

# The hidden god of evolutionary chance vs the Bible's all-intelligent God

*Where The Conflict Really Lies: Science, Religion, & Naturalism*

Alvin Plantinga

Oxford University Press, Oxford, 2011

Marc Kay

When the editor of this journal asked me to review a book by Alvin Plantinga (b. 1932), my initial reaction was one of slight intimidation. Plantinga is the John A. O'Brien Professor of Philosophy Emeritus at Notre Dame University, a skilled modal logician and a prodigious defender of Christianity. Plantinga's works are the stuff of epistemological and apologetic legend. So could I, a mere philosophy graduate, critically appraise, and potentially criticize, a work by arguably the world's leading living Christian philosopher? Since it's the arguments *themselves* that have the power to convince, not necessarily the one by whom they delivered, then I say, "Quite possibly!"

At the outset, I am confident of one thing—all biblical creationists will certainly find his approach to origins disappointing. Before addressing this, however, first something about the book's overall purpose and structure.

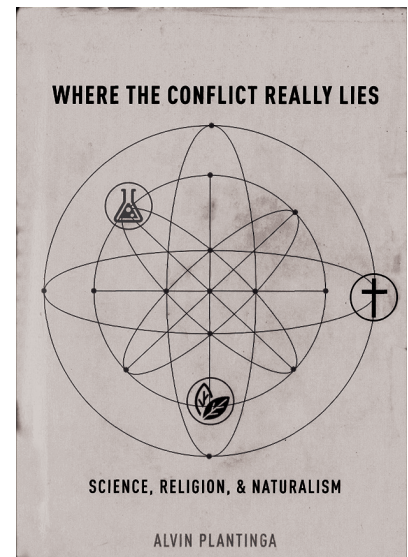
Divided into four interconnected, and often overlapping, parts, the book addresses the genuine, apparent, and false conflict between science, naturalism, and theism. Plantinga succinctly sets out his case in the preface's opening sentence: "My overall claim in this book: there is superficial conflict but deep concord between science and theistic

religion, but superficial concord and deep conflict between science and naturalism" (p. ix).<sup>1</sup> As it stands, every creationist would sing a chorus of amens. However, as often is the case, the devil is in the inglorious detail. But more of this later as this criticism will make up the body of my review.

## Praiseworthy arguments

There is much to like about this book. When he's on song with his philosophical analysis he is punishingly brilliant, unforgiving of any epistemological weakness revealed by atheist opponents. I'll mention a few favourites.

Daniel Dennett, author of the seminal *Darwin's Dangerous Idea*, considers faith irrational, attacking it on the grounds that it lacks reasonable warrant for its religious claims. Citing William Alston's work, Plantinga demonstrates that there is a hypocritical inconsistency at the heart of such a criticism. In most, if not all, areas of epistemic justification, there is a major element of question-begging or circularity. For example, the atheist, too, must beg the question of the reasonableness of her rationality. She must just trust that her rationality (or indeed, her perception, memory, etc.) is, well, rational, in order to address a question or problem that involves using that very rationality to solve or answer it. Plantinga points out atheists rarely, if ever, bring these epistemic conundrums to self-reflection, yet serially raise them when it appears that it may pull down a foundation of theism (p. 48).



This point is developed to a greater degree in his final and, arguably, his best chapter. It is here that he turns the table on the materialist, using her own worldview against her. He argues that naturalism stands in tension with the claims that evolution makes: "there is a deep and irremediable conflict between naturalism and *evolution*—and hence between naturalism and science ... naturalism is in conflict with evolution, a main pillar of contemporary science" (pp. 309, 310). His argument centres on the reliability of our cognitive abilities, given both naturalism and evolution being true. He quite correctly marks out the epistemological advantage conveyed to the Christian trust in the reliability of cognitive abilities by the presuppositional belief of being made in God's image. He skilfully undermines the atheist's belief in her claimed trustworthiness by showing there is no *quid pro quo* epistemic guarantee availing itself. On the assumption that both atheism and evolution are true, then what we see, reflect upon, remember, or empathize with, possesses no assurance that it is a true or accurate representation of an objective world. Given the acceptance of both evolution and naturalism, this assumed verity is easily recognized as reasoning in a very small circle. Despite

the low probability of her cognitive abilities being reliable, the naturalist takes for granted the trustworthiness of her cognitive abilities in order to draw the (unwarranted) conclusion her cognition is reliable.

The best that can be hoped for, as many an evolutionist has pointed out, including Darwin himself, is something which may produce an adaptive reproductive enhancement, an attribute or behaviour which increases survival. Plantinga further demolishes a widespread naturalist defence, i.e. that evolution has produced accurate indications that a belief is true by underscoring the distinct difference between the brain's indicating something, and having "reason why the content of a belief should match what

that belief indicates" (p. 331) (figure 1). This attack on materialism's puffed-up, over-extended faith concerning the connection between a particular belief's neurophysiological properties and the truth value of that belief's content would appear to be a useful apologetic tool. I'd like to think it would sow a seed of doubt in someone who desires to see beyond the prevailing worldview of materialism and its metaphysical sibling, evolution.

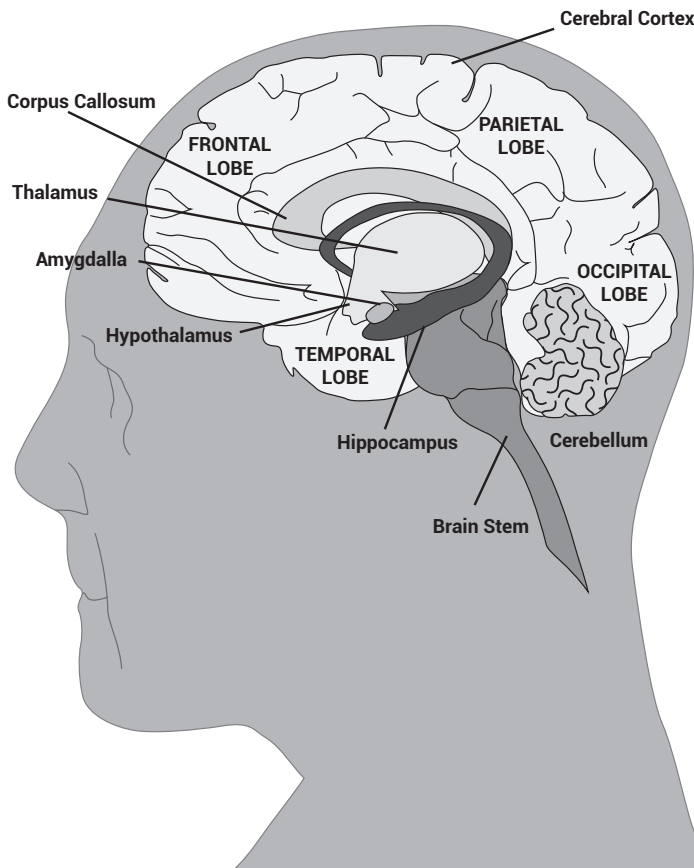
Plantinga also does an excellent job attacking, on logical grounds, the idea that miracles are impossible (pp. 76ff). He makes the two very robust points that miracles could not occur if the universe were a causally closed system and that scientific laws say nothing about what could happen if it were

open. Science has no philosophical authority to declare that the universe is always a closed system of causes. To do so would be extending its commitment from *methodological* naturalism to the all-encompassing *metaphysical* variety, without any justifiable basis. Again, classic empiricism does not, *should* not, have the final word as to whether nature is all that there is.

### How bad can bad get?

I'm sure you'd agree that it's more than a little frustrating reasoning with Christians who, like an Olympiad leg-splitting gymnast, hopelessly attempt to bridge what God has straightforwardly said in Genesis 1, Exodus 20:11; 31:17 and the materialist worldview of evolution. Ignoring the philosophical and theological ramifications of both camps, they convey a sense of the arrogant: Not only do they possess more insight than the historically orthodox, they know the atheist case exceedingly better than its adherents. As early as page 7, Plantinga mentions how there is, in his eyes, an unwarranted consensus between many "Christian fundamentalists and evangelicals" and the evolutionary apocalyptic horsemen, men like Dawkins and Dennett, that evolution is inconsistent with classical Christian belief. Plantinga, over and over again, pushes the, frankly, ludicrous idea that there is nothing logically objectionable to God's having created by evolution.

Occasionally hints of condescension surface. For example, Plantinga disdainfully refers to those upholding the orthodox, historical understanding of creation as "*their* version of the Christian faith [emphasis added]" (p. 7), while soon after writing that "serious" Christians "as far back as Augustine ... have doubted that the scriptural days of creation correspond to 24-hour periods of time" (p. 10).<sup>2</sup> Inexcusably dismissive or ignorant of centuries of scholarship that uphold the



**Figure 1.** Our brain receives information from the world, causing particular neurophysiology to occur. We form beliefs about the outside world from this. According to Plantinga, if evolution and naturalism are true, then just because there are neurophysiological events that occur as a result of external events, this does not necessarily mean that our beliefs about the external events are true and accurate.

very opposite of Plantinga's belief, he adds insult to injury by disparaging a young-earth view through a straw man. It's evident he has never, once, engaged with contemporary creationist apologetics. Creationists, he warns, "often suggest that when God Created [sic.] the world 6,000–10,000 years ago, he created it in a 'mature state', complete with crumbling mountains, fossils, and light apparently travelling from stars millions of light years distant" (p. 10).

But the insult worsens. Speaking on behalf of creationists, he then, seemingly sardonically, writes:

"Here they can appeal to an unlikely ally ... Bertrand Russell [figure 2] wrote that we can't disprove the proposition that the universe popped into being just five minutes ago, again, complete with apparent memories and other apparent traces of a much longer past" (p. 10).

Conspicuous by its absence here is even a single sourced reference to creationist literature, and yet we are expected to accept it as scholarly? Is Plantinga blissfully ignorant of the fact that Russell questions theistic evolutionists' use of deep time? Russell insightfully wrote that if he were God, he wouldn't have bothered taking millions of years, along with death and suffering, to create:

"Religion, in our day, has accommodated itself to the doctrine of evolution, and has even derived new arguments from it. We are told that 'through the ages one increasing purpose runs', and that evolution is the unfolding of an idea which has been in the mind of God throughout. It appears that during those ages ... when animals were torturing each other with ferocious horns and agonizing stings, Omnipotence was quietly waiting for the ultimate emergence of man, with his still more exquisite powers of torture and his far more widely diffused cruelty. Why the Creator should have preferred to reach His goal by

a process, instead of going straight to it, these modern theologians do not tell us."<sup>3</sup>

### The not-so-hidden agenda

Favourably quoting the (apparently) theistic evolutionist Charles Hodge,<sup>4</sup> Plantinga begins to disclose his belief that the Christian doctrine of creation "is clearly consistent with evolution (ancient earth, the progressive thesis, descent with modification, common ancestry) [and] Darwinism, the view that the diversity of life has come to be by way of natural selection winnowing random genetic mutation" (p. 11).

I will give Plantinga this. He's smart enough to know that he's going to have to do far more than just assert their compatibility or cite the faux intellectualism of postmodernism's Procrustean creed of reader and author role reversal, as some Church leaders are overly keen to sell to their congregations. So, in a seemingly Faustian transaction for credibility, he approvingly draws upon the evolutionists Ernst Mayr (zoologist) and Elliott Sober (philosopher), and argues that mutations aren't random in the sense of chance. Rather, random means there is no connection between the fact that any particular mutation arises and what the organism requires to best survive in the environment. In what appears to be a move designed to make room for a creator, he argues there is no *physical* mechanism inside or outside the organism which can determine ahead of time what mutation would be beneficial and then cause it to occur. He picks this crumb up and attempts to construct a creation theology upon it, beginning with:

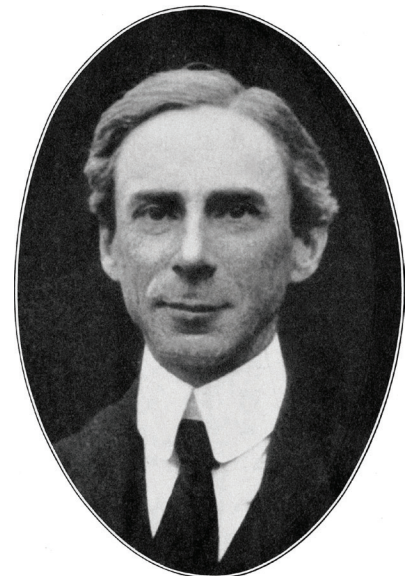
"But their being random in *that* sense is clearly compatible with their being caused by God. What is *not* consistent with Christian belief, however, is the claim that this process of evolution is *unguided*—that no personal agent,

not even God, has guided, directed, orchestrated, or shaped it."

And again, "God could have caused the right mutations to arise at the right time; he could have preserved populations from perils of various sorts, and so on; and in this way he could have seen to it that there come to be creatures of the kind he intends" (p. 11).

Plantinga enquires if unguided natural selection is biologically possible. That is, are there specific biological laws, a not-too-great improbability or a sufficiently large number of possible worlds, where life can arise in the way that it has without being guided by God? Brushing all these aside, Plantinga concludes with what will prove to be a very hackneyed mantra:

"It doesn't follow that life has come to be by way of unguided natural selection, and it doesn't even follow that it is biologically possible that life has come to be that way. For, of course, it is perfectly possible both



**Figure 2.** Bertrand Russell, atheist and evolutionist, understood the incommensurability of theism and God's using evolution. He also pointed out that theologians could not adequately explain why God would bother taking an enormous time if the purpose of creation was the creation of man.



that life has come to be by way of guided natural selection, and that it could not have come to be by way of unguided natural selection. It is perfectly possible that the process of natural selection has been guided and superintended by God, and that it could not have produced our living world without that guidance ... it is perfectly possible that life has developed just as [the Library of Life] specifies, that each of the changes it mentions has come to be by virtue of natural selection, and that God has guided and directed the entire process” (p. 39).

One problem with this sales pitch is that it’s so short of detail. This either leads to you guessing what Plantinga really believes or scratching your head, uncertain to what he really even means. Infrequently, however, he does scrape a few ideas together. For example, in the middle of reprimanding Dawkins for his misapprehension of Dawkins’ own worldview, Plantinga ventures to proffer some solutions to how God, the all-intelligent creator, could have created by evolution. This is unsettling as he uses, in essence, the same method that materialists have cut their worldview cloth from; namely, natural selection acting upon ‘sands-on-the-seashore’ mutations, over a marginally less similarly numbered period of time. Maybe, just maybe, he conjectures, the mammalian eye or the bones in the mammalian middle ear arose from the reptilian jawbone through God having initially set things up “so that the right mutations would be forthcoming at the right times, leading to the results he wanted” (p. 16). Plantinga is no plagiarist and he credits the stalwart defender of Christian truth, Thomas Huxley, for that insight.

Shrewdly ensuring his air-drawn eggs aren’t all in one basket, Plantinga assures the reader, “No doubt there are other ways in which he could have directed and orchestrated the process” (p. 17). Elsewhere, in a footnote, he

expands, in a fashion, on how God could have guided natural selection. He states that

“... by causing the right genetic mutations to arise at the right time, or by preserving a genomic feature that isn’t fitness-conferring [I think he means, ‘is fitness-conferring’], or in still other ways. He could do so either by ‘frontloading’, i.e. selecting initial conditions he knows will issue, for example, in the mutations he wants, or by causing these mutations at the time they are needed” (p. 39).

Here, with a utility exceeding its fully materialist cousin, lies the beauty of theistic evolutionary just-so stories: their boundless plasticity and better-than-chance possibility because God is involved.

### Atheist and Christian common ground

Atheists and many Christians have pointed out that evolution is incompatible with Christianity. Not only does Plantinga disagree, but he believes such a position damages religious belief and science.

Philip Kitcher is one atheist who has focused upon this irreconcilability. He has attacked theistic evolution’s Achilles’ heel, namely the ubiquity and necessary inclusion of death as the creative force, involving billions of years of suffering and extinction of whole phyla, just so man can emerge at the end. Fair point, I say! And Plantinga’s response? I quote in full to show just how manifestly unbiblical his thinking is:

“Kitcher apparently thinks that given evolution, Christians and other theists would have to suppose that the point of the entire process was the production of our species; but why think like that? According to the Bible (Genesis 1:20–26), when God created the living world, he declared it good; he did not add

that it was good because it would lead to us human beings. There is nothing in Christian thought to suggest that God created animals in order that human beings might come to be, or that the only value of non-human animal creation lies in their relation to humans. Is the thought that God simply wouldn’t use a process of evolution, wasteful and filled with suffering as it is, to bring about any end he had in mind?” (p. 57).

So why would God incorporate death and disease into creative process? Plantinga’s answer? Jesus died for us, and all the best possible worlds might necessarily contain incarnation, crucifixion, and thus death and disease. Furthermore, just to complete his theodicy:

‘Satan and his minions’, for example—may have been permitted to play a role in the evolution of life on earth, steering it in the direction of predation, waste and pain. (Some may snort with disdain at this suggestion; it is none the worse for that.) ... Suppose God does have a good reason for permitting sin and evil, pain and suffering: why think we should be the first to know what it is?” (p. 59).

Even a cursory reading of Scripture will put paid to this—the Bible explicitly tells us that bad things arose after the Fall, not billions of years before it.<sup>5</sup> So Plantinga’s very postulation is based on a false premise and is thus rendered, at best, a non-question and, at worst, a desperate smoke and mirrors attempt to confuse the issue. After all, one might just as easily ask, “Why should God use a method of creation which necessarily involves billions of years of misery and death and we not know why?”

### The Grand Delusion

A number of atheists, people like Michael Ruse and David Sloan Wilson, hold that objective morality

has evolved through group selection because it has an adaptive value (pp. 142 ff). Morality, according to their explanation, increases reproductive success because groups are fitter than those without it. Plantinga asks if this necessarily makes it incompatible with Christian belief, and answers that it doesn't. I am in the process of writing a lengthy paper on this and so, briefly, will say that it is incompatible for a number of reasons, chief of which is morality's having absolutely no connection with evolutionary fitness cashed out in terms of reproductive success. Once cashed out in terms of something else—that is, something non-moral—ethical considerations no longer have any meaningful connection to moral properties. From the biblical Christian perspective, simply put, morality is a non-naturalistic property sourced in love, the quintessential ontological character of God, and which brings us into relationship by our having been made in God's image. Finally, it was perfectly demonstrated in the Incarnation, Crucifixion, and Resurrection of Christ. For Plantinga to give any deference, no matter how small, to yet another atheist castle-building project demonstrates how far he has turned his back on Christian orthodoxy.

### Miscalculation, non-calculations, and misapprehensions aplenty

Plantinga takes issue with Michael Behe's conclusions that unguided evolution can't pass muster. If I understand Plantinga correctly, he doesn't agree Behe has apodictically demonstrated that highly improbable events, like the formation of protein events by unguided evolution, are likely to have occurred. Plantinga contends that "Exceedingly improbable things do happen, and happen all the time" (p. 235). He asks us to consider the card game bridge. Each hand has 10 to the

28<sup>th</sup> power possible combinations and thus 1 chance in that many deals<sup>7</sup> "that the cards should be dealt just as they are dealt". Furthermore, given there are 4 hands in a rubber of bridge, there is 1 chance in 10 to the 112<sup>th</sup> power that "the cards should be dealt precisely as they are". Assuming that at any one moment there are minimally 1,000 rubbers being played around the world, the probability that the cards are being dealt in the way that they are is the infinitesimally small 1 chance in 10 to the power of 112,000. He concludes that despite this small probability, the "thing happens" and then enquires whether the probability of unguided evolution's producing proteins is less than this 10 to the power of 112,000 and how we would tell.

Are you as confused as I am? I don't mean confused over the content of Plantinga's argument; I mean bewildered that such a notable philosopher could proffer such an absurdly disanalogous comparison.

Firstly, what does he mean by "precisely as they are"? Does he intend to say that after the multitudinous deals were dealt, the probability of these actual hands or any single one being dealt was that incredibly small number? I doubt it; for after the fact would be a tautological probability of 1. But, there is an ambiguity where he says that this "thing happens". What happens? That all around the world the hands that are dealt, all 10 to the power of 112,000 of them, are dealt that way? Well, naturally, they are dealt that way because they *have been already dealt* in that sequence. Is Plantinga really intending to pass off this contentless proposition as scholarly? I hope not.

Maybe Plantinga's confounded this cryptic claim with a predictive propositional claim that says what is the probability, before the cards are dealt, the cards would be dealt in some exactly defined sequence? Now, that would be 1 chance in 10 to the power of 112,000 (I'm taking his maths

calculations as accurate—although they aren't even close<sup>8</sup>). On logical grounds, there is nothing displeasing about that; but surely Plantinga does not truly believe it's quite credible that a person will tell you, ahead of time, exactly what cards will be dealt to every person over four hands, in a thousand different bridge games! Alternatively, he may be confusing the proposition 'The (unspecified) sequence that *will* soon be dealt' with 'Any sequence being dealt'. Both, in any case, are trivially certain to occur and thus have no surprise effect. It's shocking to see an eminent professor fall for a crude and fallacious atheistic debater's trick of 'cheating with chance'.<sup>9</sup>

### From bad ... to worse

Plantinga then succumbs to an even more irrational development of his urge to defend his prior commitment to theistic evolution. He concedes that the probability of unguided evolution bringing proteins into existence is quite low, and then asks what the probability for an intelligent designer doing so is. His response is extraordinary: "we don't have a very good grasp ... [It's] also really hard to determine ... I don't think we can make any very good guesses here" (pp. 235, 236).

He can't be serious. The probability, if the words 'intelligent' and 'designer' project semantic cogency, is 1. He then tries to justify his seeming nescience by watering down the uniqueness of 'intelligent designer'. We don't know, he says, quoting Behe, if 'intelligent designer' could be the Bible's God, Satan, Plato's demiurge, a new-age force, time travellers, or aliens. He's right; it could also be my auntie Rosie, our milkman, or even Kim Jong-un, who has his god-like status and claims to omnipotence daily reinforced by his armed retinue—the possibilities are endless. Incredibly, Plantinga surrenders all common sense

and concludes that notwithstanding unguided evolution has less probability to produce protein machines than an intelligent designer, “it is unclear that the difference in probability is sufficient to constitute serious support for the existence of an intelligent designer” (p. 236). Shades of Immanuel Kant’s sneaky back-stab to proofs for the existence of God?

If only Plantinga had asked a creationist: he would have gladly pointed him to the work of Spetner, Sanford, ReMine, and Dembski.<sup>10</sup> The maths has been done and the result is unequivocal: evolution is impossible, not improbable. This puts paid to Plantinga’s “We don’t have anything like the means of making the relevant calculations” (p. 235).

### Conclusion

One thing is saliently clear: Plantinga has not engaged with a single contemporary creationist or his material. This is the man who believes that a defeater for design may lie in such examples as the putative suboptimal design of human knees,<sup>11</sup> backs,<sup>12</sup> and the retinal blind spot<sup>13</sup> (p. 254). That is what I would label as intellectual dishonesty.

The importance of belief in a biblical 6-day creation is that when we observe nature we can be assured God has *finished* his creative acts (Genesis 2:3).<sup>14</sup> So God’s main work now is ‘holding together’ His creation (cf. Colossians 1:17), which we describe as ‘natural laws’. But this doesn’t preclude God from performing miracles, which could be considered as *additions* to His natural laws.

This means that it is impossible for anyone to mistake nature’s ordinary working for God’s creative acts. If creation were on-going, as it is with Plantinga’s position, it intellectually invites the (mistaken) conclusion that nature is able to give rise to nature, just as the materialist worldview stipulates. Nature’s normal operations would be indistinguishable from

the finished creative work for which God alone is directly responsible. This would contradict Romans 1:20. By having a young-earth, completed 6-day creation, we can be certain that God, not nature, is creator. The problem with Plantinga’s argument is that ultimately we can never absolutely know if God or nature is the creator. Plantinga’s philosophy allows the pagan worldview to have a firm philosophical footing so that the pagan is with an intellectual excuse. God, in his love for all of us, has ensured this is not a possibility. Plantinga has gifted nature with an ontological autonomy, and this is a paganism masquerading as Christian orthodoxy.

Oddly, Plantinga writes that the Bible is inspired, trustworthy, and that we should interpret Scripture by Scripture (p. 153). With respect to the creation account, why doesn’t Plantinga follow his own prescriptive advice? My guess, and it’s only a guess, is that it is all down to his lack of trust in God’s revelation.

At times I was mesmerized by his cutting intellect, the way that it could sort through the illogic of an atheist proposition. At (most) other times I was left bewildered, even angry, that I understood Plantinga to be way too comfortable passing off the atheist worldview as Christian. With this criticism still leaving a bad taste, I wouldn’t recommend the book.

### References

1. It should be noted that my 2011 edition contains a serious printing flaw. Plantinga’s own words often assume the smaller font used to mark out the words of someone he is quoting, and, without rhyme or reason, bounce back into the correct one that was the standard, larger font that formed the body of his own commentary throughout the book. I complained to Oxford University Press and don’t know if a new run will correct this oversight and thus create a discrepancy between it and the pagination of the initial run I referenced.
2. See evidence to the contrary at, e.g., [tinyurl.com/m17el8l](http://tinyurl.com/m17el8l) and [tinyurl.com/nc44zvm](http://tinyurl.com/nc44zvm). Also see Lewis, J.P., *The Days of Creation: An Historical Survey of Interpretation*, *JETS* 32(4):433–455, 1989; [tinyurl.com/kmmlnjd](http://tinyurl.com/kmmlnjd), accessed 27 December 2013.
3. Russell, B., *Religion and Science*, Oxford University Press, Oxford, pp. 79–80, 1997.

4. On page 11 Plantinga quotes from Hodges’ *What is Darwinism?* which states concerning plants and animals, “If God made them, it makes no difference how He made them...whether at once or by a process of evolution.” While it seems certain that he was an old-earth, apparently Hodge drew a distinction between Darwinism *qua* atheism and evolution *qua* a process that God could create through. It is this latter aspect that Plantinga is riding on. On an important sidebar, notice God, on the theistic evolution explanation, creates *through* something other than God; that is, a metaphysical process. Here they have, unequivocally, supposed that something coming from nothing, creation, does not derive directly from the Triune God but the result of not-God. This is clearly paganism by another name.
5. Smith, H.B., *Cosmic and universal death from Adam’s Fall: an exegesis of Romans 8:19–23a*, *J. Creation* 21(1):75–85, 2007; [creation.com/romans8](http://creation.com/romans8).
6. This refers to a belief held by Michael Ruse that objective morality is a delusion foisted onto humans by our genes, making us think that morality is objective when there is no such thing. See his *Taking Darwin Seriously*, Basil Blackwell, Oxford 1987.
7. Not correct. If the probability is a tiny number P (between 0 and 1 but much closer to 0), then the number of trials needed to have a 95% chance of success is  $\ln((1-0.95)/(1-p))$ , which approximates to  $3/P$ ; i.e. if the chance is 1 in  $10^{28}$  for a certain outcome, then  $3 \times 10^{28}$  trials would be needed to have a 95% chance of achieving that outcome. So it should read “thus 1 chance in three times that many deals”.
8. The number of possible combinations of randomly dealing 13 cards from 52 possibilities is given by the standard probability formula of  $52!/(13!(52-13)!)=635,013,559,600$ —see further explanation at [mathworld.wolfram.com/Bridge.html](http://mathworld.wolfram.com/Bridge.html).
9. Batten, D., *Cheating with chance*, *Creation* 17(2):14–15, 1995; [creation.com/chance](http://creation.com/chance).
10. See Spetner, L., *Not By Chance*, The Judaica Press, Brooklyn NY, 1998; Sanford, J.C., *Genetic Entropy & the Mystery of The Genome*, FMS Publishing, Waterloo, NY, 2008; Remine, W.J., *The Biotic Message*, St Paul Science, St Paul, MN, pp. 208–236, 1993; and Dembski, W., *Intelligent Design*, InterVarsity Press, Downers Grove, IL, pp. 166ff, 1999.
11. Burgess, S., *Critical characteristics and the irreducible knee joint*, *J. Creation* 13(2):112–117, 1999; [creation.com/kneejoint](http://creation.com/kneejoint).
12. Standing upright for creation: Jonathan Sarfati chats with human spine expert Richard Porter about his science and faith, *Creation* 25(1):25–27, 2002; [creation.com/porter](http://creation.com/porter).
13. Gurney, P., *Is our ‘inverted’ retina really ‘bad design’?* *J. Creation* 13(1):37–44, 1999; [creation.com/retina](http://creation.com/retina).
14. This in no way rules out God’s on-going miracles.