inwagen's contention holds up. Although the morally optimal state is the one in which a person has no over-beliefs, human beings are limited in their abilities and seldom if ever achieve it. Hence, a person can fail to achieve the morally optimal

[23] See Brian Zamulinski, 'A Re-Evaluation of Clifford and His Critics', *Southern Journal of Philosophy*, 60 (2002), 437-457.

state but still be morally blameless – provided he strives to achieve it. Since many philosophers do strive to ensure that their beliefs are adequately supported, they are not all morally blameworthy. Indeed, some may well be exceptionally praiseworthy from a Cliffordian perspective. Moreover, most philosophers surely recognize that human beings (including themselves) have limitations that make it extremely improbable for them to believe that they are always right and that those who disagree with them are always wrong. Any philosopher who displayed the Cliffordian virtue would not maintain such ego-centric views as well. Finally, given that philosophers do strive to provide sufficient evidence (or an adequate substitute) for their claims, it is reasonable to think that some philosophical claims are adequately supported. Since each of van Inwagen's disjuncts is false with respect to the Cliffordian virtue, his disjunction is false as well.

CONCLUSION

There is a philosophical tradition that tends to portray Clifford as an inconsistent partisan of an epistemically normative doctrine that is so demanding that only ivory-tower intellectuals could find it plausible. We have seen instead that developing the Cliffordian virtue is a necessary condition for living the moral life, whatever it may require of us, and that, far from being excessively demanding, the standards it requires are the same standards commonly required and expected of professionals. We have also seen that a number of objections to it miss the mark and that its incompatibility with religion has been exaggerated. Of course, in all probability, no human being will ever achieve the ideal Cliffordian condition. But ideals are not without value because they are unattainable. On the contrary, they can still function both as guides and as standards for human action. In view of the economic and environmental challenges that humanity now faces, the recognition of the Cliffordian ideal and the development of the Cliffordian virtue seem all the more urgent. Truth always matters and only Cliffordianism gives it its due.

BOOK REVIEWS AND NOTICES

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Kelly James Clark and Raymond VanArragon (eds.), *Evidence and Religious Belief,* Oxford University Press, 2011.

Evidence and Religious Belief is a collection of essays organized around epistemological topics within the philosophy of religion. The volume takes up three central questions concerning evidence and religious belief: first, whether religious belief requires evidence to be rational; second, the role desires and attitudes play in affecting what evidence we have or by influencing our assessment of the evidence; and, third, what evidence there is for and against particular religious beliefs. The volume is loosely focused on the work of George Mavrodes. The editors dedicate this volume to Mavrodes and five of the eleven essays discuss aspects of Mavrodes's philosophy, with Mavrodes's book *Belief in God: A Study in the Epistemology of Religion* (1970) getting special attention.

This volume has much to offer for those interested in the philosophy of religion. All of the essays succeed in advancing the discussion on their specific issue. For example, Chris Tucker's essay is a solid treatment of how a phenomenal conservative should understand the demand for evidentially based beliefs within the philosophy of religion. E.J. Coffman and Jeff Cervantez's contribution is a careful assessment of Paul Moser's recent reply to the hiddenness argument. William Hasker's essay, accompanied by a short response by John Hick, is a valuable addition to the literature on Hick's pluralistic hypothesis. Thomas Crisp's essay attempts to undermine a central claim in the atheistic argument from evil by means of a novel application of Alvin Plantinga's evolutionary argument against naturalism. The reader of this volume will come away with a better understanding of current issues in the philosophy of religion.

Instead of the reviewer's customary practice of summarizing and briefly commenting on each essay, I want to highlight two important

contributions both of which, in their own ways, aim to undermine the enlightenment ideal of reason that each individual person is a pure and autonomous epistemic agent. A pure epistemic agent is one whose doxastic states are not influenced by affective states. This is the subject of Wainwright's excellent contribution. An autonomous epistemic agent is one whose doxastic states are properly governed only by one's own evaluation of the evidence. This is the issue in the background of both Zagzebski's and Kelly's articles on the argument from common consent, also known as the *consensus gentium*.

I begin with Zagzebski's and Kelly's superb articles on the argument from common consent. Even though this argument has a venerable history, having been defended by Plato, Cicero, Seneca, Calvin, and others (see Kelly, p. 136 for a brief list of defenders), it has fallen out of favour. It's remarkable, therefore, that two of the essays in this volume, independently, argue that the *consensus gentium* has more merits than its recent fall from grace suggests.

Linda Zagzebski's article 'Epistemic Self-Trust and the *Consensus Gentium* Argument', explores the reasonableness of religious belief as a consequence of the reasonableness of self-trust. She argues that our natural desire for truth makes it reasonable to trust ourselves and that this trust must be extended to other people as well. Unless we have specific reasons to find people unworthy of trust, self-trust requires us to regard their beliefs favourably. This opens the door for a common consent argument. If a vast majority of people each independently believes that there is a divine being, then self-trust commits us to regarding this belief as having a presumption of truth.

Zagzebski explicitly distinguishes her 'self-trust' version of the common consent argument from the ordinary presentation of the argument as an inference to the best explanation (see p. 34). Zagzebski's argument 'links trust in the beliefs of others with self-trust' (p. 34). As she underscores, our self-trust commits 'granting *prima facie* credibility to the belief of another' (p. 34). As we'll see in a moment with Kelly's argument, on Zagzebski's interpretation of the argument *convergence* isn't so much a datum to be explained; rather the idea is that the fact that many people converge in opinion increases the plausibility of the claim because self-trust commits you to regarding the opinions of others favourably. As convergence increases, the demands arising from self-trust require that the claim's plausibility increase, assuming the absence of defeaters.

In '*Consensus Gentium*: Reflections on the "common consent" argument for the existence of God', Kelly argues that, in general, the fact that a majority of people each independently believes a claim gives the claim a presumption of truth. Kelly contends that if a large number of people performing some non-trivial mathematical calculation each converge on an answer, then the fact that they converge makes it plausible that the convergence answer is the correct answer. Similarly, if a large group of people each independently attests that a large crocodile was in Times Square, then the best explanation of this remarkable convergence is that there really was a crocodile in New York City.

An interesting twist in Kelly's presentation is to consider the evidential value of common consent arguments in cases in which the truth of the matter cannot be discerned directly, but individuals must rely on evidence to form their opinion (see pp. 139-143). What is the evidential value of convergence in a case like this? What is the evidential value of convergence in a case like this *when one has access to the original evidence itself*? Kelly quotes John Stuart Mill as being of the opinion that when one has the first-hand evidence, the fact of convergence is of little value. If Mill is right then one should give little weight to how other people have responded to the evidence. What is crucial, in Mill's view, is how *you* respond to the first-hand evidence. But Kelly argues that other people's reactions to the evidence 'bears on the accuracy of one's own assessment of the (original, first hand) evidence' (p. 140). Consequently, even in cases in which one knows the evidence that a person has for their view, their treatment of that evidence is itself evidentially significant to your own evaluation.

The two most powerful objections to the *consensus gentium* are, first, that the convergence on theistic opinion is not independent and, second, that there is ubiquitous disagreement in theological opinion so that there's very little sense to be made of convergence. Neither Zagzebski nor Kelly engage in sustained polemics against these objections. Rather, both focus on more general epistemological issues surrounding the objections. For instance, both Kelly and Zagzebski argue that while the failure of independence can constitute an objection to the argument, the widespread *persistence* of theistic belief requires explanation. Even if theistic belief were passed along generationally, it is still remarkable that it persists. Zagzebski's construal of the persistence of belief is subtly different from Kelly's discussion. For Kelly, persistence is a datum to be explained. For Zagzebksi, persistence may be a reliable sign of

conscientiousness. Ultimately, from Zagzebski's self-trust perspective, the independence of convergence is not so important as is the underlying assiduousness of the individual's intellectual life.

On the subject of disagreement, Zagzebski is the most upfront about her response. She claims that 'the idea of God common among all peoples is exceedingly vague' (p. 35), but that it amounts to a 'half-glimpse'. According to Zagzebski, this glimmer may still be evidentially significant, especially as providing evidence against naturalism. Kelly's response to this objection goes through the issue of how the word 'God' functions. If it functions as a proper name, then it's possible that many people manage to refer to a divine being even in the face of significant theological controversy. If, however, it functions as a description, then widespread theological disagreement may undermine significant agreement on whether or not there is a God.

An interesting and common theme in both Zagzebski's and Kelly's essays is the evidential value of other people's opinion when it conflicts with your opinion. In recent years, the epistemology literature has focused on the evidential significance of peer disagreement. When you discover that an equally competent, conscientious, and informed friend disagrees with you about a particular matter, how should your present opinion change? The issue in the common consent argument is slightly different: when you discover that a majority of apparently assiduous people in a variety of different circumstances independently converges on an opinion, how does that affect the evidence for the claim that is converged upon? Both Zagzebski and Kelly put on the table engaging proposals about how to take into account majority opinion.

I turn now to William Wainwright's rich essay, 'Theistic Proofs, Person Relativity, and the Rationality of Religious Belief'. Wainwright focuses his attention on the agnostic objection to religious belief that 'agnosticism is more admirable than the faith of a Christian whose strength of conviction exceeds what the evidence warrants' (p. 77). His ultimate goal in this essay is to explore the conception of reason that undergirds this objection and to destabilize the strength of that conception of reason.

Wainwright begins his essay with a discussion of the various purposes of theistic proofs and a general discussion of what constitutes a good argument. After pointing out that theistic arguments have been used for a number of different aims (strengthening believers, engaging the unconvinced, an offering to God, etc.), Wainwright turns his attention to what, in general, makes for a good argument. He observes that

both Plantinga and Swinburne operate with a conception of argument according to which a good argument is one that is valid and proceeds from premises 'nearly every sane man' accepts. Plantinga and Swinburne's conception of a good argument requires that a good argument is formally valid and proceeds from some stock of universally known claims. The difficulty with this conception of a good argument is that it doesn't account for the *strength* of an argument when only a limited number of people know the premises of the argument. Gödel's incompleteness proof is a perfectly good argument, even though very few people actually understand it. While universality is a desideratum of a good argument, the most significant feature of a good argument is its strength. Good or compelling arguments extend knowledge when the premises are themselves known. Wainwright suggests, therefore, that some arguments may be strong or compelling even though not everyone who understands the premises of the argument will accept the conclusion. This may arise when a person who understands the claims in the argument does not know them to be true. In this connection, Wainwright says that a good argument can be person-relative.

In the next section, Wainwright extends the person-relativity of proofs in new, intriguing directions. He attempts to account for some of the finer aspects of the person-relativity of proofs. Some unsurprising aspects of person-relativity arise because of individual differences in education, intelligence, or, broadly, location. One individual finds a proof compelling while another does not because the first has the requisite intellectual skill to appreciate the force of the reasoning.

Other kinds of person-relativity, though, are more delicate. Wainwright argued in the first section that a good argument is valid, non-circular and succeeds in the purpose for which it was offered. Thus, one way an argument can fail to be compelling is when a person doesn't share the same purposes as the one who offers the argument. Wainwright avers that even if an argument is valid and noncircular, if a person fails to have the purposes of the arguer it can be simply dismissed as an intellectual curiosity. Consequently, a significant aspect of the person-relativity of a good argument is the interest required to take the argument seriously. The failure of an argument to achieve universal assent may reflect the fact that people do not have common interests.

Another significant aspect concerning the person-relativity of arguments lies in the connection deductive and strict inductive arguments have to cumulative case arguments or explanatory arguments.

Even if one possesses a valid, non-circular argument for an interesting conclusion, one may dismiss the argument on the grounds that its premises or its assumptions do not fit into the best explanatory system. Yet, one's judgment about the explanatory goodness of a hypothesis is invariably affected by one's personal history and one's value judgments. To take a simple example, one's assessment of the weight of evidence for a hypothesis depends on what the alternative hypotheses are as well as the intrinsic plausibility one gives to the alternatives. But there is no mechanical procedure for either determining what the alternatives are or how they should be weighted. Often this is done on the basis of the value one deems the alternative hypotheses to realize. Wainwright takes this conclusion a step further: in assessments of existentially significant or value-laden hypotheses, one's passional nature plays a major role in determining the overall plausibility of the hypothesis.

These themes come to a head in Wainwright's final section on Schellenberg's objection. Schellenberg objects that religious faith sins against reason by having confidence that is unsupported by the evidence. A crucial assumption in Schellenberg's argument is that the evidence for and against theism should be described without any substantive metaphysical commitments. That is, the relevant evidence should be neutral. Wainwright objects to this assumption. He begins by pointing out that neutrality and fair-mindedness are distinct. A fair-minded inquirer seeks evidentially based beliefs, is open to criticism, and seeks to revise her beliefs in light of the evidence generated by open dialogue. Fair-mindedness doesn't imply neutrality, though. A fair-minded person can bring to the table any number of commitments that affect her assessment of the explanatory theories on offer. Even though she has these commitments and so doesn't realize 'neutrality', she doesn't sin against reason because neutrality isn't a requirement of reason.

Wainwright doesn't make explicit the argument that neutrality isn't a requirement of reason, but I think the argument comes from reflecting on cases. In the areas of morality and aesthetics, the enlightenment ideal of neutrality is problematic. If one were to describe the aesthetically neutral properties of an O'Keeffe desert landscape in virtue of which it is art, one may be hard pressed to resist agnosticism. In a case like this one's passional nature may be the enabler that allows one to rightly appreciate the beauty of an O'Keeffe landscape. Similarly, as Plato has argued, proper affections may be required to reason rightly about moral matters. If reason requires neutrality then reason may foreclose possibilities to truth. In

light of the distinction between fair-mindedness and neutrality, it seems more reasonable to leave open more possibilities. But, as Wainwright observes, one's attitudes to opening or foreclosing possibilities may be influenced by how one weighs the different injunctions to believe the truth or to shun error (p. 91).

I hope to have conveyed some of richness of Wainwright's discussion. Wainwright articulates a view of reason according to which reason allows for more possibilities than the agnostic professes. One ongoing concern about the proliferation of possibilities – letting a thousand flowers bloom – is the difficulty of comparative judgments of plausibility. If Wainwright's view is correct then it seems to imply that reason is unable to significantly compare the plausibility of competing hypotheses in a non-question begging fashion. Yet, it may be that reason does not demand paying the cost of foreclosing possibilities.

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Randal Rauser, *Theology in Search of Foundation,* Oxford University Press, 2009.

Randal Rauser's *Theology in Search of Foundation* (OUP 2009, henceforth TSF) is the latest addition to the philosophical literature on the epistemology of theology. In recent years, there has been more and more talk about something called *analytic theology*. It is not perfectly clear what analytic theology is, but it seems appropriate to understand it as a movement in philosophical theology and philosophy of religion, which encourages and supports the use of analytic philosophical tools to treat questions that have traditionally been understood as theological rather than philosophical (e.g., Trinity, Christology, Incarnation, etc.). Furthermore, analytic theology, it seems, attempts to be a reforming movement of theological method – an attempt to free theology from its "continental captivity". As philosophers of religion go, most of the issues that TSF discusses are somewhat familiar, whereas for contemporary theologians, the topics might seem rather weird. If Rauser's approach to theology seems perplexing, the reader should consult Michael Rea's opening essay to a recent edited volume *Analytic Theology: New Essays in the Philosophy of Theology* (2009).

The basic question for TSF is the justification of theology. Does theology need to justify its propositions in front of the court of universal reason, independent of culture and tradition, or should theologians forget the search for universal foundation and simply settle for coherence of the Christian tradition? It might come as a surprise to philosophers but during the last 50 years theologians have debated these issues viscerally and whole theological schools have been formed on the basis of such debates (the so called post liberal theology and Radical Orthodoxy, for instance). What might be surprising to theologians is that analytic philosophers have developed distinct answers to such epistemological problems in the last 30 years.

TSF is more a rigorous critique of various non-foundationalist or post-foundationalist approaches to theology rather than a detailed exposition of an alternative view. Rauser discusses the work of several contemporary theologians like Stanley Grenz, Nancey Murphy, Kevin Vanhoozer and Bruce Marshall as well as non-foundationalist philosophers such as Richard Rorty, W. V. O. Quine, Hilary Putnam and Donald Davidson on whom non-foundationalist theologians rely. For philosophers, the epistemological and metaphysical arguments that Rauser discusses (e.g., theories of truth, language and reality, realism and anti-realism) are probably familiar. What might be less familiar is the context of the theological debate. For understanding the theological context of TSF, the reader should consult Olli-Pekka Vainio's *Beyond Fideism* (Ashgate, 2010) which provides an overview of the debates on (post)modern theological method.

According to Rauser, the story of justifying theology goes something like this. Before the 17th century and the advent of classical foundationalism, theology was not particularly concerned about justifying itself in any universal sense. After the Reformation, the emergence of modern science and post-Reformation political tumults in Europe, a new standard for justification was formed. This was *classical foundationalism*. In Rauser's own words, classical foundationalism is the view that for all b's (justified belief): 'Every b is either (1) properly basic – that is, b is either a self-evident intuition or an incorrigible sense experience – or (2) non-basic – that is, it is ultimately deduced or inferred from beliefs that are properly basic and the individual is aware of how b derives from properly basic belief.' (p. 84) In other words, on classical foundationalism there are basic beliefs that need not be justified by other beliefs and our knowledge of the basic beliefs is infallible or certain.

Non-basic beliefs are then justified on the basis of these infallible basic beliefs. Classical foundationalism is also *internalistic* in the sense that the epistemic subject has access to the evidence that justifies her basic beliefs.

Now, theology had two options: either take the route of John Locke or various other Enlightenment natural theologians, or abandon the justificatory project altogether and ground theology on something non-epistemic, like religious experience or ethics (like Kant). As a side effect of the natural theological project, there were also attempts to ground theology on scriptural inerrancy. Rauser concludes that all these attempts were failures. The natural theologians were unable to produce arguments that would satisfy the rigorous standard of classical foundationalism. Similarly, Kantian attempts to justify theology in terms of ethics had a tremendous price: God as something distinct from our experience was completely lost.

But why hold onto the classical foundationalist theory of justification in the first place? Rauser is in agreement with contemporary non-foundationalists that classical foundationalism should be abandoned. For one, most of the beliefs that seem certain to us on the surface are actually such that we can, at least in principle if not in practice, doubt. After Cartesian evil demons, it seems very difficult to ascribe absolute certainty to most beliefs outside logical and mathematical beliefs. The beliefs that matter to us the most (commonsense empirical beliefs and moral beliefs, for instance) fall prey to this lack of certainty.

Classical foundationalism is also challenged by the *linguistic thesis* according to which all experience is linguistically mediated. The classical foundationalist has to assume that there is some sort of pure, non-conceptual experience (like in the sense-data theory) that will then justify our basic beliefs. But if our basic perceptions are grounded in concepts that are, in turn, shaped by our linguistic community, basic beliefs lose their incorrigible grounding in reality. Our language becomes a kind of world in which we live without the possibility of 'stepping outside our language to see how things really are'.

Finally, there is the famous argument that classical foundationalism is incoherent. Remember that on classical foundationalism we have properly basic beliefs that are either a priori true or a posteriori infallible. Is the belief that classical foundationalism is true properly basic or not? It does seem to be either a priori self-evident nor a clear empirical truth.

If this is the case, belief in classical foundationalism itself is not justified given the classical foundationalist criteria for justification.

Such critiques of classical foundationalism lead to *fallibilism,* the view that there are no absolutely certain beliefs. As a consequence, some philosophers (such as Rorty, Quine and Davidson) and most theologians have abandoned foundationalism completely and attempted to ground theology on *coherentism* instead. On coherentism, there are no basic beliefs, since the view entails that only beliefs justify beliefs. On foundationalism, knowledge comes as structure in which basic beliefs are at the bottom. On coherentism, the most apt metaphor is a web in which each belief provides justification for another. Furthermore, most non-foundationalist theologians also accept the linguistic thesis, which usually leads to *metaphysical anti-realism* (no mind-independent world or we cannot say anything about it) and *alethic agnosticism* or *anti-realism* (rejection of the correspondence theory of truth).

Rauser identifies numerous problems in the non-foundationalist proposals. First, Rauser challenges the thoroughgoing fallibilism of the non-foundationalist. This is because the claim that all beliefs are revisable in the light of new experiences leads to scepticism. He agrees with the non-foundationalists that most of our beliefs are indeed fallible, but he nevertheless maintains that there are some analytic (or synthetic a priori) truths that have to do with definitions, logic and mathematics. Beliefs about such truths must be a priori, because there is nothing in our experience that justifies them. Why should we not abandon them then? Defenders of radical non-foundationalism, such as Quine, give no argument as to why we should hold onto the truth of, say, the law of non-contradiction. The conclusion Rauser draws from this is that not every belief is accountable and revisable in the light of new experiences, as the non-foundationalist would have it. This does not mean that our knowledge of such analytic truths is infallible: we might make mistakes in accessing such truths but that does not mean that they are not there. There is something more to belief-formation than experience alone.

TSF also points out that coherentism is subject to various counter-arguments. The problem is that coherence seems to be only one possible mark of true beliefs, not the only one. Imagine that you are working at your office, when you are suddenly hit in the head. Due to some strange misfiring in your brain, you still keep having the sensation of being in your office and believing that you see a computer in front of you. But in truth, you have actually been taken to the hospital and most of your

beliefs are false. In this case your beliefs would be coherent, but we would be extremely hesitant to say that they would be justified. Instead, we would say that they are not justified, because after the lighting strike and neural misfiring they have been produced in a mistaken manner, that is, in a manner that is not reliable. So it seems that coherence might be one mark of truth-conduciveness, but neither a necessary nor a sufficient mark all by itself. Instead, the most important mark for truth and guideline for justification would be reliability of the belief-forming mechanism.

Rauser also finds the linguistic thesis problematic. There is a *non sequitur* deep in the argument for the linguistic thesis. The proponent of the thesis argues that since concepts are needed to talk about our experience of the world, the experiences themselves must be conceptually conditioned. But this does not follow. In the case of perceptual knowledge, I am being presented by numerous facts about my environment. For example, all the different shades of colour on my computer display are presented to me at the same time. This does not mean, however, that we need to have corresponding colour concepts to have such experiences. In other words, we can experience the properties of our environment without grasping the associated concept. Such a view would entail a *direct realist* view of perception and other sources of basic beliefs (reason, memory): our beliefs that are composed of our basic concepts can be grounded directly in our basic perceivings. As such, the theory entails that there are concepts that have a natural, intrinsic connection with the properties exemplified by the world. Thus, language is not a world in which we live, a veil between the world and ourselves; it does not determine our experience of the world. Instead, language is a tool to conceptualize and talk about the world to which we all perceive.

TSF also defends a strong metaphysical realism and claims that realism is not one theory among many but a necessary precondition for talking about truth, language and related concepts. Constitutive anti-realism sees the 'real word' as a kind of undetermined flux that only takes determinate shape when we carve it into categories with our concepts. The problem is that incoherence looms: if the real world is constituted by our concepts, the claim that the world in constituted by our concepts is also constituted by our concepts and so on *ad infinitum*. TSF concludes that there are no viable alternatives to minimal metaphysical realism, that is, the thesis that there is a mind-independent world.

Rauser suggests an alternative to the problematic forms of non-foundationalism: return to a *moderate foundationalism*, hold onto a robust realism about metaphysics and truth and reject the linguistic thesis. His model draws heavily on the epistemology of Alvin Plantinga and other Reformed epistemologists, like William Alston.

Plantinga's epistemology is foundationalist, because it holds onto the idea that there are beliefs that are not justified by other beliefs. The difference to classical foundationalism is that the justification of these basic beliefs is fallible and defeasible. This is because even basic beliefs are subject to various sorts of *defeaters*, that is, new evidence that removes the prima facie justification that basic beliefs have. Furthermore, Plantinga's view entails that basic beliefs are products of properly functioning belief-forming systems and it is the trustworthiness of these systems that makes basic beliefs justified. Plantinga takes his cue from Thomas Reid, a contemporary and opponent of Locke. Reid maintained that we have beliefs that are innocent until proven guilty, that is, they need no propositional evidence to be justified. It is enough that they are products of normally functioning belief-forming mechanisms (perception, reasoning, memory). Further, Reid maintained that if we go on to demand propositional, non-circular evidence for the reliability of our basic belief-forming mechanisms, we end up in scepticism. This is the *externalist* component of Plantinga's view: the epistemic subject is not required to have access to the propositional evidence (other beliefs) to be entitled to hold onto her basic beliefs.

Plantinga's defence of externalism requires that our belief-forming faculties are, for the most part, reliable sources of beliefs, that is, they are truth-conducive in the correct circumstances. Plantinga understands reliability in terms of *proper functioning*. Proper functionalism of this kind entails that there is a design plan for our belief-forming faculties: our belief-forming faculties emerged according to the plan of a being who can guarantee that they are truth-conducive, because the being itself is infallible (God). As is well known, this is the starting point of Plantinga's evolutionary argument against naturalism that seeks to show the unreliability of our belief-forming mechanism, if they had evolved without God's guidance. The latest version of the argument can be found from Plantinga's *Where the Conflict Really Lies: Science, Religion and Naturalism* (OUP, 2011).

In his later work *Warranted Christian Belief* (OUP, 2000), Plantinga goes on to develop his *Aquinas/Calvin model* of theological beliefs.

On this view, basic theological claims derive from normally functioning cognitive systems in natural environments. There is a specific cognitive mechanism, *sensus divinitatis* that is designed for just this purpose. As such, properly basic Christian beliefs need no external warrant to be rational; theological claims need not be grounded in incorrigible a priori truths or indubitable empirical evidence. But this does not mean that evidence is completely irrelevant, since it can function as defeater to properly basic belief derived from sensus divinitatis.

In addition to Plantinga-style proper functionalism and metaphysical and alethic realism, Rauser defends a *cognitive-propositional* view of dogma. On the cognitive-propositional view, (most) doctrinal statements are statements about mind-independent reality and it is that reality that makes them true or false. In other words, doctrinal statements refer to matters of fact; they are not expressions of or references to basic religious experiences (experiential-expressivist model), nor are they rules of speaking and acting in Christian communities (cultural-linguistic model). The worry that accompanies the critiques of the cognitive-propositional view is that it leads to a static view of the dogma and leaves no room for development, especially in the context of ecumenical theology. Such criticisms, according to Rauser, are misguided: like in *critical realism* in science, the fact that we understand propositions as referring to mind-independent realities does not mean that the propositions we now believe are the most truth-like that we could have.

I often complain that the books that I review are too long. TSF is a surprising exception: for once, I can say that the book under review was too short. Many arguments in TSF, especially in the middle of the book discussing Quine and Putnam and others, are to the point but too dense. I wish Rauser had used more pages to explain what these authors say and what his own critical points are. The arguments and counterarguments are there even now but they are discussed in a machine gun –like fashion that is rather difficult to follow, if the arguments are not already familiar to the reader. Also, the discussion of Plantinga's epistemology is clear and accurate but does not really discuss the various well-known criticisms of Plantinga's epistemology. If Rauser wants to convince us that we should embark upon an exodus from the slavery of non-foundationalism to the Plantingian Promised Land, he ought to have addressed at least the central objections to Reformed Epistemology.

Another thing that was missing from Rauser's book was a discussion on current internalist and evidentialist theories in philosophy of religion

and philosophical theology. There are surprisingly many who adopt an internalist theory of justification along the lines of Richard Swinburne (*Epistemic Justification*, OUP, 2001) and reject the proper functionalism of Plantinga. The only time Swinburne is even mentioned in TSF is in the context of Enlightenment style natural theology, where he is swiftly brushed aside. Indeed, almost all theologians reject Swinburne-style natural theology and even make fun of it. Nevertheless, Rauser is too quick in identifying Swinburne-style natural theology with Enlightenment natural theology: Swinburne's model does not require there being incorrigible basic beliefs.

It is true that broadly speaking externalist approaches to knowledge are common in contemporary epistemology. According to a recent survey of philosophical views, around 40% of contemporary philosophers accept or lean towards externalism. However, Swinburne is hardly a deviant in the context of contemporary philosophical epistemology in which Bayesian and other broadly speaking internalist/evidentialist approaches are still very much alive. According to the same survey, internalism is either accepted or sympathized with by 26% of philosophers. In the last couple of years, there have been numerous debates about and defences of internalism by, for example, Earl Conee & Richard Feldman (*Evidentialism*, OUP, 2011) and several others (Trent Dougherty, ed., *Evidentialism and Its Discontents*, OUP, 2011). This applies to both atheists and theists: some atheists, like Herman Phillipse (*God in an Age of Science*, OUP, 2012) adopt an even more uncompromising internalism and evidentialism than Swinburne.

Most philosophers of religion and philosophical theologians are already critical of non-foundationalist epistemologies and theological anti-realism – without any help from Rauser. For them, the choice is between Swinburne-type internalism, Plantinga-style externalism, some sort of virtue epistemology or a non-standard combination thereof (e.g., Paul Moser's *The Evidence for God: Religious Knowledge Reexamined*, CUP, 2009). For this reason, I would have liked to see Rauser engage with internalism in philosophy of religion more.

Finally, I want to make my last critical point. As we have seen, Rauser's model relies heavily on Reformed Epistemology in general and Plantinga in particular. But Plantinga and his cohorts are not the only ones to defend moderate foundationalism. Here, I think, Rauser could have made his model more appealing by discussing other moderate foundationalist proposals. Rauser often refers to Robert Audi (*Epistemology*, Routledge,

2002) but does not mention that Audi has his own version of moderate foundationalism that is different from Plantinga's. After the publication of TSF, Audi has developed his model in the context of theological epistemology in his *Reason and Religious Commitment* (OUP, 2011). Audi's moderate foundationalism might be a serious option for those who are not too keen on the proper functionalism of Plantinga.

In conclusion, I admit that although I am not sure whether I identify myself directly with the analytic theology movement, I very much sympathize with the approach that it represents and find myself agreeing with most of what TSF says, especially with the critiques of various non-foundationalist theologies and the accompanying robust theological realism. TSF splendidly identifies and analyzes the deep philosophical issues inherent in theological proposals. As for the attempt to ground theology in Plantinga-style proper functionalism, I am not that sure. Despite my worries about Rauser's own solution and his limited discussion of current internalist proposals, I wholeheartedly recommend the book to theologians that are interested in the epistemology of theology as well as to philosophers that are thinking about theology and theological method. That being said, I would *not* direct theological and philosophical novices to the book, because of the density of its arguments and the need for extensive background knowledge for understanding it.

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Vincent Brümmer, *What Are We Doing When We Pray?: On Prayer and the Nature of Faith,* Ashgate, 2008.

This is a revised and expanded version of a book originally published by the author in 1984. Part I, which concerns prayer in the Christian tradition, takes up the first seven chapters of the book, and Part II, which concerns the nature of Christian faith, takes up the final three chapters. Here I shall summarize briefly the contents of each chapter before making some general remarks about the audience to whom this book is most likely to be useful.

Chapter 1 outlines the questions to be discussed in the book, including some methodological ones about how to study the phenomenon of

prayer and how to think about its efficacy. Included in this discussion is a helpful explanation of the difference between a particular prayer, such as Elijah's prayer in 1 Kings 18, and a scientific experiment, such as the measurement of the deflection of starlight by the sun's gravitational field that confirmed Einstein's theory of relativity. Brümmer also discusses the difficulties involved in attempts to test the efficacy of petitionary prayer by appeal to statistical analysis, with reference to the particular example of Francis Galton (whose work was first published in 1872). He argues convincingly that since petitionary prayer involves personal interaction with a free agent, as opposed to some kind of natural force, it cannot be studied reliably using the usual methods of scientific testing.

Chapter 2 begins with a discussion of the views of Kant and T. R. Miles, both of whom argue (but for different reasons) that the proper function of prayer is to change the one praying, not to have any effect on God. Brümmer admits that changing the person who prays is important, and cites a number of authoritative sources from the tradition to make his point, but also argues that Kant and Miles are wrong to suggest that prayer functions completely independently of belief in the real existence of God.

Chapter 3 includes an extended discussion of the presuppositions implicit in the claim that petitionary prayer is impetratory, that is, successful in moving God to act. First, there is the presupposition of two-way contingency: the thing requested must be neither impossible nor necessary for God to provide. Second, the request involved in the offering of the petitionary prayer is necessary but not sufficient for God's action. In addition, this chapter contains an extended treatment of the worry that since God is immutable, petitionary prayer is pointless. Brümmer argues that St. Thomas Aquinas' picture of the immutability of God, together with Thomas' belief that God is timelessly eternal, implies that all events would be predetermined from eternity, so that petitionary prayer would be pointless. The argument here is brief and sketchy, though; Aquinas scholars will not find it compelling. After considering (but not endorsing) an alternative formulation of immutability from Peter Geach (involving a distinction between real and so-called 'Cambridge' change), Brummer quotes John Lucas with approval, who says (roughly) that God can change in some respects but not others. The conclusion is that if God is absolutely immutable, then petitionary prayer is pointless, but we should not think that God is absolutely immutable.

Chapter 3 also includes a discussion of the worry that since God is omniscient, petitionary prayer is pointless. Brümmer criticizes Boethius' defence of the claim that God is timelessly eternal, concluding that 'Petitionary prayer presupposes a God who can have a temporal relation with human persons and the world' (p. 47). Again, the argument is rather quick; defenders of timeless eternity will not find it compelling. Based on the contingency presupposition mentioned above, Brümmer argues that the future does not exist yet, and hence cannot be known by anyone in advance, including God. So he accepts the open theist's picture of the limits of divine omniscience. As many readers know, a convoluted, highly technical debate between open theists, defenders of timeless eternity, and defenders of middle knowledge has exploded in the past twenty years or so. Those who follow that debate closely will not find Brümmer's discussion of this question very satisfying because the arguments, once again, are brief and sketchy.

In chapter 4, Brümmer discusses impetratory prayer and the goodness of God. Stressing that petitionary prayer changes both God and the petitioner, he argues that praying for other people signals a willingness to help them where possible, and thus that corporate intercessory prayer involves multiple people participating in bringing about the kingdom of God. He also analyzes the prayer, 'Thy kingdom come', as involving a submission to God on behalf of the person praying and a request for God to assume authority over us and grant us 'the gifts that enable us to attain the "union of wills" with him' (p. 62). Here he also raises a difficult question about intercessory prayer, one that has received some attention in the literature: if intercessory prayer for others is regarded as effective, does this mean that God would have withheld assistance had prayers not been offered? Considering and rejecting solutions offered by others, Brümmer stresses that God's action in the world is (typically) mediate, involving secondary causes, but it is not clear how this addresses the problem at hand.

Chapter 5 concerns the nature of divine agency. Brümmer argues persuasively that God's answering of prayers need not involve miraculous intervention into the natural order, but then raises the following interesting question: if a given event has a natural explanation, then how can it be an answer to prayer as well? He responds by claiming that not only would a deterministic approach to nature preclude human freedom, it is also outdated – according to current science, there is always 'room' for things to be otherwise, even in connection with highly

probable events, because of quantum indeterminacy in nature. In this way, Brümmer signals his allegiance to a libertarian account of human freedom. Drawing heavily on the work of J. R. Lucas, he argues that a free human action can be viewed as something for which both its human author and God are responsible at the same time, calling this a 'double agency' theory. Does such an account make it impossible to tell whether or not God has answered one's prayer, when the thing requested comes to be, since God's role in the natural world is, as a rule, invisible? Brümmer thinks not, arguing that 'The ability to recognize God's actions by looking at the world through the eyes of faith requires training, in which petitionary prayer has an important function' (p. 87). There are deep and difficult issues at stake here, both metaphysical and epistemological, and no doubt some readers will find Brümmer's treatment of them to be rather brief and general.

Chapter 6 elaborates the distinction between unitive and personal mysticism, and defends the importance of prayers of petition, penitence, and thanksgiving for a personal relationship with God. Along the way, Brümmer provides detailed and interesting accounts of the nature of prayers of penitence and the conditions in which gratitude (and the attribution of responsibility in general) is appropriate. At one point, Brümmer commits himself to the conclusion that 'I can only praise or blame you (or be grateful or resentful) for what I perceive you to have done, if I know what your intention was in doing what you did' (p. 112). This requirement is probably too strong, though (which is probably good, because often we do not have epistemic access to the intentions of others, human or divine, and yet gratitude and resentment can still be appropriate in some of those cases).

Chapter 7 contains a detailed discussion of the relationship between morality, religion, general principles, and the use of models and metaphors. Brümmer argues that the relation between prayer and the moral life is an internal one, not an external or accidental one, and that 'Prayer and the life of fellowship with God are impossible without each other' (p. 131).

Chapter 8 begins Part II of the book, and argues that as a result of the Enlightenment, we have come to view religious belief as a kind of theory that admits of confirmation or disconfirmation in roughly the same way that scientific theories do. Brümmer argues to the contrary that faith is not a matter of propositional belief alone, and that it is 'not only a way of seeing but also a way of living or a form of life' (p. 145). Chapter 9

continues this theme by developing in some detail the idea of the 'eyes of faith'. He argues that 'Religious experience should not be viewed as an extraordinary kind of extra-sensory perception, but rather as ordinary experience (including ordinary sense perception) looked upon with the eyes of faith' (p. 149). He applies this framework to the problem of confronting evil in the world, which requires seeing the world through the eyes of faith, and discusses the role of metaphor in such seeing.

Chapter 10 contains a discussion of truth, verification, and the life of faith and prayer. Here Brümmer argues that the life of faith presupposes objectively true beliefs about the nature and existence of God, beliefs that are implicit in the forms of prayer discussed earlier in the book. He also argues that 'belief in the existence of God is justified for believers by showing that it is a necessary presupposition constitutive for the way in which they make sense of their lives and experience' (p. 177), not by appeal to the sorts of neutral perceptual evidence that enable us to determine which scientific theory is most justified. But he does not take this to imply that there is no neutral territory on which believers and non-believers can meet – instead, he says that

> The debate between religious believers and secular atheists should therefore deal primarily with the coherence, intelligibility, relevance and adequacy of the theistic form of life and understanding as such and only in a secondary or derived sense with the truth of its constitutive presupposition about the existence of God. In this debate secular atheists should also be called upon to account for their alternative view of life. (pp. 181-2)

As before, here Brümmer engages deep and important epistemological questions without hesitation, and sketches an important position worthy of consideration.

The main virtue of Brümmer's book is the wide range of topics that it covers in order to present a coherent, complete picture of the role of prayer in the life of Christian faith. It is important to state clearly that his project is thoroughly Christian from the beginning; often he refers to scriptural passages or influential thinkers from the tradition as evidence for or against various positions. So Brümmer's book would be very useful for those who teach at Christian universities where there is a reasonable expectation that the students would have more than a passing acquaintance with the tradition and perhaps some interest in pursuing a life of Christian faith.

For those who are interested in contemporary philosophy of religion, especially in the analytic tradition, Brümmer's book provides a helpful introduction to many questions concerning the nature of prayer, and shows how all of these questions are related to one another. But as indicated, those who are interested in technical debates among professional philosophers will find the book disappointing because the arguments are often brief and sketchy. Some of the sources cited are also a bit outdated, in the sense that positions outlined therein have been superseded by much more detailed and complete accounts generated by the many philosophers working in the philosophy of religion since the first edition of Brümmer's book was published in 1984.

In conclusion, *What Are We Doing When We Pray?* is a substantial and important contribution to contemporary philosophy of religion, a contribution that will be especially interesting to those who wish to explore and elucidate a distinctively Christian conception of the life of prayer.

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Jesse Bering, *The God Instinct: The Psychology of Souls, Destiny, and the Meaning of Life,* Nicholas Brealey Publishing, 2011.

In the last 20 years cognitive science has gone where others have recently feared to tread: developing and testing explanations of religious beliefs and behaviours. Not only has their work flourished, but it has also captured the imagination of a segment of the reading public. Several surveys of the field for the general reading public have already been published – from Pascal Boyer's *Religion Explained* (2001) to Justin Barrett's *Why Would Anyone Believe in God?* (2004), Todd Tremlin's *Minds and Gods* (2006), and Daniel Dennett's *Breaking the Spell* (2006) (not to mention more scholarly works such as Scott Atran's *In Gods We Trust* (2002) and Jeffrey Schloss and Michael Murray's (ed.'s) *The Believing Primate* (2009), as well as Robert Hinde's *Why Gods Persist* (1999/2010) and David Sloan Wilson's *Darwin's Cathedral* (2002)). Jesse Bering, a leading researcher in the cognitive science of religion and one of the principle investigators on the Explaining Religion Project, has penned his own entry in this

crowded field: *The God Instinct: The Psychology of Souls, Destiny, and the Meaning of Life*.

Bering's book falls squarely in the genre, 'popular science writing that tackles "big, traditionally-humanities, issues" like human nature, the nature of happiness, the meaning of life, the nature of morality, and God's existence'. As such, it faces a dual challenge: 1) to explain the scientific experiments and theories accurately and accessibly, while also supporting and illustrating the main ideas with references from literature and pop culture and other accessible sources, and 2) to clearly explain the implications of these scientific experiments and theories on the traditional issues. Bering clears the first hurdle easily, but stumbles over the second.

Bering's performance on the first hurdle is impressive indeed. His descriptions of key experiments and summaries of experimental findings are lucid. He displays an incredible range of knowledge of literature, theatre, film, and pop culture, with references from Gorgias, Sartre, *Le Ballon Rouge*, Miss California Carrie Prejean, to Camus, Andre Gide, the band Kansas, and the Sopranos television series, amongst many others. He also skilfully weaves in anecdotes of his own experiences with supernatural beliefs and sentiments and feelings of purpose. All of these references and experiences are nicely tied into the issue at hand.

Bering begins the book arguing that humans are distinct from other animals in our possessing a Theory of Mind (ToM). The ToM is a natural ability to see other beings as having minds, with intentions, desires, and beliefs. Citing the solipsist Gorgias, Bering rightly notes that we don't directly see other people's minds; we only experience our own. We could doubt whether other minds exist, like Gorgias, or we could simply not entertain the thought that other beings have minds. But, in fact, humans naturally believe that other humans, and some other animals, have minds and treat them accordingly. Bering grants that some of the great apes may have a rudimentary ToM, but he thinks the evidence is not clear, and at any rate no other creatures have nearly as developed a ToM as humans.

Having a ToM was adaptive for our ancestors because it enabled them to better predict the behaviour of others, which was an important skill for creatures that thrive in communities. Knowing others' mental states gives you power over them – you can predict what they will do, take advantage of their ignorance, try to trick them, or try to cooperate with them for mutual benefit.

Having a theory of mind gives one another very interesting ability –one can think about agents that are not physically present, including invisible agents such as ghosts, dead ancestors, and gods. Bering thinks that the ToM plays a key role in explaining why humans believe in gods. However, it is somewhat difficult to decipher precisely what role Bering thinks ToM plays in explaining beliefs in gods. In particular, it is not entirely clear whether he thinks that the ToM merely enables one to believe in gods (and the fact that one does believe is explained by other factors), or that ToM itself naturally leads to or encourages a belief in a god of some kind. Bering writes,

> it would appear that having a theory of mind was so useful for our ancestors in explaining and predicting other people's behaviors that it has completely flooded our evolved social brains. As a result, today we overshoot our mental-state attributions to things that are, in reality, completely mindless. .. What if I were to tell you that God's mental states, too, were all in your mind? ... It may feel as if there is something grander out there ... watching, knowing, caring. Perhaps even judging. But, in fact, that's just your overactive theory of mind. (p. 37)

This passage suggests the latter interpretation – that ToM itself overflows into beliefs that God exists and that he has such-and-such intentions. However, I think that later chapters of the book better fit into the former interpretation. In addition, the above quote follows a discussion of Heider and Simmel's 1944 study in which subjects were shown a film depicting the movements of a large triangle, small triangle, and small circle and, upon being asked to describe what they had seen, described their behaviours using mental-state terminology. For example, the large triangle was described as 'bullying' the small triangle. However, at best this study shows that it is easy for humans to see and describe inanimate things as though they were minded. This does not show that anyone actually believed that the triangle on the screen had mental states. Perhaps people saw the shapes as characters in a story and took those characters to have mental states. But, surely nobody believed that any actual triangle (vs. fictional triangle character) had mental states. So, perhaps ToM makes it easy for humans to see inanimate things as though they were minded, and makes it easy for humans to interpret events as though they were caused by a mind of some kind, but ToM doesn't all by itself seem to explain why humans believe in gods and other invisible agents.

So, what is the explanation, according to Bering? First, let's get clear on what is to be explained. Bering offers evidence that belief in gods is not only widespread in humans, but that 'our minds are heavily biased toward reasoning as though a designer held a conception in mind' (p. 54). He adds, 'recent findings from the cognitive sciences suggest that, just like a crude language sprouting up, at least some form of religious belief and behavior would also probably appear spontaneously on a desert island untouched by cultural transmission' (p. 54). He cites, as evidence, the accounts of 'deaf-mutes who, allegedly at least, spontaneously invented their own cosmologies during their prelinguistic periods' (p. 50), presumably earlier than they could have learned such cosmologies from their culture. He also refers to the work of Deborah Kelemen, who has shown that young children, 'regardless of their parents' religiosity or irreligiosity' (p. 56), attribute functions to all manner of inanimate objects. For example, they are disposed to accept that rocks are pointy 'so that animals could scratch on them when they get itchy' (p. 57). Margaret Evans has found that by eight years of age most children, when asked, say that God or nature personified created the first member of a given animal species – again, regardless of the religious beliefs of their parents and of whether or not they attend a religious school.

So, our minds are disposed to believe in a god, or a creating invisible agent, of some kind or other. Why? Bering describes several aspects of the human mind that, together with our active ToM, dispose us strongly to accept that a god of some kind exists and interacts with the world. These aspects include:

(1) A disposition to see all kinds of objects – living and non-living – as having a purpose (see Kelemen, again). He also argues that humans often see their individual selves as having a special purpose (not just that humans as a kind have a purpose).
(2) A disposition to think that the human mind is immortal and separate from the body. He argues that we have this disposition because we are unable to simulate our minds going out of existence.
(3) Based on two different studies, psychologists Kurt Gray and Daniel Wegner argue that 'because we're such a deeply social species, when bad things happen to us we immediately launch a search for the responsible human party' (p. 138). They go on to argue that when we can't find a responsible human agent, we suspect some agent is responsible, and so are disposed to find God responsible.

(4) As social psychologists have known for a very long time, most people are guided by expectations of a just world. But God lurks in these shadows. If the world is perceived as being just (even, as studies show, among many nonbelievers), then wouldn't some watchful, knowing agent be required to keep tabs on people's social behaviors, adjusting the scales of nonhuman justice?' (p. 147)
(5) Narrative psychologists have argued that most people see their lives as following a narrative, 'one with the promise of an intelligent narrative climax that will eventually tie all the loose ends together in some meaningful, coherent way' (p. 158). However, we experience events that our outside of our control, often unforeseen, that change the course of our lives. It is very easy to fit such events into the narrative of our lives by supposing that God causes such events to move us along our narrative path.
(6) Our active ToM makes it very easy for us to interpret many natural events as messages from God (or some other invisible agent). Bering's own Princess Alice studies – fascinating, but unfortunately too detailed to summarize in the space I have here – are cited as evidence for this claim.

The above is but a brief summary. Bering effectively supports these claims with various studies and anecdotes from history, literature, and pop culture.

According to Bering, these features of our mind make it very easy for humans to believe in gods. The notion of an invisible God who cares about what humans do and acts to communicate with humans fits quite naturally with these mental dispositions, and so we are quite disposed to believe in some such god.

In addition, Bering argues that natural selection pressures favoured individuals who possessed such mental dispositions towards belief in some kind of watchful, morally concerned God. For beings with a ToM, gossip is a powerful deterrent to anti-social behaviour. Act in some ant-social way while others are watching, and there is a good change that they will tell others, which could negatively affect your interactions with other people in your community. But, sometimes we can benefit from doing something anti-social – by stealing from someone, for example. We are more inclined to do something anti-social if we believe that nobody is watching, or if we believe that we can't be identified. However, it is very easy for us to mistakenly believe that nobody will discover our identity, and so to suffer the consequences of attempting to get away

with something anti-social. Belief in a god who always watches us, and is aware of what we are doing and thinking, and who cares about what is right and just, will deter us from making such mistakes – mistakes that could negatively affect our fitness.

As I said earlier, all of these claims are described well and supported with interesting examples and studies. Bering's book succeeds here to a greater degree than many of the other popular-level books on the cognitive science of religion.

However, Bering stumbles over the second hurdle – he does not clearly explain the implications of his claims and theories on belief in God. Throughout the book Bering states, or rather presupposes, that his findings show that belief in God is an illusion. Chapter six is entitled, 'God as Adaptive Illusion'. He writes, 'the illusion of God, engendered by our theory of mind, was one very important solution to the adaptive problem of human gossip' (p. 192). Elsewhere, 'consider, briefly, the implications of seeing God this way, as a sort of scratch on our psychological lenses rather than the enigmatic figure out there in the heavenly world' (p. 38). Sadly, Bering doesn't back up such strong language with much of an argument. And we need an argument, because 'God is an illusion' implies that God does not exist, but God's non-existence does not obviously follow from any of his findings or theories. Bering gives no argument that his experimental results or theories make God's existence even moderately unlikely. God could easily have used these processes to get his creatures to believe that he exists, and there isn't any clear reason to think that God wouldn't, or likely wouldn't use such processes – at least, none that Bering discusses.

Bering offers something approaching an argument in a few scattered passages (pp. 38, 74-5, 107-9, and 195). It seems to go like this: evolution and psychology explain why people believe in God. God could exist and have created us this way, but we should favour the simpler hypothesis, which is that God doesn't exist, but evolution created us this way. This argument faces several challenges. First, it assumes that God's existence should be assessed as a scientific hypothesis, but many philosophers – most notably Alvin Plantinga – have argued that belief in God can be properly basic, like perceptual and memorial beliefs. Second, God's existence might have lots of explanatory power with respect to other data – e.g. the existence of the universe, religious experiences, accounts of miracles – that Bering doesn't consider, and so be a stronger hypothesis than naturalism, as Richard Swinburne has argued extensively.

It is unfortunate that Bering doesn't spend more time thinking about the implications of his theory for the rationality of religious belief, because I think there are some interesting discussions to be had (see, e.g. the essays in Schloss and Murray's *The Believing Primate* (Oxford: Oxford, 2009), and my essay 'Does Cognitive Science Show Belief in God to be Irrational? The Epistemic Consequences of the Cognitive Science of Religion' (*International Journal for Philosophy of Religion*, Aug. 2013)). For a scintillating and entertaining presentation of recent work in the cognitive science of religion, Bering's book is a great place to go. But, for a thoughtful discussion of the implications of such work, the reader will want to look elsewhere.

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John R. Betz, *After Enlightenment: The Post-Secular Vision of J. G. Hamann,* Wiley-Blackwell, 2009.

Betz's study of the German philosopher Johann Georg Hamann (1730-1788) sheds light on a relatively obscure figure usually mentioned in connection with the philosophers and linguists Johann Gottfried von Herder and Wilhelm von Humboldt. Hamann is a Christian philosopher who has been marked by an awakening experience. John Betz teaches theology at the University of Notre Dame and tackles Hamann from a clearly religious angle, which seems to be in keeping with the book series 'Illuminations' launched by Blackwell. The editors claim that the series 'is unique in exploring the new interaction between theology, philosophy, religious studies, political theory and cultural studies'.

In the preface Betz explains that the title 'After Enlightenment' is supposed to '"get over" and beyond the Enlightenment, i.e., over and beyond the cherished illusion that reason alone is able to provide a sufficient basis for morality or culture' (p. xii) and refers to Alasdair MacIntyre's *After Virtue*, which was 'also proposed as a way forward that we look again to tradition (which the Enlighteners for the most part spurned as a source of wisdom)'. The central question is if Betz (together with Blackwell's book series) is really looking forward or if this post-secular project is taking us back to a 'Before Enlightenment.'

Taking up Hamann is a risky choice. Betz mentions Isaiah Berlin's estimation that the German philosopher is not only an 'irrationalist', but 'the pioneer of anti-rationalism in every sphere', For Berlin, Hamann was simply an anti-modern obscurantist. I understand that Betz's aim is to prove the contrary. However, right on page 1 Betz explains that he wants to steer a decidedly post-secular and implicitly eschatological course 'toward Christ'; and on page 336 we read that 'reason needs faith and the authority of a prophetic tradition to tell it what it is: to tell it that its light is not merely a random consequence of material causes, or merely pragmatic and instrumental, or merely a function of the will to power, but a participation in and reflection of the light of a transcendent Logos, which allows for varying degrees of luminosity'. Does this mean that anybody who has no faith has no reason? And that reasonable people must consult with religious 'authorities'? In that case, this is not the 'After Enlightenment' that I and many others are waiting for.

I have skipped the 335 pages in which Betz produces a valuable and sophisticated analysis of how reason is for Hamann a matter of language. I most often concur, especially when it comes to the clarification of points from Hamann's *Aesthetica in Nuce* in which Hamann explains that 'an overly rational approach to language renders one incapable of speaking with the kind of creative authority with which he himself speaks' (p. 92). However, the insistence on 'reason being based on faith' must remain disturbing in any academic book. It would have been accurate and sufficient to say that for Hamann, language is bound with history and that he dissolves the pretensions of pure reason into language and tradition. This is what opposes Hamann to Enlightenment tendencies; but why is it necessary to replace 'tradition' with 'faith'? The passing over of differences that distinguish faith from tradition are thus a real shortcoming in this book. Betz writes that enlightenment held that 'rational persons (…) no longer need to be guided by the heteronomy of faith and tradition, but can be guided by – and place their trust in – reason alone' (p. 4). He also finds that 'postmodernists are missing Hamann's most fundamental point: that the transcendent God is kenotically hidden within language' (p. 338). Even *if* this is what Hamann thought at his time, I would still try *today* to redescribe God and religion in terms of history and tradition – be it only in order to save Hamann from irrationalism.

Of course, Betz's analysis follows a certain script. At the bottom of several of his conclusions is a misunderstanding of the phenomenon of 'postmodernity'. Again and again the 'de-centered postmodern

situation' is blamed for the present intolerance towards faith though the exact contrary is the case. Hamann is representative of a counter-enlightenment and therefore, as Betz himself confirms, an early initiator of postmodern thought: he is 'in many ways a Christian precursor of postmodern philosophy' (p. 19). Towards the end of the book, Betz reinstates that 'postmodernity begins with Hamann's assault upon the unmediated self-certainty of the modern subject' (p. 332). I could not agree more. However, from where does the curious expression 'secular postmodernity' originate (p. 19)? The postmodern option is that of the post-secular and this option did not exist in modernity. Postmodernity started in 1979 with the Iranian Revolution and is thus a gift from religious people to the world. It is therefore completely incomprehensible why so many religious people (in the West as well as in the Middle East) accuse postmodernity of *secularism* when it symbolizes precisely the *overcoming* of secularism and the establishment of a post-secular situation. Though Betz seems to grasp Hamann's premature role in this project, he equally holds that postmodernity is 'little more than the logical, nihilistic conclusion of secular modernity' (p. 1). This proposition obviously contradicts the preceding one on Hamann.

Postmodern authors like Lyotard are put upside down for this purpose. Betz quotes Lyotard's statement that 'modernity, in whatever age it appears, cannot exist without a shattering of belief and without discovery of the "lack of reality" of reality'. Lyotard says this very clearly about *modernity* and not about postmodernity because the latter is supposed to bring belief back into modernity. Betz acknowledges this when writing that 'the modern world, insofar as it is a secular world, having nothing greater worth living for, is not only mindless, heartless and gutless, but also – having denied any analogy to the Creator – impotent' (p. 338). Still he decides to act as if Lyotard is talking about postmodernity: 'And true enough, whether owing to the modern suspension of faith or the postmodern absence of faith (whether through Descartes's doubt, Kant's transcendental idealism, Husserl's phenomenological reduction, Heidegger's nihilistic ontology, or Derrida's *différance*), the spectral unreality of things is now what appears' (pp. 338-39). Betz's argumentation is self-contradictory: in an above mentioned passage he acknowledged Hamann's status as a precursor of postmodern thought only to present him in the remainder of the book as the opponent of this same kind of thinking.

Apart from that, Derrida's 'dark, spectral magic to relinquish any claims to reality and vanish like ghosts, torn from any embodiment, into an endless chain of signification, where nothing is ultimately significant' (p. 334) is a product of Betz's imagination (or perhaps an overstatement of one of Bennington's sentences but certainly not embedded in any genuine Derrida research). Would Betz not take the entirely unfounded equation 'spirituality = faith' for granted, he could avoid those misinterpretations that lead him to the conclusion that anything which contains no faith cannot contain truth. It is true that for Derrida, 'language is essentially, for all its non-finite supplementarity, a purely immanent construct that reveals nothing outside it' (p. 337) but this does not mean that *inside* the language game no truth is possible. Betz actually refers to Hamann's view of language as 'a playful response to the speaking of the Word in creation' (p. 162), which brings Hamann closer to Derrida than anything else. Play is transcendental and truth and spirituality can be found inside the play of language as it plays with traditions and history. Betz acknowledges even this appropriately when writing that for Hamann, 'language is essentially a dialogical religious phenomenon, and, especially in its poetic forms (which retain something of this original, creative 'playfulness') bears traces of the 'original supplement' of the Word. Indeed, for Hamann, when language is truly inspired, it is never merely human' (p. 333). Betz goes along with Derrida when detecting connections between postmodern thought and Hamann's 'suspicion of metaphysics and all allegedly "pure thought"' (p. 331). Why, after so much parallelism, this sudden U-turn towards Christ? As a matter of fact, in the *Aesthetica in Nuce* Hamann regrets what he sees as the main characteristic of Christian philosophy and metaphysics: 'Christianity therefore does not believe in the doctrine of philosophy, which is nothing but an alphabetical script of human speculation (...). It does not believe in (...) symbolic elements and password signs (...) not in pythagorean-platonic numbers.' (Johann Georg Hamann, *Writings on Philosophy and Language*, Cambridge University Press, 2007, p. 189). Christianity is against the 'theorist' (p. 278) whereas Hamann praises the rabbi of divine reason (Rabbiner göttlicher Vernunft) as the 'accomplished man of the letters' (vollkommenen Buchstabenmenschen) (p. 281). These represent clear affinities with Derrida.

I can follow Betz when he says that for Hamann 'language is essentially a prophetic revelation of transcendence, of the divine in and through the human, including all the contingency and indeterminacy, creativity

and eccentricity of human language that this implies' (p. 337). I am still on the same page with Betz when Hamann is shown to demonstrate that the 'history of philosophy – in its quixotic quest for transcendental purity, apodictic certainty, and epistemological mastery over what is, in Kant's phrase, "completely a priori in our power"' (p. 332). However, the simple equation of tradition with God negates a large part of this playful aspect; here Hamann becomes dogmatic and is linked to the above mentioned conclusions of reason based on faith as well as to an authoritarian tradition. It remains a truth that a reason based on faith *is not a reason*, which is probably exactly what Berlin had in mind when uttering his shattering statements about Hamann. However, Hamann was against the absolute status of reason and engaged in a brand of self-critical reasoning that might not be so different from Kant's. Sure, he had some supplementary spiritual and religious input. However, to trace his thought back to another absolute instance, to that of faith, and to cry out 'is it not time to heed the voice of this prophet?' (p. 348) does not bring us one step further.

There is a tortuous argument right on the book's first pages about an internal connection between reason and relativism, where Betz explains that the 'making absolute' of reason is 'hypocritical' because once it is absolute it will – since it is not supported through the 'higher ordination' of God – sink into cultural-linguistic dependence, prejudices and relativism (p. 7). The main purpose of the book is probably to make this claim more plausible and to show how Hamann found a way of reacting against this relativism. However, to me, the link between reason and relativism did not become more plausible nor am I convinced that Hamann looked for reason *beyond* language and culture; and when he looked for God he looked for Him *in* language and culture.