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Nicholas Waghorn
Blackfriars Hall
University of Oxford, UK
<https://orcid.org/0000-0003-0830-1732>
nicholas.waghorn@philosophy.ox.ac.uk

Nothingness at the Intersection of Science, Philosophy, and Religion

Abstract:

This contribution examines the effects that a philosophical consideration of nothing has on the debate between theism and atheism. In particular, it argues that surprising conclusions that arise from a close analysis of the concept of nothing result in three claims that have relevance for that debate. Firstly, that on the most plausible demarcation criterion for science, science is constitutionally unable to show theism to be a redundant hypothesis; the debate must take place at the level of metaphysics. Secondly, that on that level, an increasingly popular atheistic response to the question “Why is there something rather than nothing” commits one to rejection of the presumption of atheism. Thirdly, the presumption of atheism is in any case unsupported. The arguments for these claims are only sketches, with the hope for further development in future.

Keywords:

science, philosophy, religion, nothingness, God, atheism

Introduction

Since the nineteenth century the dominant narrative regarding science and religion has claimed that they are in conflict. Obviously, this view, though venerable and influential, has encountered competition from alternatives; that said, it remains remarkably resilient. Doubtless the reasons for this resilience are manifold, but a partial explanation may be a sociological one: that the thesis of a conflict between science and religion serves

atheism rather well, atheism being a popular worldview in Western societies such as our own. If science as a discipline is opposed to religion, the prestige and authority of science will do much to undermine religious claims where the two come into conflict. One claim in particular that is advanced by atheists who look to science as a way of undermining religion is that scientific advances have made religion redundant. The classic example here is the work of Charles Darwin. Prior to Darwin's theory of evolution by naturalistically random mutation and natural selection and the supporting work by Mendel in genetics, William Paley's contention that the complexity and apparent purposiveness displayed in the natural world could only have been the result of the actions of a divine intelligence was a very plausible one. Scientific consensus was largely reached on the neo-Darwinian synthesis however, Paley's style of argument (once grudgingly admired even by the arch-critics of natural theology Hume and Kant), is almost universally thought to be merely of historic interest. The atheist reasons that if God can be put out of a job, or rather the variety of jobs which He has traditionally been thought to be required to do, then it is metaphysically gratuitous to postulate Him. As the French physicist Laplace apocryphally said in response to Napoleon, when the latter asked where God appeared in his system: "Sir, I have no need of that hypothesis." Ockham's razor favors atheism.

In this article, I would like to suggest that matters are a little more complicated than the above story, which I will call "the conflict thesis." I think we can come to see in what way they are more complicated by examining a topic that has been central to my own research in philosophy – namely, the concept of nothing. It will be my contention that consideration of this concept will suggest that: first, the conflict thesis can only ever be plausible in a limited number of cases, and secondly, even if it were the case that the conflict thesis were universally true and science does put God out of a job, it may not be open to atheism to claim that God is a gratuitous addition to our ontology. As far as this matter goes, there may be some reason to think that atheism and theism are on a par. The constraints of space will mean that my argument for these theses will only be a sketch that calls for further elaboration, but I hope that my speculative comments will at least be provocative.

Examining Nothingness

The first of my claims is that the conflict thesis will only ever at best apply to a limited number of cases. This amounts to saying that science can never completely put God out of a job. How is the concept of nothing relevant to this claim? We can begin by taking a look at a comparatively recent attempt to show how science might put God out of a job. I have in mind the atheist physicist Lawrence Krauss' 2012 book *A Universe from Nothing*. Krauss advertises his aim in this book as follows. He references the question "Why is there something rather than nothing?" as having a two-thousand-year pedigree, dating back far before the development of natural science as we know it, to the works of the ancient philosophers. Krauss claims that he wants "to show how modern science, in various guises, can address and *is* addressing the question of why there is something rather than nothing."¹ He implicitly suggests that science addressing the question in this way will leave no room for a religious answer: "Surely," he says, "invoking 'God' to avoid difficult questions of 'how' is merely intellectually lazy."² In his afterword to Krauss' book, biologist Richard Dawkins makes the suggestion explicit: "Even the last remaining trump card of the theologian, 'Why is there something rather than nothing?' shrivels up before your eyes as you read [Krauss' book],"³ and he compares the effect of Krauss' work on theism in cosmology to the effect of Darwin's work on theism in biology, a comparison of which Krauss has approved.

1) Krauss, *Nothing*, xiii.

2) *Ibid.*, xv.

3) Dawkins, "Afterword," 191.

So, what is Krauss' answer to this question "Why is there something rather than nothing?" How is God going to be put out of a job, specifically the job of explaining why there is something rather than nothing, or, as Krauss prefers to phrase the question, of explaining how something can come from nothing? Note that this is not an innocent rephrasing; the two questions actually ask different things. It would, for example, be an adequate answer to the question "Why is there something rather than nothing?" to reply that there is a being that exists necessarily, whereas this would not even be a *prima facie* answer to the question of how something can come from nothing. But let us allow Krauss his rephrasing of this question, and ask how he thinks science will supersede appeals to God as an answer to it. Here is my best attempt to outline his views. Take a region of empty space, says Krauss. Even in the absence of matter or radiation, empty space can have a non-zero energy associated with it, and, if our universe arose through a process like inflation, the laws of physics state that the energy of this empty space will be turned into an energy of real particles and radiation. Hence from empty space can come real particles and radiation – that is to say, can come something. Now, of course, the obvious reply to this is that empty space is not nothing, and so this is not a case of showing how something can come from nothing. Krauss is aware of this, though, and so goes on to argue that we do not even need empty space; we can just have a state governed by the laws of quantum mechanics, with no space or time, and space and time and all the rest of it can come into existence out of that state. Indeed, Krauss hypothesizes that even the laws of physics might not be required. Suppose some sort of multiverse exists – either a bunch of universes existing in extra dimensions, or a perhaps infinitely replicating set of universes in three-dimensional space as per eternal inflation – if this is so, Krauss says, the question of what determines the laws of nature that allow the formation of our universe would be trivialized, as, given all these possible universes, statistically some universe must arise with the laws of nature that are required.

When we assess these suggestions of Krauss, however, they seem rather unpersuasive. We have seen that Krauss himself admits that explaining how something came from empty space cannot really be considered to be an explanation of how something can come from nothing, as empty space is not nothing. Krauss claims that, historically, empty space may have been considered to be nothing, suggesting that the biblical writers or St. Augustine might have understood creation out of nothing in terms of empty space. This is a particularly unfortunate example; Augustine's discussion of nothing in *De Magistro* indicates that he does not see nothing as anything as positive as empty space. There he says of the word "*nihil*": "Instead of saying that '*nihil*' signifies something which is nothing, shall we say that this word signifies a certain state of mind when, failing to perceive a reality, the mind nevertheless finds, or thinks it finds, that such a reality does not exist."⁴ Moreover, there are many examples throughout the history of philosophy going back to the Ancient Greeks of nothing being construed as "less" than empty space. For example, Aristotle would not have believed that any suggested example of empty space indicated to him would be nothing, as he did not think true vacuums could exist in nature, and so any body of apparently empty space must be more than nothing. Finally, in the first two chapters of their book *Creation out of Nothing*, Paul Copan and William Lane Craig have sought to make a case based on the analysis of the Old Testament and New Testament scriptures that the writers of those texts would have understood nothing to exclude empty space. But in any case, as others have pointed out, it does not matter how the question was historically formulated; what matters is how the question is formulated today. And clearly, as Krauss himself acknowledges, empty space is not nothing. But if empty space is not nothing, it is hard to see how the absence of space, governed by physical laws, has any more right to be considered nothing. The laws of nature, whatever else they are, are not nothing (and if we wish to avoid the fallacy of reification by saying that they are abstractions, there must be something in existence from which they are abstractions). Moreover,

4) Augustine, *The Teacher*, 11.

as the philosopher of physics David Albert has observed,⁵ laws of nature are rules governing arrangements of physical stuff (in the case of the laws that Krauss is considering, they govern relativistic quantum fields) and so they cannot explain to us how this physical stuff came to be. Krauss has responded that although he is indeed applying the laws of nature, specifically the laws of quantum mechanics, he is applying these laws to nothing, rather than to a quantum vacuum, that is, a particular arrangement of relativistic quantum fields. But this just seems to involve a misapprehension of what laws of nature are – if there is no nature, how can there be anything for these laws to govern, for them to apply to? I suppose Krauss might say that nothing is a certain state of nature, but, given that nothing cannot have any properties, in virtue of what property can we say that nothing is a state of nature rather than a supernatural state? Given that a state is a matter of how things are, how can there be a state in which there are no things?

If Krauss' first two attempts to explain how something can come from nothing are failures, his third attempt hardly seems like it addresses the issue at all. The fact that in a multiverse there is bound to exist a universe with the natural laws required to allow for the formation of our universe; might (partially) explain how universes come to exist having a certain set of laws. But it brings us no closer to understanding how those universes come to exist *simpliciter*, how they might come to exist from nothing at all. How does the multiverse, this vast ensemble of universes, appear out of nothing? I cannot imagine that Krauss will want to say that he is merely trying to show how our universe can come from the multiverse, as the latter is most certainly not nothing. Now it is true that Krauss' discussion of why our laws might be the way they are occurs in the context of a suggestion that one of his previous unsuccessful candidates for nothing – empty space, or the laws of nature as applied to a state of nothingness – might have existed eternally. But if these are indeed unsuccessful candidates for being nothing, then their eternal existence will neither show why there is something rather than nothing – after all Leibniz argued that this question was still open if the universe was eternal – nor will they show how something can come from nothing, as there will never have been nothing for something to come from. It is of course true that if one of Krauss' unsuccessful candidates for nothing has existed eternally, then God will have been put out of one job, that is to say, the job of making something come out of nothing. But firstly, we have to assess whether Krauss has good scientific reasons to think that one of these candidates has existed eternally, or whether this is just a metaphysical hypothesis on his part, and secondly, we will still be left with the Leibnizian question of why the eternally existing candidate exists at all rather than nothing.

Does Krauss have any response to these criticisms? He has made a couple of remarks in defense of his ideas. With regard to the claim that what he calls “nothing” is not what we mean by “nothing” when we ask why there is something rather than nothing, he replies that scientific progress can change the meaning of questions. So, if people used to point at empty space and say “Suppose that *that* was all that existed – how could something come out of that, come out of nothing?”; then, when on scientific investigation we find out that empty space in fact contains “a boiling brew of virtual particles that pop in and out of existence,”⁶ we realize that it is a scientific question how radiation and real particles can come out of this brew. Now, aside from the previously noted point that not everyone historically saw nothing as empty space, the fact that this question is different does not mean that the original one is redundant or meaningless. No new datum from science has shown that. We can still ask why there is something rather than nothing at all – that is, no space, no time, no laws, nothing. And if Krauss cannot give a scientific answer to this question whereas theism can, then he cannot legitimately claim that science has put God out of a job. Roy Sorenson has suggested a defense of Krauss' view, noting that physicists explicated “heat” into more precise concepts such as temperature, thermal energy, and heat transfer;

5) Albert, “Everything,” 20.

6) Krauss, *Nothing*, 153.

although these new terms were not synonyms of “heat,” they were sufficiently similar to obviate criticisms of a change of subject.⁷ But such a defense is implausible in the current case; empty space is something, and something is as dissimilar from nothing as anything can be.

In response to the claim that for something to come out of a state of nothing that excludes even the laws of nature, violates the categories of human thought, Krauss has claimed that “[C]lassical human reason ... is not sufficient to discern the workings of the Universe.”⁸ To support this claim, he gives the example of “electrons being in two places doing two different things at the same time as long as we are not measuring them”⁹ – this, he says, is nonsensical but true. But I do not think that scientists would want to say that quantum theory commits us to contradictory propositions; as Krauss himself says, the apparent strangeness of electrons has required us to rethink “what we mean by particles.”¹⁰ This suggests that, contra Krauss, scientists are trying to regiment scientific data in theories in such a way that classical human reason is satisfied. This is unsurprising. The idea that a claim can be nonsensical but true is itself a claim that it seems hard to make sense of. How can a nonsensical statement have any truth value? How can a nonsensical answer to a question be a satisfactory answer? If scientific answers to a question entail that we must accept nonsensical claims, then we can justifiably question if there really is a scientific answer at all.

Krauss at times instead offers a more concessive response to these criticisms, appearing to accept that, in fact, he cannot give a scientific answer to the question as he promised. Rather he can devise a new question, such as “How can something come from empty space?” and give an answer to that. But obviously this will not make good on his initial hope to put God out of a job using the techniques of science.

An Alternative Argument

At this point it may also be worth dealing with an argument that seems to be associated with some other physicists who wish to support atheism, although it is an argument often appearing in a somewhat inchoate state. It draws on the observation that the total energy of the universe is zero. That is to say, in the words of Stephen Hawking, the “negative gravitational energy [in the universe] exactly cancels the positive energy represented by the matter.”¹¹ Quite what we are to draw from this fact is another issue. I have seen claims that, if the total energy in the universe is zero, then we do not have to explain why there is something rather than nothing, as there is nothing now. More plausibly, some have claimed that, if particles of matter can be created out of energy as part of particle/antiparticle pairs, then provided we can explain the existence of the energy, we can explain the existence of the matter that constitutes the universe. Given the first law of thermodynamics, which states that energy can neither be created nor destroyed, but only change forms – at least in a closed system – if the coming into existence of the universe meant the creation of energy, then we would have a violation of the first law, which the theist can claim could only be brought about by an omnipotent God (provided that we accept that nomological necessity does not collapse to metaphysical necessity). However, if the universe now has zero energy, and there was presumably zero energy before it existed, then there is no violation of thermodynamics that requires explanation in the form of God: science has put God out of a job. What should we make of these arguments?

7) Sorenson, “Nothingness,” sect. 10.

8) Krauss, “Krauss vs. Craig.”

9) Ibid.

10) Ibid.

11) Hawking, *Brief History*, 143.

First, recall that Hawking claims that the “negative gravitational energy exactly cancels the positive energy represented by the matter.” Whatever else he might mean by “cancels” here, he surely cannot mean that the negative energy causes the positive energy to cease to exist, and vice-versa. If that were so, there just would be no positive energy or negative energy in the universe, and consequently no matter; and this is empirically false. So, in the face of the absurd claim that we do not need to explain why there is something rather than nothing because there is nothing now, we can show just why this is absurd. But we can also rebut the more plausible argument, by observing that the total energy of a state being zero is not the same as that state being a state of zero energy. Of course, if it is the case that there is in existence a state such that the total energy in the universe is zero, and this changes to a different state in which that total energy of the universe is still zero, the laws of thermodynamics have not been broken, and there is no need for God to be invoked to explain any change in the total energy. There is still the need to explain the change from a state of the universe with zero energy which does not manifest itself as containing matter and a state of the universe with zero energy that does. Whether that explanation could be a scientific one is another matter. But, as I say, we are not offered any resources by these considerations for a scientific answer to the question “Why is there something rather than nothing?” or “How can something come from nothing,” as the total energy of a state being zero is not the same as a state of zero energy. A state of zero energy has it that there is no energy in that state at all; if nothing exists, then no energy exists. But a state in which the total energy of the state is zero will be one in which energy exists, but the balance of that energy, positive and negative, will be set to zero. But that energy, both positive and negative, still exists, and so something exists. The observations of the physicists we have looked at in this regard have only shown us how one state in which the total energy in the universe is zero can alter to a different such state without violating the laws of thermodynamics. They have not shown us how a state in which no energy exists can change to a state in which energy exists, but the balance of that energy is zero. That would be the question of how something can come from nothing, and it still seems as though a theistic explanation has not been shown to be redundant here.

The Demarcation Problem

I do not think we should be greatly surprised at our results so far, as it may be a conceptual point that this question, and a number of other questions for which some claim God is required as the answer, are not susceptible to a scientific answer. Rather, that answer might have to be a metaphysical one, whether that metaphysics be theistic or atheistic or whatever. Why so? To answer that, we must consider how science differs from metaphysics. This is a very large and complex question – it is part of what is called “the demarcation problem” in philosophy of science, and I will only offer some brief remarks on it here. Firstly, many philosophers of science now dispute that there are any criteria that we can use to demarcate science from metaphysics. If this is so, then it cannot be a conceptual point that science cannot answer this question, but metaphysics can – rather we will just have to assess answers to this question on their own merits piecemeal. However, it will also be true that science cannot “put God out of a job” in the way that the atheist may have thought, as theistic metaphysics cannot be demarcated from science. Hence the dispute is one internal to science not an external one of science in opposition to another discipline, and, as I hope my discussion to this point has shown, neither Krauss’ proposal nor the arguments advanced to show the redundancy of theism in the previous section further the atheistic side of the dispute.

Suppose, however, that a criterion for demarcating science from metaphysics is possible. It seems that suggestions for that criterion cluster around notions of empirical testability – here I follow Peter Achinstein.¹²

12) Achinstein, “Demarcation,” sect. 7.

If a scientist wishes to propose a theory, he or she should be able to do something, like run an experiment, so that observations can confirm or falsify that theory – at least at some point. Metaphysicians are under no such obligation; it would be hard to see how one could confirm or falsify by experiment different theories concerning the metaphysics of modality, for example. (Indeed, some have taken the possibility of empirical confirmation to be dispositive of such a metaphysical theory of modality.¹³ So, at least in some cases, scientific confirmation is argued to be actually immiscible with metaphysical truth.) Note that a scientific theory, though requiring empirical testability, need not be reproducible. If this were so, the theory of descent from a common ancestor in evolutionary biology would not count as a scientific theory. To account for this, Martin Mahner has suggested that such an event is repeatable in the sense that “events of the same kind may reoccur on a more or less regular basis.”¹⁴ But we should now note that any hypothesis alleged to be scientific that claims to answer the question of how something can come from nothing cannot be empirically testable in the way that this demarcation criterion requires. How could we go about testing such a hypothesis, that is, a hypothesis as to how something might come from nothing? To do so, we would have to bring about a state of nothingness, moreover, not a local state (as then our experiment would not be able to rule out, say, action at a distance), but a state of absolute nothingness, and monitor what happened. But, given that such a state would, *ex hypothesi*, have no observers, the bringing about of such a state could not furnish us, even in principle, with the observations that an experiment should provide. Nor does it seem that we could infer the answer of how something could come from nothing from other observations we already have made; after all, what possible observations could lead us to do this? In some cases, we might be able to extrapolate from some observations to conclusions about matters which we cannot observe, in accordance with Mahner’s more lenient understanding of repeatability. But Mahner’s adjustment required that the repeatable events be of the same kind as those we cannot access in order to allow for empirical testability. And in the case of something coming from absolutely nothing, we cannot expect to see any events of the same kind, as absolute nothingness is not just quantitatively but qualitatively different from any events that we have seen, or, given that, as I say, the presence of observers will militate against there being a state of absolute nothingness, that we *can* see. So, on the most plausible and intuitive criterion for a hypothesis being a scientific one, there can be no answer to the question “Why is there something rather than nothing?” that is at the same time a scientific hypothesis. Science is constitutionally unable to put God out of a job (or at least *this* job); this is a matter for metaphysicians.

The Probability Argument and the Presumption of Nothingness

I should now like to broaden the focus of discussion. We have seen how misapprehension about the nature of nothing has led to the failure of Krauss’ attempt to support atheism by scientifically showing God to be redundant. If this is so, then when asked for a reason to believe in God’s existence, the theist can point to God as the only good answer to the question “Why is there something rather than nothing?”, and that answer can then be assessed by the atheist. The theist has, at least *prima facie*, taken up and discharged the burden of proof. What I would now like to suggest is that, when we further investigate misapprehensions about the nature of nothing, we might see that the theist need not even take up the burden of proof.

First, let us consider an argument that seems to have become popular as a non-theistic response to the question “Why is there something rather than nothing?” and unfold its relevance to the burden of proof issue.

13) Cf. Lycan, “of Possibilia,” 313.

14) Mahner, “Demarcating,” 521.

This argument has been advanced by theists, like Peter van Inwagen,¹⁵ as well as atheists. Essentially the idea is that the question “Why is there something rather than nothing?” makes the unwarranted assumption that somehow nothing is the default state of affairs, whereas the existence of something, anything at all, is in some way surprising or remarkable, and calls for an explanation. If we question this assumption, the fact that something exists will be much less surprising. After all, consider the many ways there could have been a universe with something in it: there could have been a universe with just a single steel ball in it, there could have been a universe with two such balls, there could have been a universe exactly like ours but in which I was born in France instead of England, there could have been a universe filled only with nitrogen gas, and so on. There are a vast number of ways in which there could have been something, but only one way in which there could have been nothing – namely, the universe in which nothing exists. Hence, given that there are infinitely many possible universes in which something exists, and only one possible universe in which nothing exists, if we assign each possibility the same probability of being actual, the probability of the universe in which nothing exists being actual is infinitesimally small. So, with regard to the question “Why is there something rather than nothing?” the answer is that it is maximally improbable that nothing should exist.

This sort of argument has been criticized in the literature; so, for example, Erik Carlson and Erik Olsson have disputed the claim, which is essential for this argument, that each given universe is equally probable. To this end, they suggest the following example. Take a set of possible worlds, each representing a universe in which exists one coin-tossing machine, and one fair coin. After five minutes, the machine starts tossing the coin, continuing to do so until tails turns up, at which time it stops. So, in one universe, the machine stops after the first toss, in another after the second, in another after the third, and so on. Now, if universes are all equiprobable, a universe in which tails comes up on the first toss is just as probable as a universe in which there are one billion consecutive heads before tails comes up. And this seems most implausible, hence the argument fails as not all universes are equiprobable.¹⁶

There are a number of other criticisms of the argument, and even some of its proponents, like van Inwagen, now seem unsure of it, but I want to take the discussion in a different direction. I want to suggest that, if the argument is correct, although we may have an adequate atheistic answer to why there is something rather than nothing, the so-called presumption of atheism will be undermined. I take the presumption of atheism to be based on a principle of parsimony, which is a subcategory of simplicity; we should prefer simpler theories as explanations, and part of that simplicity will involve abstaining from postulating the existence of entities (that is, adding entities to our ontology) unless they play some explanatory role. So if we can explain the universe just as well without invoking God as we can with such an appeal, we should adopt the atheistic explanation.

Now, suppose we agree with the atheistic response to the question of why there is something rather than nothing insofar as the universes in which something exists are much more numerous than the universes in which nothing exists. If this is the case, we do not have any reason for supposing the actual universe to have fewer rather than more entities as, for each universe with a region in which there is nothing, there will be innumerable other possible universes which are otherwise identical with the actual universe, but in which that region is filled with something or other. (Note that to assume that “universe” is to be understood as physicists understand it, rather than as metaphysicians do, would beg the question against theism. So, by “universe” here, I understand “possible world”; hence my talk of “regions” being “filled” is metaphorical as, plausibly, not all the entities in a possible world must be spatiotemporal.) But if this is so, we cannot argue that simplicity as a value for theory construction is any guide to what we should allow into our ontology. It may be true that, when constructing

15) Van Inwagen, “Why Anything?”

16) Carlson and Olsson, “Presumption,” 209–10.

a theory to explain some phenomena, we should aim to make that theory as simple as possible by, say, postulating as few entities as possible, amongst other factors. This might be a desideratum of theory construction as it allows us to handle theories more easily. But, given that we do not take the non-existence of things to be the default state of them, it does not seem thereby supported to say that we should only commit ourselves to the existence of entities which play a role in our best explanatory theories about the universe. There may be all sorts of other entities that we get *gratis*, free gifts from our bountiful universe. But if this is so, then just because we do not have any evidence for God, on the basis that there are no facts about the world that are more probable or only possible on the hypothesis of theism as opposed to the hypothesis of atheism, this does not show that we are irrational in affirming the existence of God. This would only be irrational if we assume that the non-existence of an entity is its default setting. (This assumes that God's nature is that of an entity; classical theists of a certain stripe may wish to deny this for some reading of "entity." I do not have space to enter into discussion of this point here.)

Roy Sorenson implicitly responds to this when he says that "Most contemporary philosophers feel the presumption of non-existence is only plausible for particular existence claims. Since the presumption only applies on a case-by-case basis, there is no grand methodological preference for an empty world."¹⁷ If it is the case that we can presume non-existence for particular existence claims, and not the world itself, then we can deny the presumption of nothingness whilst still saddling the theist with the burden of proof. The problem here is that Sorenson gives no rationale for his claims. It may be true that most contemporary philosophers feel that the presumption of non-existence is only plausible for particular existence claims. But that as it stands is a purely sociological fact in the absence of a rationale, and we are not given one. Moreover, I do not know what support Sorenson has for even this sociological fact; he does not give any support for it. After all, for any given particular thing in the world, there is a possible world in which only that thing exists, where (on the hypothesis that the presumption of nothingness does not hold) that latter world is equiprobable with the empty world. If we cannot make the presumption of nothingness with regard to a particular when it comprises a given world, why can we make it with regard to the same particular when it comprises just a part of this one? Sorenson owes us a rationale for why being part of a world absolves a particular of suffering the presumption of nothingness.

A different response is provided by an anonymous reviewer for this paper. This reviewer argues that denial that nothing is the default state of affairs need not prevent parsimony arguments being wielded by the atheist against the postulation of God's existence, as God has certain characteristics, such as perfection, absolutely simplicity, and the like which make God atypical. Given that God is atypical, is of an unusual type, there will be fewer possible worlds in which God exists, and so the probability that God exists in the actual world will be low – how low will depend on the proportion of overall worlds that the smaller subset of worlds in which God exists contains.

But if we deny that nothing is the default state of affairs, where this is understood (modestly – perhaps more modestly than I would like), as the non-existence of any token *concreta* of any type, then we not only lose the presumption of token parsimony, but the presumption of type parsimony too. If, for a given type, there is no presumption that, on balance, there will not exist a concrete thing of that type rather than there will exist a concrete thing of that type (as nothing, where nothing is the absence of any type of concrete thing, is no longer the default state of affairs), then for exactly parallel reasons to those establishing the failure of parsimony arguments for tokens, parsimony arguments for types will fail. Talk of it being a concern that God is atypical, and so less probable, is simply analogous to talk of it being a concern that God is a-token-ical (i.e. that postulating God is to postulate without reason an additional token in a "region" which by default is tokenless), and so less

17) Sorenson, "Nothingness," sect. 1.

probable: the move from the relevant status to a lower probability is invalid if we cease to take there be nothing, (i.e. no token *concreta* of any type, as the default state of affairs).

Ontological Concepts and Burden of Proof Arguments

At this point, the atheist may want to give up the response from the last section to the question of why there is something rather than nothing. They may try another tack – perhaps dismissing the question as ill-formed, or claiming that the existence of something is just a brute fact, or some response along those lines. Even if this is the response taken, I think considerations of the concept of nothing may show the presumption of atheism to be problematic. My reasons for thinking so are, I freely concede now, speculative and sketchy, but I present them here for what they are worth.

For my purposes in expositing this argument I will talk of naturalism rather than atheism. If we understand naturalism as the view that whatever exists can be examined and explained using the methods of the natural sciences, it will follow that, even if not all atheists are naturalists, all naturalists will be atheists. For, as God is, *ex hypothesi*, not an entity that can be examined or explained using those methods, naturalism will say that there is no God, nor is there anything like God. (Here I am glossing over some well-known problems in defining naturalism.) Everything that exists is susceptible to understanding via the natural sciences. That is to say, there is nothing beyond the physical realm. But here, at the point at which the naturalist explains his or her position, in the definition of the naturalistic worldview, a Heideggerian question comes into play. What is this nothing that the naturalist speaks of when saying that there is nothing beyond the physical realm? Naturalism must give some account of it, on pain of failing to give an adequate definition of itself. But, and here is, to my mind a genuine problem, any attempt to give an account of this nothing will fail; it will attribute to nothing certain characteristics that we will want to say cannot be so attributed. Any predicates that we use regarding nothing will either express a genuine property or a merely apparent property the nature of which supervenes on genuine properties. But intuitively we cannot attribute any properties to nothing; after all, there is nothing *there* to have them. Moreover, property instances or tropes are something, and so if they exist then nothing does not exist. So, the naturalist will appear to find himself in the throes of conceptual incoherence when outlining his position.¹⁸

Of course, the Heideggerian question is liable to call forth a Carnapian answer; namely, that when we ask about the nothing that the naturalist mentions, we are confusing a quantifier with a referring expression.

18) A reviewer suggests that the argument here does not go beyond the following argument:

A: Are you a naturalist?

B: Yes.

A: Then tell me, who murdered Queen Victoria?

B: Nobody.

A: And what do we know about this “nobody” that murdered Victoria?

B: Nothing can be known about “them.” There was no such person.

A: Aha! So, your conceptual scheme is unable to handle the non-person who is behind the non-murder of Queen Victoria! Naturalism is defeated!

But this argument is not analogous; in setting out his position the naturalist does not have to make any mention of Queen Victoria or her putative murderer. But in setting out naturalism one *does* have to make recourse to the concept of nothing, because naturalism is a “totalizing” theory, a theory of reality as a whole, of everything – and thus must claim that it leaves nothing out. The disanalogy lies in the fact that “nobody” is a restricted negation, ranging over persons, whereas “nothing” is not; just as in the fridge case in the main text below, the negation is restricted.

When the naturalist says that there is nothing beyond the physical realm, he or she is not saying that there is some strange and shadowy thing, that is to say, nothing, that exists beyond the physical realm. Rather the claim is that it is not the case that there is a thing such that that thing is beyond the physical realm.

While I agree that in more everyday cases, such as when we want to say “There is nothing in my fridge,” an acceptable paraphrase would be “It is not the case that there is a thing such that that thing is in my fridge,” it does not strike me that this is possible in our current case. In the fridge case, our attention is directed towards a certain arena – the inside of my fridge – and the claim is that there is no food or drink in there. But in our current case, our attention is directed beyond the physical world, whatever that may mean, and the claim is that there is nothing at all there, presumably not even anything that could be understood as an empty realm. We cannot turn this use of the word “nothing” into an anodyne reference to the absence of a specified type of thing in this or that part of reality. Rather, because of the totalizing work that the definition of naturalism is doing, namely giving a definition of the character of reality as a whole, “nothing” must be used here in a different, unrestricted, sense: beyond the physical world there is absolutely nothing, in the same way that if the universe had not existed, there would have been absolutely nothing. How we are to understand this reference to nothing in an unrestricted sense is the difficult question.

A reviewer raises a concern here, claiming that, to make sense of the claim that nothing is “beyond” the physical, it is sufficient to make sense of the formula that $\Box x (F1x \vee F2x \vee F3x \dots Fnx)$, where $F1-Fn$ represent all the primitive monadic physical properties – here the use of “ \Box ” is claimed to be “perfectly sufficient to express the claim that everything is physical.” Similarly, it is asserted that my counterfactual “If the universe existed, there would have been absolutely nothing” can be rendered as $\sim \Box x (F1x \vee F2x \vee F3x \dots Fnx) \boxrightarrow \Box x (x \neq x)$, where “ \boxrightarrow ” is the counterfactual connective.

The problem here is that the view that the use of “ \Box ” is perfectly sufficient to claim that everything is physical – or for that matter, that everything has *any* property – begs the question. “Everything” is interdefinable with “nothing”; I cannot see any way of defining “everything” without (at some point) some explicit or implicit appeal to the concept of “nothing.” But the coherence of the concept of “nothing,” and thus of “everything” in this unrestricted sense, is just the point at issue. Of course, this is not to say that “ \Box ” has no use, as in virtually all but a few contexts the domain for “ \Box ” to range over will be restricted – perhaps to things in my fridge, for example. But, in philosophy of late, unrestricted quantification of the kind required by the formula used to express naturalism above has been the subject of considerable controversy. Readers interested in the subtle and detailed debate on the matter may find Rayo and Uzquiano’s *Absolute Generality* a good place to start. My concern here is slightly orthogonal (and some might say crude!); it is developed in *Nothingness and the Meaning of Life*, section 3.7.

One further remark; I am also skeptical of the implied rendering of “Nothing exists” as $\Box x (x \neq x)$. Not only does this use the troublesome unrestricted “ \Box ” but it also seems to indicate that non-existence is to be identified with non-self-identity, which is a view on which it is hard to account for the truth that (*pace* necessitism), whilst it is possible that the table I am working on could not exist (could be non-existent), the selfsame table could not be non-self-identical.

Note that we can apply our central argument to non-naturalist atheists, as such an atheism will also have to invoke “nothing” in its definition of itself at some point as the concept of atheism involves a negative singular, namely “God does not exist.” Such a negative singular can be validly converted to a universal negative, namely “Everything is such that it is not God,” and to make sense of this will require making sense of the concept of nothing; “everything” and “nothing” are interdefinable. The statement of theism does not involve a comparable negative singular; it merely involves a positive affirmation of singular existence: “God exists.” Of course, it can be pointed out that the theist and atheist alike will want to make claims like “Unicorns do

not exist,” or alternatively, “Everything is such that it is not a unicorn,” so the theist is not protected from this concern. Rather than appealing to this conversion then, the theist might be better advised to wait and hear how the non-naturalist atheist characterizes the world so as to leave God out, what types and tokens he claims comprise the total set of entities with nothing more besides, and then ask the Heideggerian question about this nothing (more on this later).

Of course, it is open to the naturalist to offer a *tu quoque* response at this stage: he might rightly claim that in barring him from saying certain things about nothing, we have made illicit attributions of our own, we have likewise been attributing properties to nothing, such as the property of having no properties. Hence the naturalist may argue that he can ignore our criticism. But this response, though legitimate in itself, in the context of a discussion of who bears the burden of proof, proves too much. For the theist is then liable to claim that, if the atheist can make illicit attributions to nothing, criticism of which can be turned aside by means of a *tu quoque* response, the theist can happily attribute to nothing, properties such as omniscience, omnipotence, and the like. The response that these properties are obviously not properties of nothing will cut little ice, for the question at issue here is precisely what properties nothing does have, or what properties are appropriate to attribute to it.

Now, if the theist can attribute the properties of omniscience, omnipotence, perfect goodness and so forth to nothing, this will show that nothing is what we identify as God.¹⁹ This may not be as counterintuitive as it first seems if we bear in mind two points: (i) for the atheist, nothing is what we identify as *something*, even if it is not God – illicit conceptualization is illicit conceptualization. If any idea of nothing we propose will involve illicit conceptualization, we have no concept to propose as some Kantian regulative ideal that will allow us to mark out some wrong answers as somehow more “appropriate” than others. (ii) The identification of God and nothing has been a current in Western philosophical theology from Eriugena in the ninth century through Meister Eckhart in the Middle Ages to Jean-Luc Marion in the present day. One plausible explanation for this identification is a strong emphasis on the transcendence of God – God’s nature is so perfect that human concepts are unable to adequately capture it, and hence we cannot apply any predicates to God, in the same way, although for a different reason, that we cannot apply any predicates to nothing. Moreover, as Nicholas of Cusa noted, the application of a property always qualifies and makes finite in some way that which the property is applied to, but God, being infinite, cannot be qualified in this way. It would take us too far afield to assess these reasons for believing that God and nothing converge; my aim in sketching them is simply to indicate that the theist’s identification of God and nothing need not be as counterintuitive nor as *ad hoc* a claim as it might initially appear.

In the context of a discussion concerning where the burden of proof lies, the theist and the naturalist appear to be on a par; both accept nothing, but interpret it in accordance with their own worldview. Now, one objection that proffers itself at this point is that theism will have to deal with the problem we have raised for naturalism about how to understand nothing no less than naturalism itself, as, when we ask the theist what is beyond the universe and God, they will have to reply: “Nothing.” The theist is then required to find some way of elucidating this nothing, which exists in addition to the world and to God. So, the theist is in exactly the

19) A reviewer objects that the theist cannot attribute any such properties to nothing as, given that theism postulates a metaphysically necessary being, it is metaphysically impossible that nothing should exist. As such, “nothing” in its unrestricted sense is unavailable to the theist. But not all theists postulate a metaphysically necessary being; Richard Swinburne, for example, famously takes God to be metaphysically contingent. And we must also pay attention to the dialectical context here: the atheist is claiming that he can make illicit attributions to the nothing that is beyond reality naturalistically construed. But if he can do this, the would-be theist can take the naturalist’s own worldview but merely make a different set of illicit attributions to nothing, where these consist in attribution of the properties of God, traditionally construed. If this is the strategy, then postulating a metaphysically necessary being is not immiscible with nothing existing, as nothing here will be construed in terms of the attributes of that being, including metaphysical necessity. This is what is meant by the claim that nothing is what we identify as God.

same position as the atheist, except that he or she has added a redundant entity, namely God, to our ontology. Hence the burden of proof reappears: the theist must give us some reason for adding this entity.

However, on closer inspection this objection is misguided. As we have seen, theists have sometimes considered God to be nothing, so if following this line of thought, one takes only the physical universe to exist, and nothing else, and then understands nothing in accordance with the properties of God, the theist and the atheist will be on equal footing. Now, it may be then that someone might wish to ask the following: what is there besides the universe and this odd-propertyed nothing, (although really they will have no grounds on which to claim that this nothing has odd properties) and in response to this the theist might be tempted to reply: "Nothing." But the same question can equally be asked of the atheist, and his or her odd-propertyed nothing (whatever name is ultimately given to it), with the temptation for the atheist to reply the same in response.

Note that this observation can be used to generate all sorts of entities that neither the atheist nor the theist would like to accept as part of their respective ontologies – unicorns, the Greek pantheon, a golden mountain, or what have you. As I have been concentrating on the burden of proof dispute between atheists and theists, this concern does not bear directly on my point here. Nevertheless, it might be thought to be a source of parody arguments. If one is averse to the conclusions of such arguments, I suspect that what this must be taken to show is simply that we do not have an adequate grasp of the concept of nothing. If so, the obvious moral to draw is that, until we are clear on our most fundamental ontological concepts, such as existence, reality, and here, nothing (where this may involve quite radical changes to our philosophical methodology), we cannot without further argument expect to put those concepts to use in certain ontological contexts, such as burden of proof assignments, and should suspend our judgement about such assignments. This only applies to metaphysical disputes. In science, as I indicated earlier, it is permissible to be parsimonious in our theories to prevent such theories becoming unwieldy. Equally, it is at least *prima facie* plausible that I can have certain *pro tanto* pragmatic reasons to presume against the positing of an entity as I untheoretically go about my daily business. (What if I were to posit an evil demon who will punish me for acting for pragmatic reasons to an extent that overwhelms any force such reasons have? Well, I might have good pragmatic reasons not to posit such a demon in the first place.)

Conclusion

I conclude then that the conflict thesis between science and religion appears not to be true in all cases, as the scientific attempts to explain how something can come from nothing given so far have failed. In addition, it may be that scientific attempts to explain this will fail by definition, depending on how we understand the demarcation between science and other forms of inquiry such as metaphysics.

Finally, when we take into account some peculiar features of the concept of nothing, it can be argued that there is no significant difference between the theist and the atheist in the context of a burden of proof. This, of course, does not settle the question of which of these two metaphysical views we should favor. That task is left for hard work in natural theology and natural atheology to decide. All I wish to posit is that, from the viewpoint of the starting post, it may be that the task is not more daunting for one than for the other.

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