

BAYESIANISM AND THE EXISTENCE OF GOD

BAYESIANISM AND THE EXISTENCE OF GOD
A CRITICAL EXAMINATION OF BAYESIAN ARGUMENTS FOR THE
EXISTENCE OF GOD

By

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ABSTRACT

This thesis looks at one example of a Bayesian argument for the existence of God in order to evaluate the quality of such arguments. It begins by explicating a general trend in philosophical apologetics towards probabilistic arguments for God's existence, most notably represented in Richard Swinburne's 2004 book, *The Existence of God*.

Swinburne's arguments are presented as the pinnacle of the probabilistic movement. In order to judge the worth of such arguments, I carefully lay out the principles and assumptions upon which Swinburne's case is based. I show that his argument requires both the truth of substance dualism and the valid application of the simplicity principle to a set of possible hypotheses which purport to explain the existence of the Universe.

Swinburne depends on the willingness of philosophers to accede to these points. I proceed to show that no agreement exists on the topic of dualism, concluding that Swinburne has a lot of work ahead of him if he wants this assumption to firmly support his argument. I then show that, while the simplicity principle is generally agreed to be a good tool for real-world situations, there are important differences when attempting to use it to adjudicate between hypotheses to explain the universe. The simplicity principle requires both background knowledge and a mutually exclusive and jointly exhaustive set of hypotheses in order to be properly applied, both of which are here lacking. If I am right, then we will be unable to reasonably assign several values necessary in order to utilize Bayes' Theorem. Thus the Bayesian approach cannot be used for the problem of the existence of God. Finally, I show that Swinburne's own assumptions can be used to generate a different conclusion, which casts further doubt on his methodology.

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Chapter 1 - Introduction to the Issues

1.1 Does God Exist?

The American theologian Frederick Beuchner once said: "It is as impossible for man to demonstrate the existence of God as it would be for even Sherlock Holmes to demonstrate the existence of Arthur Conan Doyle" (Beuchner, 31). The point is well made. For over two millennium philosophers have failed to construct a strong enough argument for this thesis to convince sceptics. In fact, as new discoveries in both philosophy and science call into question our assumptions about the nature of the universe, many feel that any answer, either positive or negative, is beyond our reach. Yet the search continues, driven forward by strong convictions that the question has already been answered and that the clues needed to bridge the gap for those who rely purely on rational inquiry are simply waiting to be found.

If the question could ever be answered it would have a profound impact on the development of society and culture. Since the stakes are so high, responsible thinkers ought to be wary of all claims of progress made in this area and subject them to the full weight of academic review.

Such an exercise is no anti-religious crusade. First and foremost, it is a safeguard against all persons who would misuse the tools of rational inquiry in support of their own social or cultural program. Additionally, the search for God has long involved digressions and explorations into areas of science and philosophy which strike at the very nature of the universe and humanity. I believe that discoveries in these areas have been, and will

continue to be, intrinsically valuable. When someone comes forward claiming to have a rational argument for the existence of God, we should carefully examine their claims and eagerly delve into the details in the hopes of learning something more about ourselves and our world.

1.2 The Problem and the New Apologists

The challenge faced by modern apologists is that, although many attempts have been made to argue for God's existence, the majority of scientists and philosophers remain unconvinced. For example, a study conducted by Edward Larson and Larry Witham in 1998 surveyed 1000 American scientists, repeating a study conducted in 1914 by James Leuba. In 1914, of those scientists surveyed, only 27.7 percent expressed belief in a personal God. This number had dropped to only 7.0 percent in 1998 (Larson and Witham). Also, in 2009 a survey of 931 philosophers and philosophy graduate students from departments around the world was conducted by David Bourget and David Chalmers. This survey indicated that only 14.6% of the respondents accepted or leaned towards the claims of theism, while 72.8% accepted or leaned towards atheism (Bourget and Chalmers).

While many of these arguments for the existence of a god have been well formed so that they constitute valid deductions from their premises, the truth of their premises has remained in dispute. The crux of the project has been to find premises which can be universally agreed on.

A possible method of resolving this issue has been to change the approach and embrace a probabilistic or evidential technique. If no uncontroversial set of premises can be found to yield a valid deduction to the desired conclusion, then perhaps enough evidence can be advanced to show that the conclusion is more probable than not. This approach has been recently championed by a group of philosophers and theologians whom I call the 'New Apologists' (in response to their labelling of their radical atheist opposition whom they term the 'New Atheists'). The New Apologists are represented by such figures as the journalist-turned-pastor Lee Strobel, well-known Americans like William Craig and Stephen Unwin, and respected philosophers such as Peter van Inwagen, Alvin Plantinga, and Richard Swinburne. All of these use an evidential approach. It is a powerful one, which connects strongly with how people think and reason. It is with this approach that this essay will be concerned.

1.3 Richard Swinburne and the Existence of God

Richard Swinburne's probabilistic argument in *The Existence of God* (2004) is initially quite impressive. In order to address the validity of the evidential approach championed by the New Apologists, I will scrutinize the arguments presented in his book. It is particularly well-suited to stand as a paradigmatic example of this class of argument. Over the course of his career Swinburne has risen to a place of high respect in the philosophical community, and he is currently a professor emeritus at Oxford. His years of study and the academic rigor evident in his publications ensure that we are dealing with no mere amateur, but rather that we have before us the offspring of a

qualified expert, an expert with twenty-two published books and 160 peer-reviewed articles. Also, Swinburne employs formal tools of inference in order to lend an extra level of methodological rigour to his work. Since his argument is an iconic example of the New Apologists' approach, its examination will yield valuable information on the validity of the evidential approach as a whole.

In the following chapters I will flesh out Swinburne's argument and then critically evaluate it. In Chapter 2 I lay out Swinburne's argument and how it works. In Chapter 3 I identify a problematic premise in his argument and explain how a lack of agreement on this premise casts doubt on much of what follows. In Chapter 4 I turn to examine Swinburne's use of Bayes' Theorem, concluding that the question of God's existence cannot be tackled with this method. In the final chapter I work out some ways in which Swinburne's assumptions and principles could lead to differing conclusions, which suggests that his arguments are fundamentally flawed. I conclude that the probabilistic approach itself is most likely doomed to failure, and that Swinburne's attempt, while interesting and philosophically rich, might only serve to move us further from ever being able to answer that most existential of questions: Does God exist?

Chapter 2 - Swinburne's Bayesian Approach

The point of arguments is to get people, in so far as they are rational, to accept conclusions. [...] There are plenty of valid arguments to the existence of God that are quite useless, because, although their premises may be true, they are not known to be true by those who argue about religion... (Swinburne, 2004, 6).

In this chapter we will take a close look at Richard Swinburne's probabilistic argument and how it makes use of Bayesian Confirmation Theory. I will try to give as complete a picture as possible without overburdening the reader. To this end I will break down Swinburne's argument into concise steps.

2.1 The Validity of Inductivism

Swinburne is convinced that he can make a reasonable inductive argument for God's existence where traditional arguments have failed. Of the history of apologetics, he says that the traditional deductive arguments have failed because, while their premises *might* be true, these premises are not *known* to be true by those who argue about them (Swinburne, 2004, 6). However, Swinburne's justification for his approach is that an argument should not be rejected just because it is inductive in nature. Rather, if we can get most people to agree on some inductive premises, then the conclusion drawn from

those premises can be reasonably asserted. Many arguments aim to do just this, and we often find them acceptable. He gives the following example:

P1: 70% inhabitants of Bogside are Catholic.

P2: Doherty is an inhabitant of the Bogside.

C: Doherty is Catholic. (4).

P1 is such that C does not follow deductively. However, if I were asked to bet if C3 is true or not, I would likely say yes. P1 makes it probable, barring any further information, that C is true, given P2, and it is this which lends the conclusion credence.

The reason we accept these arguments is that few instances in life lend themselves to the kind of deductive certainty which we would prefer. Inductive conclusions are often the best we can hope for. Indeed the foundations of our scientific methodology rest on the assumption that the universe is governed by rules, and these rules can be discerned through inductive means.

Consequently, a successful argument for God's existence need not make the conclusion necessary, but merely very probable. If the author of such an argument can convince his readers to accept his premises, then it is possible to present a reasonable argument that God probably exists.

To this end, Swinburne defines two kinds of Inductive Arguments:

A correct C-Inductive Argument: An argument in which the premises add to the probability of the conclusion (6).

A correct P-Inductive Argument: An argument in which the premises make the conclusion probable (6).

Swinburne presents a collection of traditional arguments for the existence of God, acknowledging that “neither separately nor in conjunction are any of [them] good deductive arguments” (13). However, he then argues that most of them are ‘good C-inductive arguments’ (13). Next, he argues that when these arguments are considered together, they form the premises for a ‘correct P-inductive argument’. So while an argument like the Cosmological Argument may not show by itself that a god exists, the theist may reply, “Not by itself [...], but it does its small bit together with some very diverse arguments that do their small bit, to get to this conclusion” (19).

With evidence in hand, he then plugs numbers into Bayes' Theorem in order to arrive at a rough probability for the existence of God. The strategy is similar to that of a court case in which no hard proof is to be had, but the evidence cumulatively builds until the jury is able to draw a conclusion which is beyond reasonable doubt. For example, the fact that Smith has blood on his hands hardly makes it probable that it was he who viciously murdered Jones, but when we consider that Smith was at the scene of the crime when Jones was murdered, that he owned a weapon similar to the murder weapon, and that he intensely despised our dear departed Jones, then his guilt is much more probable.

2.2 Bayes' Theorem

In order to formalize his argument, Swinburne employs Bayes' Theorem. Bayesian Epistemology is a modern and contentious approach to epistemic issues. Pioneered by the Reverend Thomas Bayes in the mid 1700's, Bayesian Epistemology is concerned with establishing formal logic tools for inductive logic, and with developing what William Talbott calls a "self-defeat test for epistemic rationality" in order to extend "the justification of the laws of deductive logic to include a justification for the laws of inductive logic" (Talbott, 2011).

Bayesian Confirmation Theory is a methodology which builds on the assumption that evidence can either count for or against some specific hypothesis. Some evidence is said to confirm a hypothesis if the probability of the hypothesis, given that the evidence has occurred, is greater than the probability of the hypothesis being true without the occurrence of the evidence. Similarly, the hypothesis is said to be disconfirmed if the probability of the hypothesis given the evidence is less than the intrinsic prior probability of the hypothesis without the evidence being considered (Talbott, 2011).

The formula which he will use is known as Bayes' Theorem, which can be expressed as:

$$P(h|e\&k) = \frac{P(e|h\&k) P(h|k)}{P(e|k)}$$

This formula states that the probability of some hypothesis h , given some evidence e and background knowledge k , is equal to the probability of the evidence given the hypothesis and background knowledge, multiplied by the probability of the hypothesis given only background knowledge (i.e. prior to considering the evidence), divided by the probability of the evidence given only background knowledge (i.e. without taking the hypothesis into

account). $P(h|e\&k)$ is thus a function of the intrinsic prior probability of the hypothesis and of its explanatory power with respect to the evidence. The explanatory power of the hypothesis increases as the predictive power of h [$P(e|h\&k)$] increases, and decreases as the intrinsic prior probability of the evidence [$P(e|k)$] increases. $P(e|h\&k)$ represents how likely the evidence is to be true if the hypothesis is true, given relevant background knowledge. Evidence is therefore said to confirm a hypothesis if the probability of the hypothesis is greater given the evidence than without it. Likewise, evidence is said to disconfirm a hypothesis if its probability is less given the evidence than without the evidence.

Bayes' Theorem is deducible from the axioms of the mathematical calculus of probability, the truth of which Swinburne says we have "good independent grounds" for believing (Swinburne, 2004, 67). The axioms of which he is speaking are the set-theoretic axioms established by Andrey Kolmogorov, a good summary of which can be found in Howson and Urbach (Howson and Urbach, 1989, 17). According to the conventions of the Probability Calculus, probability values will lie between 0 and 1, inclusive, where 0 is considered to be false, and 1 is considered to be true. A value greater than 0.5 is considered more probable than not, while a value below 0.5 is considered improbable. It should be noted that there is some controversy about how our degrees of confidence conform to the probability calculus. For instance, John Pollock argues that the probability calculus implies that tautologies would have a probability of 1, yet it would be irrational to have complete confidence in the truth of that tautology (Pollock, 2008, 2).

Despite such concerns, Swinburne thinks that he can input reasonable values for the terms on the right hand side of the equation and come out with a favourable

conclusion. h will be the hypothesis that Swinburne's God exists and e will be the conjunction of the various pieces of evidence (Swinburne, 2004, 17). k will be any background knowledge relevant to the inquiry. As he reviews each piece of evidence, it will become a part of k (17). In the case of this problem, k will begin by being only tautological knowledge, since no further background knowledge exists when initially considering the hypothesis that Swinburne's God exists (17). As evidence is considered, it will be added into k . For instance, the first piece of evidence, e_1 , will be that the physical universe exists. We therefore consider the argument from e_1 to h , which is a cosmological argument, but we only have tautological knowledge for k (17). If $P(h|e_1 \& k)$ turns out to be greater than $1/2$, then the argument from the evidence to the hypothesis is said to be a good P-inductive argument. If $P(h|e_1 \& k)$ is greater than $P(h|k)$, then the argument is a good C-inductive argument (17). For the next piece of evidence which is considered [$P(h|e_2 \& k)$], e_1 is considered as part of k , and so e_2 must be considered in light of both tautological background knowledge and the knowledge that $P(h|e_1 \& k)$ has a certain probability value.

A final point worth mentioning is that, even if Swinburne's use of Bayes' Theorem turns out to be acceptable, Bayesian Epistemology itself is controversial. A staunch Bayesian himself, Swinburne sees no need to question the apparatus. For the purposes of this paper I will take seriously that Bayes' Theorem is a reliable epistemic tool, but it is worth keeping in mind that there are many questions yet unanswered regarding this approach to epistemology.

2.3 The God Hypothesis

Before launching into Swinburne's argument, let us review exactly what his hypothesis is. In Chapter 1 he states:

I take the proposition 'God exists' (and the equivalent proposition 'There is a God') to be logically equivalent to 'there exists necessarily a person without a body (i.e. a spirit) who necessarily is eternal, perfectly free, omnipotent, omniscient, perfectly good, and the creator of all things'. I use 'God' as the name of the person picked out by this description (Swinburne, 2004, 7).

His definition of God roughly parallels the traditional Abrahamic concept of God. He offers a few clarifying points. By 'eternal' he means that God has always existed and always will, not that God is somehow 'outside of time' or is 'timeless' (7). By God being 'perfectly free' he means that no event or state influences God to do anything, unless it is by his own choice (7). By omnipotence he means that God is able to do anything that it is logically possible for him to do, by omniscience he means that God knows whatever it is logically possible for him to know, and by perfect goodness he means that God always does a "morally best action", when there is one, and does no morally bad action (7). Finally, by 'creator of all things', he means that everything which exists at each moment of time (apart from himself) only exists because God makes or permits it to exist at that moment (7).

This is what he takes the hypothesis of theism to mean, that a God picked out by the description above is an absolute explanation of the existence of the universe. What he

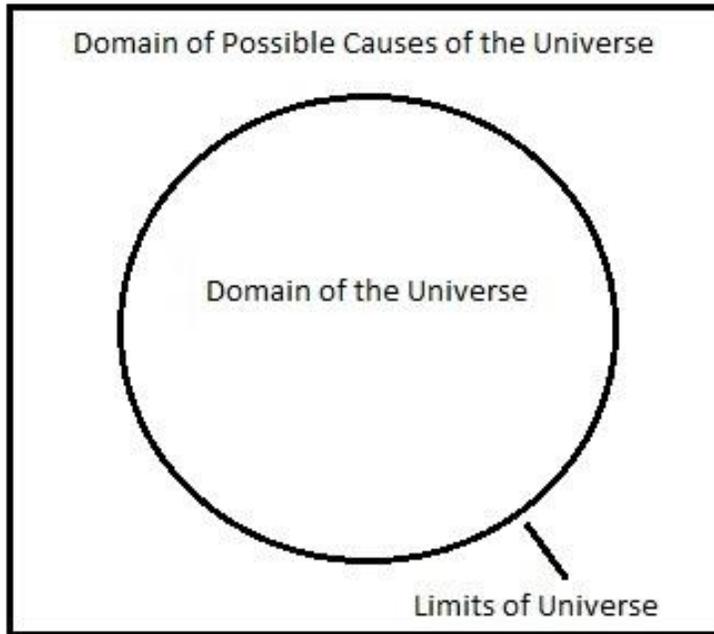
means by an absolute explanation is that the explanation is ultimate, in that it completely explains some phenomena without reference to any other factors, and that the explanation itself is comprised of factors which are "either self-explanatory or logically necessary", such that there are no brute facts and everything is fully explained (79). This is important when considering the relation of the various pieces of evidence to the hypothesis. All of the arguments which he will present as evidence for the existence of God are "arguments to a (causal) explanation of the phenomena described in the premises in terms of the action of an agent who intentionally brought about those phenomena" (20). He will therefore need to argue that the intentions of a person can be such an absolute explanation of the universe.

It will also be useful to briefly discuss what I mean when I talk about 'the universe'. Swinburne defines a physical universe as "a physical object consisting of physical objects spatially related to each other and to no other physical object" (133). Our own universe is such an object and is the only object of which we have knowledge, even though he allows that there could be other similar physical objects like our universe which exist apart from it, or some objects which exist which are not a part of any universe; such as God (134). The picture being conveyed here is that our universe can be conceived as resembling a big balloon, with all of the matter and energy with which we interact arrayed spatially inside of it. The universe is comprised of its 'limits' (the balloon itself) and its content. These 'limits' may be only conceptual, rather than actually physical or spatial. If the universe is an object, then there is possibly something which exists separate from that object. When I speak of 'the universe' I will therefore be referring to the object, including everything which is contained within its limits (whatever those are)

in which we are spatially situated. Figure 1.1 is meant to capture this picture. I will call everything which exists within the limits of this object *The Domain of the Universe*. To further illustrate this point, think of a painter creating a painting. The picture which he makes is comprised not only of the paint, but of the canvas as well, just as the universe is not merely the energy and matter which we interact with, but it is also comprised of the 'fabric' or dimensions which are essential properties of it.

Now whatever lies beyond or outside of the universe could potentially be a cause of the universe. Perhaps using the words 'beyond' or 'outside' is problematic, but I hope that the reader is able to grasp the picture I am painting. A cause of the universe and its contents is (on this model) not the universe itself or something within the universe, but rather something other than the universe. Then again, there very well could be no causal relationship between anything which might exist *beyond* the universe and the universe itself. But, since God is a possible entity which might exist in this theoretical domain and since what we are trying to explain by postulating God's existence is what caused the universe to exist, then let us call this domain *The Domain of Possible Causes of the Universe*. Once again, Figure 1.1 attempts to crudely illustrate this relationship.

Figure 1.1



This concept of what the universe is can be applied to any cosmological model you choose to endorse. If you favour the standard big-bang model, a 'bubble-universe' model, or what-have-you, the definition is compatible. Wherever your concept of the expanse of the universe involves a continuation of the physics of space-time as we roughly understand them, then that will just be a continuation of the universe itself. The murky realm of possibilities which is causally prior to this thing we call the universe is the Domain of Possible Causes of the Universe. If you postulate a 'super-verse' in which other distinct 'physical universes' exist, then the model can be adjusted to incorporate this view as well. This will be important to keep in mind as we move forward.

2.4 Explanations

In order to convince us of the God-hypothesis, Swinburne argues that it could be a true explanation for the universe, and then, from among a pool of possibly true explanations, that the God-hypothesis is the most probable. However, to support his definition of God as a necessary being (rather than contingent), he also has to argue that God is also an 'ultimate explanation', in that there is no further explanation for God which would push back the question of existence into an infinite regress.

Now a hypothesis is likely to be a true explanation insofar as the evidence is probable on the hypothesis and improbable if the hypothesis is false, if the hypothesis has good fit with any relevant background knowledge, and if it is simple and has small scope (Swinburne, 2011, 6). An explanation is said to be a *full* explanation of some phenomenon when there is a reason which guarantees the efficacy of the cause of some effect, and given this reason and cause, there is nothing unexplained remaining about the occurrence of the effect in question (Swinburne, 2004, 25). A hypothesis which purports to explain the existence of the universe must fulfill these criteria.

Swinburne tells us that explanations come in two kinds, scientific explanation and personal explanation (21). For Swinburne, scientific explanations are made by citing the relevant laws and initial conditions which are said to have produced some effect. He adopts and modifies Carl Hempel's Deductive/Nomological model of explanation.

However, he asserts that the second kind of explanation, personal explanation, is *not* analyzable in terms of scientific explanation. Personal explanation explains an occurrence by citing the intentions of a rational agent, rather than laws and conditions of the universe (21). "In personal explanation," he says, "the occurrence of a phenomenon E is explained as brought about by a rational agent P doing some action intentionally" (35).

This is a very important point. He states that intentions cannot be explained in scientific terms. This is because he believes that "intentions are not brain events, even if closely connected with brain events" (41). Instead, they are "mental events" (41), which are themselves actions, or something which an agent *does* (43). As a result, there is a key difference between what happens in personal explanation and what is going on in a scientific explanation. In a scientific explanation, the objects cited are passively subject to laws and are being motivated by further objects and states of affairs which are causally prior to them. Scientific explanation tells us what was *done to* something else. In a personal explanation, a rational agent *does* something *to* objects (43), and this action is not necessarily subject to further explanation in scientific terms. While prior events may influence intentions, they are not necessitated by them.

He admits that some sort of dualism is an unavoidable consequence of this view (41). This is a critical point and we will return to it later because of how he uses this concept of personal explanation in the rest of his argument.

On the assumption that personal explanations do exist and that they are not analyzable in terms of scientific explanation, Swinburne asserts that the God-hypothesis is a personal explanation which explains the existence of the universe by the intentional actions of an immaterial god. As such, God's intention to create the universe is an absolute explanation, or "an ultimate explanation of *E* in which the existence and operation of each of the factors cited are either self-explanatory or logically necessary. "There are no brute facts in absolute explanation," he says, "everything is fully explained" (79). God is thus the logical stopping point of explanation, and we need not ask the question, 'what caused God?'

2.5 Narrowing the Field

There is a wide array of possible explanations for the existence of the universe, some of which involve a God, or gods, or no god at all. On the assumption that there are only two *kinds* of explanation, personal and scientific, Swinburne asks us to consider which of these types of explanation could work.

He argues that the existence of the universe contains states of affairs which are scientifically inexplicable, in that they are either too big or too odd for scientific explanation (74-75). He specifically argues that science cannot explain "why there are any states of affairs at all", but can only explain "why, given that there are such states, this state is followed by that state" (75). If scientific explanation cannot help us here, then we are left with either a personal explanation or no explanation at all. If he is right, then it follows that either something resembling theism is right, or the universe is just a brute, inexplicable fact (75).

2.6 Prior Probabilities

In order to make use of Bayes' Theorem, Swinburne needs numbers for the intrinsic prior probability of theism. A prior probability of a hypothesis is "its probability before we consider the detailed evidence of observation cited in its support", given any relevant background knowledge (53). An 'intrinsic prior probability' denotes the probability of a hypothesis where background knowledge is limited to merely

tautological knowledge. We can also talk about the prior probability of the evidence, or how likely the evidence is without any specific hypothesis taken into consideration, given relevant background knowledge. The prior probability of the hypothesis will be a measure of how likely it is relative to competing hypotheses, given any relevant background knowledge, and the prior probability of the evidence will be an estimate of how probable the existence of the evidence is given any or no explanation and background knowledge. Since Swinburne has narrowed the field to some sort of personal explanation or a brute-fact universe, it is against this range of competitors that the God-hypothesis will be measured.

How does this work? Consider a murder trial. Jones has been found dead with a bullet in him across the room from a still-smoking gun. We hypothesize that Jones was shot dead by someone who made use of the gun. The prior probability of finding Jones dead with a bullet hole in him without him being the victim of a homicide, given that the smoking gun is across the room, is relatively low. We seldom come across counter-examples. Conversely, the probability of finding a smoking gun in the corner of a room without it being linked to the hypothesis is also low compared to the probability that dead-Jones and the smoking gun are causally linked.

It is important to note that our relative assignment of values here is dependent on the whole of our experience. We are not accustomed to finding someone shot without there being a gun involved, nor are we used to finding that the smoking gun in the corner of such a room is not related to the dead man who has a bullet in him. Our assignment of values depends on our background knowledge about how the world works and what we expect to be the case. Colin Howson and Peter Urbach particularly emphasize this point

in their explanatory work *Scientific Reasoning: The Bayesian Approach* (1989) (80). It will be important to keep this in mind.

A problem which arises for Swinburne when arguing for his prior probabilities is that his hypothesis is in a class of hypotheses which seek to explain the existence of the entire universe. The problem which this presents is that, if these hypotheses explain the entire universe, then we might have no additional background knowledge against which to measure how probable our hypothesis actually is.

Swinburne claims that, when judging the prior probabilities of hypotheses in the framework of *scientific explanation*, there are three major determinants which must be considered: the scope of the hypothesis, or how much it tries to explain; its fit with background knowledge; and its simplicity (Swinburne, 2004,53). The same criteria, he says, are used to determine the prior probabilities of personal explanations (61).

However, every explanation in the class under discussion will have the same scope, since they all purport to explain the same thing: everything. Additionally, they lack any contextual background knowledge. The only background knowledge available to us at this point is tautological knowledge; i.e. such considerations as the principle of identity or the principle of non-contradiction (71). Therefore, simplicity becomes the "crucial determinant of the prior probability of theism", since all other avenues of assigning probabilities are not useful here (72). So, in order to evaluate the prior probability of theism, we need to compare its degree of simplicity to that of competing hypotheses in our class of possible explanations.

2.7 The Simplicity of God

By simplicity, Swinburne is referring to an Ockham's razor-like principle which is commonly adhered to among both scientists and philosophers, that, all other things being equal, the simplest explanation tends to be the correct one. The phrase 'other things being equal' is important. In order for simplicity to play its role, the competing hypotheses need to have the same amount of explanatory power, or in other words, be able to equally explain the phenomenon under consideration. For example, it is conceptually possible that either a monotheistic god or a polytheistic pantheon of gods could fully explain the existence of the universe.

To Swinburne, 'simplicity':

...is a matter of ... postulating few (logically independent) entities, few properties of entities, few kinds of entities, few kinds of properties, properties more readily observable, few separate laws with few terms relating few variables, the simplest formulation of each law being mathematically simple (53).

He needs only show that the god-hypothesis is the simplest of the already described set of possible explanations, in order to assign it a higher relative probability.

To do so, he shows how the various characteristics of his God constitute the simplest possible being. First, we can endorse "a God who is just one person" (97), because one being is simpler than a polytheistic pantheon. Secondly, an infinitely powerful god is simpler than a god with limited powers (97). This is because any

limitation of powers "cries out for an explanation of why there is just that particular limit" (97), and will thus involve more laws, variables, or properties. An omniscient god is also simpler than another type of god because it is simpler for a being's knowledge to be limited only by the constraints of logic, rather than for there to be particulars which limit the being's knowledge (98), and a god who is perfectly free is also simpler than one with guidelines as to what can be done (98). In addition, a god who is an omnipresent spirit is simpler than one with physical boundaries, since this would imply a limitation to this being's knowledge, which is incompatible with the omniscience criterion. The simplest kind of god is also 'factually necessary', meaning that his existence is not contingent on any other factors apart from himself, and is therefore self-explaining (99). Finally, the simplicity requirement of omniscience entails that God will know the truth value of all moral judgments, and therefore will always choose the best course of action, meaning that God is omnibenevolent (100). These are Swinburne's claims. God is thus the simplest possible person, in the class of personal explanations, which is the only possible class of hypotheses which can explain the existence of the universe, *if* the universe is not merely a brute fact.

2.8 The Intrinsic Prior Probability of Theism

Since hypotheses which purport to explain the existence of the universe all have a similar scope and background knowledge, simplicity will then be the primary determiner of the prior probability of theism. We saw in section 2.5 that Swinburne excludes scientific explanations from his list of possible explanations for the universe, which

leaves us with only personal explanations or the brute-fact hypothesis. We also saw in section 2.7 that he thinks his god-hypothesis "postulates one person of a very simple kind" (105) and also puts forward "the simplest starting point of a personal explanation there could be", as well as "the simplest starting point of explanation for the existence of the universe with all the characteristics that [he will be] analyzing" as evidence (106). He therefore concludes that his hypothesis has great simplicity, and this is the primary consideration which must be taken into account when determining its intrinsic probability (108).

However, it might not be possible to make more than some general or relational claims about what kind of number will work for $P(h|k)$. For instance, if the simplicity of states of affairs is consistently correlated with probability, then non-existence, or the existence of very few objects, would be much more probable than the existence of complicated states of affairs. Swinburne says that perhaps it is "*a priori* vastly improbable [...] that there should exist anything at all logically contingent" (109). Therefore, the god-hypothesis might end up having a very low intrinsic prior probability, while still being much more probable than other explanations. But given that something *does* exist, then Swinburne says "it seems impossible to conceive of anything simpler (and therefore *a priori* more probable) than the existence of God" (336).

He therefore concludes for $P(h|k)$ that, while it might be a small number, it will not be nearly as low as other hypotheses about what exists (109). $P(h|k)$ will be relatively high, then, when compared to the intrinsic prior probabilities of other hypotheses, because of its great simplicity (109).

2.9 The Evidence Considered

With his main considerations established, Swinburne spends a great deal of his book looking at various pieces of evidence for and against the existence of God, to try and determine how much the evidence raises the prior probability of the God-hypothesis being true. He only considers arguments which "report what are features of human experience", as opposed to *a priori* arguments such as the Ontological Argument (Swinburne, 2004, 8). In this sense, his evidence does count as observational. He also thinks that the eleven arguments he considers are the only ones which have any significance for the issue (9).

To briefly summarize, Swinburne concludes that nine of the eleven arguments are good C-Inductive Arguments, in that they raise the probability of the hypothesis being true (13). Of the other two arguments, one (the moral argument) he considers to have no weight one way or the other, and the second (the Argument from Evil) he concedes lowers the probability of God's existence.

2.10 Putting it all Together

Swinburne has been very careful in advancing numbers, stressing that it is "impossible to give exact values to the probabilities involved" and that his attempt has been to provide "arbitrary values" which are both reasonable and convincing and which approximate the range of probabilities involved (341). Nevertheless, he thinks that the

considerations he has put forward so far have given him enough information to arrive at some important conclusions.

First, remember that Bayes' Theorem takes the following form:

$$P(h|e\&k) = \frac{P(e|h\&k) P(h|k)}{P(e|k)}$$

After reviewing all the evidence for his god-hypothesis, Swinburne advances $P(e|h\&k)$ as around 1/3 (339), where e is all the evidence he has examined and k is tautological background evidence. He has already argued that $P(h|k)$ will be relatively high compared to other hypotheses about what exists, but will not necessarily be a high number (109). Finally, $P(e|k)$ is the "sum of the intrinsic probability that e holds and there is a God, and the intrinsic probability that e holds and there is no God" (339). In other words, this figure represents the intrinsic probability of Swinburne's total evidence, regardless of how that existence is explained. We can expand $P(e|k)$ to $P(e\&h|k) + P(e\&\sim h|k)$, where the first term is the intrinsic probability that there is a universe of our kind and that Swinburne's god-hypothesis is true, and where the second term is the intrinsic probability that there is a universe of our kind and Swinburne's God does not exist. Since $P(e\&\sim h|k)$ involves a multitude of possible explanations, then the value we select for this term will be "the sum of the probabilities of the various ways in which [a universe of our kind and no God] could come about." (339). We can rewrite Bayes' Theorem as follows:

$$P(h|e\&k) = \frac{P(e|h\&k) P(h|k)}{P(e\&h|k) + P(e\&\sim h|k)}$$

Now according to the probability calculus, $P(e\&h|k)$ is the product of $P(e|h\&k)$ and $P(h|k)$. We can therefore expand the bottom line of the theorem to reflect this to get the following form:

$$P(h|e\&k) = \frac{P(e|h\&k) P(h|k)}{P(e|h\&k)P(h|k) + P(e|\sim h\&k)P(\sim h|k)}$$

Since $P(e|h\&k)P(h|k)$ is repeated both in the numerator and the denominator, then we know that the posterior probability of theism will crucially depend on the value of $P(e|\sim h\&k)P(\sim h|k)$. Since the value of $P(e|h\&k) P(h|k) / P(e|h\&k) P(h|k)$ will be 1, then $P(e|\sim h\&k)P(\sim h|k)$ needs to be *at most* equal to $P(e|h\&k) P(h|k)$ in order for the probability of theism to be *at least* 0.5. If the value of $P(e|\sim h\&k)P(\sim h|k)$ is less than $P(e|h\&k) P(h|k)$, then the posterior probability of theism will exceed 0.5, with the important restriction that $P(e|\sim h\&k)P(\sim h|k)$ will need to be above 0. This is because the conventions of the probability calculus limit us to values which lie between 0 and 1 inclusively, but the nature of Swinburne's argument requires that we cannot have 1.0 as the final probability of theism, since other possible explanations do exist. For Swinburne to be correct, then the following inequality must hold:

$$P(e|\sim h\&k)P(\sim h|k) \leq P(e|h\&k) P(h|k)$$

He thus needs to determine some relational values for these two terms which fit the restrictions of the above inequality in order to reach the conclusion he wants. Since $\sim h$ is equivalent to the conjunction of the various hypotheses other than Swinburne's own god-

hypothesis, then $\sim h$ can be divided up into individual hypotheses. Swinburne says there are three mutually exclusive kinds of hypotheses which, along with his own hypothesis, form a jointly exhaustive list of possibilities. He terms them h_1 , h_2 , and h_3 , where h is his own god-hypothesis. h_1 is "the hypothesis of many gods or limited gods" (339), h_2 is "the hypothesis that there is no God or gods but an initial (or everlasting) physical state of the universe, different from the present state but of such a kind as to bring about the present state" (339-340), and h_3 is the hypothesis that "there is no explanation at all" (340). If he is correct in his division then:

$$P(e|\sim h \& k)P(\sim h|k) = P(e|h_1 \& k)P(h_1|k) + P(e|h_2 \& k)P(h_2|k) + P(e|h_3 \& k)P(h_3|k)$$

Swinburne has already argued that his god-hypothesis posits a significantly simpler being than any other hypothesis that fits the criteria of h_1 , and thus $P(h_1|k)$ will be less than $P(h|k)$. However, he also says that $P(e|h_1 \& k)$ will be less than $P(e|h \& k)$, because he thinks he has shown that the reviewed evidence is more likely to be explained by a single, powerful god than by either a limited god or many gods (340). As a result, $P(e|h_1 \& k)P(h_1|k)$ will be much less than $P(e|h \& k)P(h|k)$ (340).

Now h_2 covers a disjunction of possible hypotheses. These hypotheses share in common the core features that there is no god or gods, but rather an initial state of the universe, or an eternal universe, that brings about the present state. However, Swinburne says that there is no particular reason included in any of these hypotheses which would explain *why* that starting point would have the power or liability to bring about the present state. In fact, he thinks he has shown that the evidence he has reviewed is rather

improbable that purely physical mechanisms would bring them about. Therefore, $P(e|h_2 \& k)$ is going to be lower than $P(e|h \& k)$. However, if we were to build into any of these hypotheses enough explanatory complexity to show why the initial state brought about the present state, then the intrinsic prior probability of that hypothesis will be lower than the intrinsic prior probability of the god-hypothesis, because of its relatively high simplicity of the latter. When you put these two considerations together, it is evident that $P(e|h_2 \& k)P(h_2|k)$ will be much lower than $P(e|h \& k)P(h|k)$ (341).

Finally, Swinburne states that for our universe to exist with all its laws and regularities without having any explanation for why everything works and operates the way it does, is "beyond belief", and thus, while $P(e|h_3 \& k) = 1$ (because an unexplained universe being this way simply entails that it will be this way), $P(h_3|k)$ will be "infinitesimally low", which means that $P(e|h_3 \& k)P(h_3|k)$ will be infinitesimally low as well (341).

Given that $P(e|h \& k)P(h|k)$ is *much* more probable than each of $P(e|h_1 \& k)P(h_1|k)$, $P(e|h_2 \& k)P(h_2|k)$, and $P(e|h_3 \& k)P(h_3|k)$, Swinburne concludes that $P(e|\sim h \& k)P(\sim h|k)$ "will not exceed $P(e|h \& k) P(h|k)$ " (341). If this is true, then the posterior probability of theism will not be less than 1/2 (341), a conclusion which follows from the considerations we have worked out above.

However, in the very last paragraph of the book, Swinburne adds to his conclusion that there is one piece of evidence which he has ignored, that of religious experience. He says that, given that the posterior probability of theism given other evidence will not be less than 1/2, then the evidence from religious experience is sufficient to raise the posterior probability of theism above 0.5. With this final move he

feels confident in concluding that "there is a God who made and sustains man and the universe" (342).

As a final aside before finishing this section, it should be noted that there is a strange problem with Swinburne's inclusion of h_2 , the hypothesis of no god or gods, but rather an initial or eternal state of the universe which brings about the present state, and his prior assertions that personal explanations are the only explanations which can fully explain the universe. Presumably, any hypothesis which fits the mold of h_2 will either posit a universe which is causally connected with the present state of the universe, and thus is simply a further extension of the universe which needs to be explained, or, if it is an eternal state of the universe, would simply be a 'brute-fact' unexplained universe, and would thus fall under h_3 . It seems wrong, based on his own reasoning, that Swinburne should even include hypotheses like h_2 in his final considerations. However, we will set these concerns aside for the remainder of the paper so that we can focus on other aspects of his argument.

Chapter 3 The Lynchpin of Dualism

You, your joys and sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules. (Francis Crick, 1994, 3).

3.1 From premises known to be True.

In this chapter I take issue with one of the premises of Swinburne's argument for the god-hypothesis. Recall that Swinburne embarked on his program with the goal of producing a convincing, correct P-inductive argument for the existence of God, which depends on "premises known to be true by those who dispute about the conclusion" (Swinburne, 2004, 6-7). Therefore, if he is to produce such an argument, his premises need to be acceptable to the majority of those whom he is trying to convince.

The most obvious violation of this criterion is his reliance on substance dualism to justify his claims about personal explanation. Substance dualism is the view that "reality consists of two disparate parts", divided along the lines of minds and bodies, or the immaterial and the material (Watson, 1999, 244). As we have seen, the assumption of a dualistic nature to the universe underlies Swinburne's argument for the existence of personal explanation, and personal explanation motivates his argument that the god-hypothesis is a good explanation for the universe which provides a terminus for

explanatory regression. So is this assumption one which is accepted by those who argue about the conclusion?

3.2 The Modal Argument

Richard Swinburne has repeatedly defended an argument for Cartesian dualism since the early 1980's in at least twelve scholarly articles and five major books. His views have been extensively discussed in the philosophical community. Cartesian dualism is the view that the universe is comprised of two separate substances - matter and mind. Matter is essentially identifiable as being extended in space, while mind is essentially identified as something which thinks. Human beings are therefore comprised of both substances (Howard, 2012).

Swinburne's arguments stem from the conviction that matter cannot produce thought (Swinburne, 2004, 193) and thus there must be some other form of substance. He defends this view in his writings through the use of two arguments. The first is a variation of the Cartesian modal argument for the existence of the soul, which he defends in *Personal Identity* (1984), *The Evolution of the Soul* (1986), "The Structure of the Soul" (1987), and "Body and Soul" (1994). The second is an interactionist argument, which he presents in *The Existence of God* (2004) and in his most recent publication on the subject, *Mind, Brain, and Free Will* (2013).

The classic modal argument for the existence of the soul holds that the body of a person does not constitute their essential self, but rather that it is possible for a person to continue to exist following the destruction of their body (Swinburne, 1997, 147).

Swinburne's own version of this argument proceeds in two steps. First, he argues that it is logically possible for persons to continue to exist after their bodies are destroyed, and secondly, that the best way to make sense of this is to speak about persons as being composed of two parts - a body and a soul (Swinburne, 1997, 147).

In *Personal Identity* (1984) he formalizes his argument in the following way, beginning with definitions.

p = I am a conscious person, and I exist in 1984

q = my body is destroyed in the last instant of 1984

r = I have a soul in 1984

s = I exist in 1985 (Shoemaker and Swinburne, 1984, 30)

The variable x is now introduced and said to range over all consistent propositions that (a) are both compatible with the conjunction of p and q, and (b) describe only states of affairs in 1984. The argument then follows: (30)

p Premise (1)

(x) \diamond (p & q & x & s) Premise (2)

- \diamond (p & q & \sim r & s)¹ Premise (3)

(Therefore) \sim r is not within the range of x

¹ I have substituted the ampersand for Swinburne's use of the period to indicate conjunction.

But since $\sim r$ describes a state of affairs in 1984, it is not compatible with $(p.q)$.

But q can hardly make a difference to whether or not r . So p is incompatible with $\sim r$.

(Therefore) r

The argument is designed to show that r follows from p , and thus that "every conscious person has a soul" (30). In regular prose, the argument says:

P1 I am a conscious person and I exist in 1984.

P2 Take any state x that describes a state of affairs in 1984 and is compatible with my being a conscious person who exists in 1984 but whose body is destroyed in the last instant of 1984. Then it is possible that x is compatible with the statements: I am a conscious person and I exist in 1984 and my body is destroyed in the last instant of 1984, and I exist in 1985.

P3 It is not possible that I should both be a conscious person and I exist in 1984, and that my body is destroyed in the last instant of 1984, and that I do not have a soul in 1984, and that I still exist in 1985.

It follows from premises 2 and 3 that $\sim r$ is not within the range of x . However, since $\sim r$ describes a state of affairs which is in 1984, then it must not be compatible with p and q . q , however, can hardly make any difference as to whether or not r is true, so it seems to follow that $\sim r$ is incompatible with p (30). Premise 3 is supported by the idea that if I am

to continue to exist, then some of what I am comprised of must continue to exist beyond my death. This something must be something non-physical. Premise 2 depends on the possibility that it is at least possible that I could survive my own death. If we accept these premises, then the conclusion seems to follow.

It is important to keep in mind that Swinburne's argument here only demonstrates the existence of a soul if we fully accept his premises. If most philosophers were to accept his argument, then it is possible that there are good grounds to endorse his argument for personal explanation. Unfortunately, there has been a great deal of negative feedback.

If Swinburne is correct then the literature ought to evince some convergence of opinion among eminent philosophers. However this is just what we do not see. We will not be taking the time to delve into a thorough examination of his arguments and the counterarguments which have been levelled against him. However, as evidence of the lack of consensus on this issue, I have included below a non-exhaustive list of philosophers who have published papers directly opposing Swinburne's modal argument for dualism to show that there is no agreement on this issue which acts as an important premise for Swinburne's Bayesian case for theism.

The American philosophers William Alston and Thomas Smythe object to Swinburne's argument on the basis that it depends on a modal confusion, concluding that "the mere logical possibility that I survive the destruction of my body does not entail that I presently have the wherewithal to do so" (Alston and Smythe, 1994, 133). Their arguments are later supported by Kent Reames against Swinburne's response in "Dualism Intact" (1996), claiming in the end that "Swinburne has given no reason to affirm [...] that

it is logically possible for a human to survive the destruction of his or her body" and that "the force of the argument rests on an ambiguity" between two kinds of logical possibility" (Reames, 1999, 96).

Eleonore Stump of Saint Louis University and the late Norman Kretzmann of Cornell University object to Swinburne's argument in several ways, arguing that "either Swinburne's argument for dualism is unsound [...] or it is invalid" (Stump and Kretzmann, 1996, 410).

In 1998, the eminent William Hasker of Huntington University, a theist it should be noted, objected that Swinburne's argument is "epistemically circular, and thus provides no support for its conclusion even if it is sound" (Hasker, 1998, 366). This charge of circularity is a common objection to the Cartesian approach, echoed and reinforced by Rostalska and Urbaniak (2010).

An article by Jansen and Strobach in *Zeitschrift Fuer Philosophische Forschung* aims to show that the argument is neither sound nor valid, claiming that one of the premises is question begging (Premise 2) (Jansen and Strobach, 1999, 268). Similar concerns are echoed in Honnacker, Michel, and Richter (2008), who object that Swinburne's account is either question-begging or incomplete and fails to make clear just what are substances, souls, or the relation between physical and mental substances (Honnacker, Michel, and Richter, 2008, 113).

British philosopher Nicholas Everitt takes a different approach in his critique of the argument, showing how it implies the existence of disembodied perception, an extremely problematic proposal which, even if it were true, could not be used to support

dualism since "such an inference would be either invalid or question-begging" (Everitt, 2000, 333).

Swinburne's views on dualism are also opposed by Joanna Klimaski (2010), who claims that Swinburne's arguments stem from a pre-commitment to dualism (Klimaski, 2010, 1). Finally, Dean Zimmerman (1991) argues very convincingly that Swinburne's argument fails to show that the conceivability of the existence of the soul is any evidence for the actual existence of the soul, saying that "there are parallel arguments leading to both (Swinburne's) conclusion and its negation" (Zimmerman, 1991, 223).

Once again, this list is not exhaustive. The wide proliferation and continual repetition of Swinburne's modal argument has provoked many responses both inside and outside of the academic journals. The list above, gleaned from perusing the databanks of world-wide philosophy journals, should be sufficient to show that the modal argument is highly contentious.

3.3 The Interactionist Argument

The second argument which Swinburne presents is known as an interactionist argument. Interactionist arguments for dualism are nothing new, but Swinburne's re-telling of this story in *Mind, Brain, and Free Will* (2013) is both rigorous and thorough. The core tenet of interactionism is the view that mental and physical events (or the mind and body) causally influence each other. The key evidence for the existence of this interaction is that everything which the mind appears to be capable of cannot be fully

accounted for from a purely physical standpoint, but rather that our physical brain appears to be involved in a causal relationship with some other part of ourselves; a soul.

Swinburne's own argument for interactionism does not wander far from these core concepts, but he bolsters it with a supporting argument that the world essentially consists of two kinds of events, the mental and the physical. He argues that mental events are not reducible to physical events, and his main argument for this lies in the supposed failure of physicalists to conclusively demonstrate the assumption that the mind just *is* the brain. He specifically argues that there are "(probably insurmountable) difficulties in discovering fully the nature of the sensory events experienced by others" (Swinburne, 2013, 93), and that all of the major physicalist theories presented over the past fifty years have not served to fully explain consciousness (93-99). If no physicalist theory has been able to successfully account for mental phenomenon, then there is room for substance dualism to be true. Swinburne then turns to present his positive argument for substance dualism.

Swinburne goes on to argue that this division of the world implies that human beings are essentially mental substances, and therefore substance dualism is true. He says that the history of the world is a collection of all the events which have occurred. So if there are both physical and mental events, then a full history of the world will include both kinds (141).

Now it is not possible to have a full history of the world in which all substances are identified by their physical properties, because it is evident that there are 'conscious mental events' which are 'co-experienced' simultaneously, and over time (142-143). What this means is that there is a substance in the world (the conscious mind) which has multiple experiences at once, derived from various parts of the brain. This simultaneous

experience cannot be identified with various parts of the human brain, since different parts of the brain are associated with different kinds of sensations or experiences. So if the substance that has these experiences (the co-experiencing substance) is physical, it must include all the various parts of the brain (143). This means that we would not be able to tell the full history of the world if we traced only the individual parts of the brain, regarding them each as separate substances, and their related mental properties causing or caused by events in that part of the brain, because there are some co-experienced properties (for example, red and square) which are only arrived at by the co-experiencing part of the brain, which cannot be reduced to one individual part of the brain. So if this co-experiencing substance (the mind) has a physical part (the brain), it serves to delimit the physical limits of the (brain). It is therefore *more* than the mere physical parts of the brain and can do more than the mere physical functions of the brain. Therefore, even if the mind has some physical parts, it also has a purely mental part. If it has no physical parts, it is a purely mental substance (144). In conclusion, "humans are mental substances" (144), and if humans are mental substances, then substance dualism is true.

If this argument, or something like it, is successful, then it is possible that we could accept Swinburne's premise that intentions can be explanations of physical events. Although Swinburne's latest book is newly published, interactionism is far from being a widely accepted view. The major issue of contention which threatens to undermine interactionism is the idea that the universe is 'closed under physics'. This is the idea that everything which happens within the universe obeys strict physical laws, leaving little room for extra-physical causation. Although recent advances in our understanding of indeterminacy at the quantum level has encouraged a resurgence in counter-claims to this

position, it is still the most popular view amongst scientists and philosophers. The problem with the interactionist model is that it proposes a causal relationship between substances which are *ipso facto* substantially different without being able to explain how these substances can interact. The argument which opponents of interactionism make here is that anything which causally interacts with physical things must be governed by the laws of physics, and anything which is governed by the laws of physics is necessarily composed of either matter or energy.

People who have argued against interactionism commonly appeal to just this problem. However, it is not certain that the physical universe is actually closed under physics, and it is possible that Interactionism *could* be consistent with causal processes as we understand them. However, there is a great deal of contention in the literature. Daniel Dennett, James Cornman, David Armstrong, and Mario Bunge all separately argue that if the mind had a causal influence on the brain, then the result would be a change in either the total energy of the brain, or the total linear-momentum of the brain, which would mean that either the law of the conservation of energy or the law of the conservation of linear-momentum was being violated (Armstrong, 1968, 32; Bunge, 1980; Cornman, 1978, 274; Dennett, 1978, 252; Dennett, 1969, 3-4). Naturally the conversation is not one-sided, with numerous proponents for various positions weighing in and heading off on new tangents of their own.

Donald Davidson's views have been particularly influential. In a famous paper from 1970 called "Mental Events", Davidson argues that while mental events are dependent on physical events, they are 'anomalous' - meaning that they do not strictly adhere to physical laws, even though they are dependent on the physical (Davidson,

2001, 206). In other words, he thinks that "Mental events as a class cannot be explained by physical science" (224), but they are dependent on physical states.

The philosopher Ernest Sosa points out that it has been "firmly settled as a platitude of introductory philosophy" that "there can be no interaction between an immaterial soul and a material body" (Sosa, 1984, 278). While he rejects the notion of interactionism between a body and a soul (278), he is agnostic about whether or not a soul could exist, only asserting that "one must then be either one's body (or part of it) or something that supervenes on one's body (or part of it)" (280).

Other thinkers have argued that there is a complex system of laws which connect mental events with correlating neural events, such as Ted Honderich in *Mind and Brain* (1988).

Laird Addis has an ingenious argument against interactionism in an article from 1984 in which he questions how, on the interactionist's view, "could anyone ever know or even make a reasonable guess what another person is thinking?", since no physical situations entail that the other person is in any specific mental state (Laird, 1984, 336). However this confounds our intuitions and our experience since we quite often are able to tell what a person is thinking just from observing their physical state.

This brief survey is not exhaustive and does not take note of the many defenders of interactionism who appear in the literature. Nor does the fact that there are good objections to interactionism mean that dualism might not still be true. In fact, the majority of philosophers might agree with Swinburne's assumption of dualism while still objecting to his arguments. If this was the case, we might still have to concede the point to him. Fortunately we do have some additional data available to us to help answer this question.

3.4 The Hard Stats

The Phil Papers Survey, a worldwide survey on the views of philosophers regarding major issues, published by David Bourget and David Chalmers in 2009, presents strong evidence that dualism is not generally accepted by those who argue about the existence of God. Respondents were queried regarding their views on the human mind, whether they accepted or leaned towards physicalism, whether they accepted or leaned towards non-physicalism, or if their views were other. 56.5% of respondents indicated their support for physicalism, a position which inherently excludes the kind of dualistic nature which Swinburne supports, while only 27.1% supported some kind of non-physicalism (Bourget and Chalmers, 2009).

Additionally, when asked if they either accepted or leaned towards atheism or theism, 72.8% of respondents selected atheism as their position of choice, while a mere 14.6% favoured theism (Bourget and Chalmers, 2009). If we assume that the only philosophers who would be in wholehearted agreement with Swinburne's picture of personal identity were to be found in that 14.6%, we can safely assume that the percentage who would agree with his representation of dualism would be even smaller, because of the wide range of personal beliefs among theists. I believe I am making no controversial claim in my interpretation of the data here, which overwhelmingly suggests a community of philosophers who are generally either un-accepting or sceptical of the kinds of views which would endorse Swinburne's brand of dualism. While this one survey alone could be critiqued as insufficient to establish the truth of these claims, it

does seem to present enough information to cast serious doubt on the idea that the majority of those who debate about the existence of God would agree on the premise of substance dualism.

Now Swinburne is certainly no fool and I hardly believe that these opinions and statistics would be news to him. He must have some hopes that the host of arguments for a dualistic universe will win out in the end, so that his Bayesian argument, premised on dualism, might become more convincing as people come to accept dualism. However, even if we grant him the assumption of dualism, his argument faces some serious difficulties which we will examine in the next section.

Chapter 4 - The Bayesian Approach and Swinburne's Argument

4.1 Introduction

So far we have been introduced to the probabilistic approach to arguing for God's existence, have looked at how Richard Swinburne constructs his own Bayesian approach, and have seen that it makes some claims which are rather contentious. However, such problems are often unavoidable when making such a daring argument. Swinburne's general approach might nevertheless be correct.

Despite the many criticisms his work has attracted, there has been little discussion about whether or not the Bayesian approach itself is the proper way to go about examining this sort of question. Could we use Bayesian Confirmation Theory *in principle* to move towards a generally agreed on probabilistic conclusion? If the application of Confirmation Theory is sound in *theory*, then perhaps merely a change in how it is applied to the question of God's existence will take us further towards understanding the world in which we live. If it cannot be applied, then we can move one step forward in our own understanding of the limits of probabilistic thinking.

Upon careful consideration I have concluded that this approach will not work, and I will show why. I will begin by questioning Swinburne's reliance on the *simplicity principle*, the principle that the simplest explanation tends to be the correct one, which he maintains is the only viable criterion for judging the intrinsic prior probabilities of hypotheses. I will show that the simplicity principle is not a law-like principle that we should accept as a canon of scientific investigation. I will further argue that even if the

simplicity principle is a good general tool, it could not be applied to the set of hypotheses which purport to explain the existence of the universe. Finally, I will argue that even if it *could* be applied to this set, that the set itself cannot be determined. If these arguments are convincing, I will have shown that the terms on the right hand side of Bayes' Theorem cannot be determined for the hypothesis of God's existence, and thus Bayesian confirmation theory cannot help us with this problem.

4.2 The Simplicity Principle

Our preference for shaving our theories with Ockham's razor is not in itself evidence for the existence or non-existence of some proposed explanatory entity (Marc Marengo, 1988, 230).

Swinburne's claim that simplicity is the key determining factor of the prior probability of the god-hypothesis rests on the idea that something like Ockham's Razor is not merely a heuristic used to guide scientific inquiry, but "a fundamental a priori principle" for deciding between two or more conflicting hypotheses, with the important restriction that those hypotheses are "of equal scope (fitting equally well with background evidence)" and "yield the data observed so far with equal probability" (Swinburne, 2001, 102). In brief, Ockham's Razor tells us that we should not multiply entities without necessity (Spade and Panaccio, 2011). As a consequence, while the "best theory may be less than perfectly simple [...] other things being equal, the simpler, the more probably

true” (Swinburne, 2004, 53). Swinburne has repeatedly argued in favour of this principle, notably claiming in *Simplicity as Evidence for Truth* (1997) that:

... other things being equal [...] the simplest hypothesis proposed as an explanation of phenomena is more likely to be the true one than is any other available hypothesis, that its predictions are more likely to be true than those of any other available hypothesis, and that it is an ultimate *a priori* epistemic principle that simplicity is evidence for truth (Swinburne, 1997, 1).

Elsewhere he expands on the "enormous importance of the criterion of simplicity" for use in theory selection, stating that this importance "is not always appreciated" (Swinburne, 1979, 55). He claims as well that "simplicity is the major determinant of intrinsic probability" (106), and demonstrates his faith in this principle through his relative calculations of probabilities which we looked at in Chapter 2.

As a brief aside, what does Swinburne mean exactly by one thing being simpler than another? Fortunately he has provided a thorough description in *Epistemic Justification* (2001), claiming that simplicity is a multifaceted concept. A hypothesis is said to be simpler than another in the following five ways. A hypothesis is simpler in the specified respect if...

...it postulates numerically fewer entities or properties of entities (Swinburne, 2001, 87).

...it postulates fewer kinds of entities, or fewer kinds of properties of entities (87).

...it involves fewer additional theoretical concepts (88).

...it consists of fewer separate laws (89).

...it has a mathematically simpler formulation (90).

It should be noted that his claims here are widely opposed and that there is a quite contentious and ongoing dialectical exchange about what it means for something to be simpler. We will not delve into this topic here.

Despite divisions over the theoretical technicalities, something *like* the simplicity principle seems to be a *general* truth that we take for granted. The simplest explanation of my car missing from the driveway when I get home is that my fiancée has taken it, not that it has been randomly stolen by a mysterious band of criminals. Likewise, if I find that a rodent has been invading my pantry, I am prone to assume that I am dealing with only one pernicious beast rather than an unholy swarm of them. When a draft wafts through my house and a door suddenly slams, I suspect that moving air had something to do with the closing door, rather than the more complicated theory that a disembodied spirit is in play, and if my office window were suddenly shattered by a baseball I would suspect the guilty-looking boy ten feet directly away from it rather than his friend at an oblique angle to the window.

Analogous situations are sometimes played out in scientific inquiry. Several competing hypotheses are presented, and the one which explains the phenomenon in the most parsimonious manner tends to be correct. Phlogiston Theory is a good example of a

more complicated scientific hypothesis which was abandoned in favour of a simpler theory. Phlogiston Theory (first introduced by Georg Ernst Stahl in the 17th Century) sought to describe how combustion and rusting work by postulating a theoretical substance 'Phlogiston'. Phlogiston was understood to be a non-flammable substance which all flammable substances have. As an object burned, Phlogiston was 'vaporized', which explained the loss of mass in burned or rusted objects (Weisberg *et al.*). This theory endured up into the age of modern chemistry, growing increasingly complex in order to remain relevant in the face of new information. In one of its final incarnations, the Swedish chemist Torbern Bergman argued that as metals were transformed into their 'calxes', they lost the weightless phlogiston, which when combined with air would produce 'ponderable warmth', which in turn would combine with the remains of the remaining metal to produce 'calx'. Antoine Lavoisier ushered in the era of modern chemistry when he simplified this explanation by removing phlogiston from Bergman's model (Weisberg *et al.*). The result was a much simplified theory which accounted for the same phenomenon without the additional theoretical substance.

However, the simplicity principle is far from being a universal determiner of truth, a fact of which Swinburne is quite aware. History is littered with examples where simpler laws were subsequently replaced with more complicated alternatives to explain the same set of data. In ancient Greece, Thales of Miletus proposed that water was the only element of which all matter was comprised (O'Grady, 2004). Modern chemistry is quite a bit more complicated with 118 known elements (as of 2013). There are many examples like this, including such things as our understanding of what light is, the

composition of the atmosphere, the arrangement of the solar system, and the scope and composition of the visible universe.

But these facts do not vitiate the simplicity principle. Kent Holsinger echoes Swinburne in reminding us that "Ockham's Razor ought to be invoked only when several hypotheses explain the same set of facts equally well, in practice its domain will be very limited" (Holsinger, 144-145). Swinburne's simplicity principle maintains that *other things being equal*, the simplest explanation is *more likely* to be true from a pool of competing hypotheses which all explain the data equally well, and this limited assertion seems reasonable.

Keep in mind though that Swinburne wants to use this principle to support the selection of a hypothesis which, if true, has serious implications, and so we ought to demand a good positive argument that the simplicity principle should be used in such cases. Given that Swinburne has published numerous articles and book chapters on this subject, we *should* be able to find something. It is troubling that we do not. Swinburne calls the role of simplicity in such cases a "fundamental a priori principle", (2001, 102) which can be quite literally understood to mean that such judgments are a fundamental feature, either of our minds or of the universe, which cannot be further explained or justified. Indeed much of his writing on the matter is devoted to fending off attacks on his position rather than in providing us with a positive argument. He does provide numerous examples where the simplicity principle has successfully predicted a correct theory and thought experiments in which the correctness of relying on the simplicity principle connects with the readers' intuitions.

In one such example, we are investigating a new theory which is expected to hold, and which has no background evidence (2001, 83-84). In this example, we are studying the relation of two variables, x and y . After collecting some observations of values of y for integral values of x , we find:

x	0	1	2	3	4	5	6
y	0	2	4	6	8	10	12

Now one possible formula to express the relationship between x and y could be $y = 2x$. This formula both conforms to the data and will help us predict future values of x . However, $y = 2x$ is not the only formula which conforms to the data. The formula $y = 2x + x(x+1)(x-2)(x-3)(x-4)(x-5)(x-6)z$ will also yield the observed data equally well, yet it offers different predictions for future numbers depending on the value which you give to z . In fact we can create many such formulas which will conform to our data and yet yield different predictions about future numbers. Yet we seem to prefer the simplest formula ($y = 2x$) and believe it to be more likely to be true. Swinburne says that if our very lives depended on selecting the correct formula which conforms to the data set, we would invariably pick the simplest one (84), and the reason we would pick the simplest formula is because we "implicitly use a principle of simplicity" (84).

If Swinburne is right about the principle being a 'fundamental a priori principle', then there may not be a better argument to be had, but one is certainly left feeling rather unsatisfied, a sentiment shared by more than one respondent to Swinburne's claims.

One of the reasons Swinburne gives for why we should accept the Principle is that without it, for every event which needs explaining, we could generate an infinite number of hypotheses, all of which could make accurate predictions and have equal explanatory power (Swinburne, 2004, 58). However, Rom Harré and George Schlesinger both mention that Swinburne's point here only reveals a methodological preference and not necessarily a metaphysical truth about what the universe is truly like. Rom Harré writes that we should not take seriously the claim that the simplicity principle reveals something necessarily true about the universe, because this claim requires confidence in an "unprovable metaphysical principle [...] that the structure of the world always tends to be as simple as possible". He thinks that the fallacy committed here is the simple mistake of "confusing one's model for the understanding of the world with the world itself" (Harré, 1983, 55). George Schlesinger argues that the reason the simplicity principle is important for use in theory selection is simply because without it we would be led into methodological chaos (Schlesinger, 1974, 35). The mistake which Swinburne makes is in confusing a devised method for guiding ourselves towards an understanding of the world with what the world itself is actually like.

4.3 Background Knowledge

Marc Marengo mentions another important point in "Simplicity, Prior Probability and Inductive Arguments for Theism" (1988). In his response to Swinburne's use of the simplicity principle as a basis for determining the prior probability of theism, Marengo claims that "simplicity when applied to empirical, that is non-mathematical theories, is

simply a way of organising our background knowledge in a relevant way to our hypotheses" (Marenco, 1988, 231). To explain what he means, Marenco gives us an example.

Suppose we have three theories about why the Chernobyl nuclear power plant blew up in 1986. Our first hypothesis is that a careless mistake on the part of a worker caused an explosion, the second that a foreign spy committed an act of sabotage, and the third is that "a blue gremlin named Norman from Alpha Centauri landed near Chernobyl, became hungry, and mistook the reactor core for lunch" (231). Our background knowledge in this case includes power plant schematics and incident reports, the general knowledge that foreign spy agencies do sometimes interfere in the affairs of other nations, and the fact that no confirmed contact with alien races has ever been made. We know that workplace accidents are more likely to occur than acts of inter-governmental sabotage, and that aliens are unlikely to visit Earth. Hypothesis 1 is simpler than 2 in that it requires fewer entities to be factored in, and 2 is simpler than 3, because 3 involves additional postulates about what the universe is like that are not present in the first two. All three hypotheses have the same scope, and are consistent with our current knowledge, but we feel that in this case the simplest hypothesis is likely correct. Marenco says that our intuitions here are guided by the fit of each hypothesis with background knowledge. Hypothesis 1 is simplest in the sense that both 2 and 3 would require more *ad hoc* hypotheses to be factored in than 1 (231-232). Simplicity is a matter of "preference within some frame of reference" (232), aside from which the concept becomes problematic.

But what if we had no additional background knowledge at all? By what criteria would we judge that one hypothesis was more probable than another *even* if one hypothesis had fewer logical components than a rival? Without some external knowledge against which to measure our hypotheses, we would be at a complete loss to say which hypothesis had a higher prior probability. For instance, if we did not have any additional knowledge, we would have no way of judging which additional entities in the varying explanations *even were* theoretical, or seemed to complicate the situation beyond what is necessary.

To add my own extension to Marengo's example, suppose now that you are an alien traveller from Alpha Centauri who likes to eat radioactive elements and you have just arrived on earth. You are greeted with the sight of the Chernobyl reactor melting down. Knowing absolutely nothing about working conditions on earth or intergovernmental espionage you would be likely to rate the most probable cause of the explosion very differently than would a native of the planet Earth, in accordance with your background knowledge that nuclear reactors are simply delicious. Now suppose that you are an alien not from nearby Alpha Centauri, but from a distant galaxy who has never experienced anything to do with industrial work places, espionage, or reactor-eating Alpha-Centaurians. If presented with these three options, how could you possibly decide which was the simplest unless something in your experience connected with one of the options in a way that it seemed to fit your view of the universe slightly better than the others?

The point, I hope, is clear. Some sort of context is necessary in order to judge which hypothesis is 'simplest', a context which Swinburne's argument for the probability

of theism lacks. Since our notion of simplicity is based on an understanding of the world around us, any hypothesis which seeks to explain the existence of the entire universe will lack all such definitional boundaries, and 'simple' could mean anything at all! It seems that it is impossible to determine the intrinsic prior probability of a hypothesis based on simplicity alone, because simplicity will not do any work for us without any additional content against which to compare and contrast our contenders.

4.4 Exporting the Principle

If Marengo is correct, and I think he is, then we need some sort of context or background knowledge to measure our hypotheses against in order to determine which hypothesis is 'simpler', or has better fit with what we know of the world. This kind of thinking, measuring our hypotheses against background knowledge, often relies on another inductive assumption, that the future will continue to resemble the past, or that observed past regularities will continue to be the norm.

Many people, Swinburne included, have argued that David Hume and Immanuel Kant's scepticism regarding induction can be rejected, and that reason can, in fact, reach beyond the limits of immediate experience (Swinburne, 2004, 2). He holds that we can be justified in thinking inductively, in reasoning from effects to causes. We do it all the time, and such inductive leaps are the foundation of every part of our thought, science, and philosophy. Inductive inferences are simply unavoidably necessary.

I agree with this position in regard to many inferences which I make in my daily life as I move around within the confines and parameters of the Domain of the Universe.

Scepticism aside, I really do believe that the fundamentals of physics will (probably) continue to be constant day to day, and that I am reasonably justified in making decisions based on the assumption that they will remain constant. I believe that the sun will rise tomorrow, that gravity will not suddenly cease to operate in predictable ways, and that I can make calculations for the future with these considerations in mind. Since every inference can be traced back to some set of inductive assumptions, this sort of thinking is unavoidable, and it is necessary that we proceed on the assumption that some of our inferences will continue to provide predictive power. We cannot wholly discount induction as a justification for inferences.

In light of these considerations, there might be room for the simplicity principle within the Domain of the Universe. Despite the existence of counter-examples, the principle does seem to be strongly correlated with successful theory selection and within the universe we do have the aid of background knowledge to help us measure the simplicity of a theory.

However, Swinburne's use of the simplicity principle in *The Existence of God* is on much shakier ground. Swinburne is trying to infer what could be the cause of the Domain of the Universe. He uses the criterion of simplicity, along with his claim that theism is the simplest of competing possible explanations, in order to assign a relatively high intrinsic prior probability to the god-hypothesis. My own view regarding what is going on here is as follows: A principle whose use is justified by correlating observed events *inside* the Domain of the Universe, which is only methodologically sound if there is background knowledge against which to measure the hypotheses, is being applied to

some domain *outside* the limits of the universe. The correctness of this application is simply impossible to ascertain.

To demonstrate this point by an analogy, imagine that Bill is a small child who has been raised in a house with no windows. He is fed by a machine and has never had contact with another human being. He has never had any experience of or contact with the world outside his house. Also, he has no reason to think that he will ever see the world outside the house. Now, Bill's house is infested with mice. There is no way to go in or out of the house, even for the mice. Every mouse that Bill has seen has had a tail. He does not know if he has seen all the mice or not, and new mice are always being born. Being a pensive individual, Bill makes two inferences: (1) He infers that all mice have tails. (2) He infers that there are mice outside the house, and they all have tails too.

In (1), Bill reasons inductively from the observation of conditions in his own house, that there exist mice and they all have tails, to a general truth which he thinks is a good *rule* within his domain of experience, but which might not be metaphysically necessary. There always could be a mouse with no tail which he has yet to encounter. In (2), Bill reasons from the observation of conditions within his house, that these conditions hold outside the house as well. In (1), Bill's theory that all mice have tails can be constantly confirmed by continual observation of confirming cases. Each time he sees another mouse with a tail, he can jot down a mental 'T' beside his theory. If he ever sees a mouse without a tail, he can revise his theory, or change its truth value to F. With this theory there is confirming evidence available to justify him continuing to subscribe to it. His beliefs about things within the house can be refined and redefined based on new evidence, leading to more successful predictions about the future and more successful

control over his environment. However, in (2) there is *no* anticipated opportunity for confirming evidence, nor is there the possibility of falsifiability. So long as Bill has no access to the world outside his house, he is not in a position to assign with reasonable confidence any truth values to theories about it.

These same conditions hold for Swinburne's application of the simplicity principle for adjudicating between hypotheses pertaining to the cause of the universe we inhabit. We have no good reason to believe, at this point in time, that anything which is not part of the universe we inhabit is epistemically accessible. New advances or revelations may change this in the course of time, but as things stand now, the Domain of Possible Causes of the Universe appears to be beyond our investigative reach.

But the situation gets even worse. Even if we knew that the simplicity principle actually revealed something fundamental about how the universe itself really is, we would not be justified in exporting it from within the universe and applying it to the realm beyond the universe. Suppose that Bill is able to know for a fact that every mouse which exists or ever will exist inside his house has a tail. Even though he knows this rule to be true for all the mice inside his house, he cannot possibly know that it is true for all the mice outside his house, having had absolutely no experience about what the outside world is like. It may seem natural or intuitive to assume that the world outside will in some ways resemble the interior, but there are no guarantees that this is the case.

Additionally, the example of Bill and his rodent-ridden house might be somewhat misleading. The example of Bill and his house is contextually biased to support the supposition that there actually *is* something outside his house. Our minds are drawn to assume that this is so because of the familiarity of the objects in the example. But you

and I have no reasons to suppose that the bias in the example translates to the problem of potential realities beyond the Domain of the Universe, in a domain of which we know nothing and have experienced nothing, and to which it is unreasonable to suppose that we can export theories which have been derived from our very limited experience. The possibility that there might be something beyond the universe does not mean that there actually is anything there to talk about.

Swinburne might respond that he has not claimed that he is working in the absence of all background knowledge, but has in fact claimed that we can proceed with tautological knowledge to guide us (Swinburne, 2004, 71). This includes certain inalienable truths such as the Principle of Identity and the Principle of Non-contradiction. Surely these considerations can be said to guide our thinking as constant background knowledge. However, I venture that there may be no discernible difference between these principles and the simplicity principle when it comes to exporting them outside of the Domain of the Universe. They are concepts which might only have been derived from our limited experience *inside* the Universe, and there are no guarantees that they will hold beyond it. Even if such logical principles do have an *a priori* validity which extends to the realm of possible causes, these principles would be compatible with a near infinite range of possible hypotheses and therefore their help in assessing a more probable candidate would be negligible, if not completely null.

To put it another way, what I am claiming is that Swinburne's use of the simplicity principle rests on the unfounded assumption that we can export inductive inferences about how things probably work within the universe and apply them to the Domain of Possible Universe Causes. I feel I am making no strange claim when I argue

that this is one hefty assumption and that the burden of proof lies on the shoulders of Swinburne and his supporters to show how we can be justified in making such bold claims about a theoretical domain of which we have absolutely no experience.

4.5 The Set of Hypotheses

So if it is so problematic, why does Swinburne feel the need to rely on the simplicity principle? The problem which prompts Swinburne to lean on the simplicity principle, is that, for any given phenomenon, an infinite set of hypotheses can be proposed which, when combined with statements of initial conditions, can be used to deduce a series of statements which fully anticipate and explain the observed phenomenon (Swinburne, 2004, 58). He needs a way to be able to separate out the more probable hypotheses from a potentially large set without the benefit of significant background information to help him along, and simplicity is the only tool available for this problem.

The physicist Philip Anderson says that the essence of Bayesianism lies in being able "to clearly identify the possible answers, assign reasonable a priori probabilities to them and then ask which answers have been made more likely by the data" (Anderson, 1992, 9). It is crucial that we are able to identify in *some way* all of the possible answers to a problem before we can use simplicity and Bayes' Theorem to decide how likely any given hypothesis is.

When looking for an explanation of some phenomenon within the Domain of the Universe, many possible hypotheses will supposedly be invalid from the start because of

their incompatibility with various other parts of our experience. Think back again to my earlier example where my window suddenly smashes and I look out to spot two boys, one directly ahead, and one at an oblique angle. The set of my hypotheses for how the ball broke the window is not limited to simply 'boy 1' or 'boy 2'. I can postulate at will any number of additional hypotheses that could explain how the window was broken. Perhaps an alien materialized suddenly and hurled the ball towards the window, maybe a bird ran into the ball in midair and deflected it into the window, maybe the young boys were framed? Additionally, suppose I know that the window was broken by a young boy who threw the ball. The details of the boy and why he might have thrown the ball the way he did can also vary infinitely until we are left with a sea of infinite possibilities. (For example: My window was broken by a boy with a blue shirt; my window was broken by a boy with a red shirt and brown pants; my window was broken by a boy with a green shirt, brown pants, and a destructive temperament... (etc.)).

Now despite the possibility of generating an infinite number of competing hypotheses, our real-world experience within specific situations allows us to select the best hypothesis with great success. If it were my house whose window had just been broken, I would pop my head out, spot the boy who had a direct line of sight from his hand to my window, and quickly narrow the range of probable hypotheses. The simplest explanation with full explanatory power is that that little twerp right there threw the ball and broke my window. Sure, an alien *could* have materialized out of nowhere and smashed up my house, but the simplest hypothesis is that the boy dead ahead is to blame. Even though I can, in theory, modify small details about the boy who threw the ball and various parts of the story, there does not seem to be any problem with me assigning sets

of similar hypotheses to various classes, each class being given its own rough assignment of probability, and arriving at generalizations which are frequently accurate.

When dealing with the probability calculus of Bayes' Theorem, the combined prior probability of all the possible mutually exclusive hypotheses must add up to 1. If a mutually exclusive and jointly exhaustive set of hypotheses is a countably infinite set, then the average probability for each hypothesis will be infinitesimally small. However, in real world cases we know that some classes of hypotheses will be more probable than others. Back to our example of the breaking window, I can assign a class of hypotheses the label "The boy directly ahead broke my window", which will include all hypotheses which roughly satisfy the central criteria of the theory even though they might range widely in their specific details. I might give this class a prior probability of 0.75, since I deem it to be quite likely given the totality of my experience. Next I consider all the various hypotheses which might somehow involve the boy at the oblique angle and I assign this class a value of 0.24, since, while these hypotheses are unlikely, they are still possible within my experience. The remaining 0.01 I assign to what I feel is the very improbable class of hypotheses which do not include either boy and which ranges over an infinitely wide field of possibilities that includes materializing aliens and passing birds.

So far so good for our Bayesian friends. It seems possible that simplicity might really do the work that Swinburne wants it to do in shaving away improbable theories and narrowing our attention to those which are most relevant. However, the case of the existence of God is different from the case of the broken window in important ways.

First, while I can generate classes to lump together hypotheses which pertain to the problem of the existence of the universe, I am prejudiced and limited by my experiences

within the Domain of the Universe to propose hypotheses which are contiguous with the kinds of experiences I have had. For example, Swinburne proposes three classes of explanation for the universe, one which includes theories of creation by many gods or limited gods, one in which there are no gods, but rather "an initial (or everlasting) physical state of the universe" which is different from its current state but of a kind that it would bring about the current state (339-340), and a third which says that the universe just has no explanation at all (Swinburne, 2004, 339-340). While these are all presumably proper classes, it is not clear that they represent, when combined with theism, a jointly exhaustive list of hypotheses. Certainly we were bound to think of them. Class 1 represents agentic action or creation, both familiar concepts to us here in the universe. Class 2 ties in nicely with our familiarity with physical causation, and class 3 simply posits the lack of a cause.

But why would these options represent all the possible hypotheses other than theism? Picture yourself living five hundred years ago on the plains of Montana with your fellow Blood tribesmen as an entirely new disease ravages your family. You might propose all sorts of hypotheses to explain the appearance of the disease, dividing them into perfectly reasonable classes of hypotheses, and think that you have all the options covered. Unbeknownst to you, since it is beyond the range of your experience, the real cause of the arrival of the disease is happily setting up shop thousands of miles away on the east coast. Our experience in the universe could very well be analogous. While we are cognizant of some very possible options for what could have caused the universe, our complete lack of experience of or epistemic access to this murky Domain of Possible Universe Causes (if it exists) could mean that there is a great deal of important

information we are missing out on. While we are ignorantly only aware of a few possibilities, the reality of whatever lies beyond the universe could include a wealth of further possible explanations. Thus in order to take Swinburne seriously on his division of hypotheses we would need to feel confident that we have enough information to make an exhaustive list of what sorts of things could possibly exist or could possibly occur beyond the universe, and this simply seems absurd.

But what if we could somehow know that we had an exhaustive list of possible hypotheses, classified up in a way such that we could put the simplicity principle to work? Then we would be back to the problem of background knowledge. I only feel confident that the class of explanations in which the boy dead ahead is responsible for smashing my window with the baseball is the most probable class of explanation because of a great deal of additional knowledge of the setting in which this event has occurred. This class of hypothesis has exceptional fit with many other things I believe to be true about the world around me. The problem for Swinburne is that he cannot say the same of hypotheses which are 'metaphysically situated' beyond the universe. He can say that certain hypotheses lend themselves to having good explanatory power in that they can account for everything we experience in the universe, but then again, if they are proper hypotheses which all purport to have equal explanatory power (remember that this is a condition which Swinburne set for making use of the simplicity principle), then they are all on the exact same footing. No, I speculate that the important thing is how these hypotheses fit our background knowledge of the Domain of Possible Universe Causes itself, and this, we have already seen, is a body of knowledge we simply do not have.

The upshot of all this is that trying to determine the set of possible hypotheses and then determine which one is the simplest, when what we are dealing with is situated in that murky theoretical realm beyond the universe, seems to be an exercise in futility which yields no certain results. If the set cannot be determined, then it boggles the mind to think how we could ever agree on any value for the prior probability of theism. Swinburne has a lot of questions to satisfy here if we are to accept his argument.

4.6 Summary and Conclusion

If Bayes' Theorem can be used to determine the probability of God's existence, then we need to be able to agree on reasonable values for the terms on the right hand side of Bayes' Theorem. However, I have shown that the simplicity principle, even if it can be proven to be a good general principle inside the universe, cannot be exported from within the actual universe to the realm of universe causes, since we have no justifiable reasons to suppose that the same conditions which support the simplicity principle *in* the universe apply outside of it. It is also not clear that Simplicity can even do any work for us in the Domain of Universe Causes since we have no background knowledge against which to measure our hypotheses. Finally, even if we could use Simplicity in this realm, it is not clear that we could even arrive at an exhaustive set of hypotheses, which is necessary in order to know which class of hypothesis can be judged most probable. Since all uses of Bayesian confirmation theory to draw a conclusion on this issue must tackle the problems I have identified, I conclude that the approach itself is doomed to failure. Swinburne cannot reasonably assign any values to any of the terms on the right hand side of the

equation, and thus Bayesian Confirmation Theory cannot be used to give an answer to the question of whether or not God exists.

Chapter 5 - An Alternate Argument

A final objection which I would like to bring to bear is that even if we accept Swinburne's core assumptions it is very easy to derive different results, either in the direction of adopting a different explanatory hypothesis to fit the observed data, or in the direction of churning out different values for the probability of God. I intend to demonstrate both below.

5.1 A Simpler Hypothesis

First, I take the following assumptions to be crucial components of Swinburne's argument for the probability of his God-hypothesis.

- (1) Dualism is true.
- (2) Personal Explanation cannot be reduced to Scientific Explanation.
- (3) The universe can only be explained by Personal Explanation, so that, if there is any explanation of the universe, it involves something similar to Theism.
- (4) We can create a mutually exclusive and jointly exhaustive set of hypotheses regarding the possible causes of the universe and we can use the simplicity principle to find the most intrinsically probable hypothesis.
- (5) Simplicity has 5 facets: numerical simplicity, kind simplicity, conceptual simplicity, simplicity of laws, and mathematical simplicity.

If we assume the correctness of these essential criteria, which Swinburne thinks leads necessarily to a being like the God of theism, I think a plausible and different story can be told.

Swinburne has argued that "the hypothesis of theism postulates not merely the simplest starting point of a personal explanation there could be (simpler than many gods or weak gods), but the simplest starting point of explanation for the existence of the universe with all the characteristics that I shall be analyzing" (Swinburne, 2004, 106). However, I entirely disagree with him. Let us assume that his criteria for what constitutes simplicity are correct. In selecting the simplest possible explanatory hypothesis we want a personal explanation, which means that our hypothesis needs to include an entity which exhibits intentional action, or who caused the universe to exist as the result of an intention. So far, so good for Swinburne. However, we need a being that is numerically simple. Let us therefore postulate a single entity. Third, we want to limit the kinds of entities which exist. Now Swinburne asserts that the fewer kinds our theory proposes, the simpler it is (Swinburne, 2001, 87). Yet his own theory involves two separate entities, God, and the universe which God creates and sustains, which are presumably of two different ontological kinds. This does not seem to fit his own criteria. I propose instead that we assume God to be either co-extensive with the universe, or of the same ontological kind as the universe, so as to limit the kinds of entities we need in our theory. So in some manner or sense, God could just *be* the universe, which certainly seems simpler than postulating a separate entity.

Next, we need our theory to involve the fewest possible theoretical concepts and fewest separate laws to describe the inner workings of the hypothesis. Let us assume the

barest possible conditions under which a being, which is the universe itself, would generate the content of the universe, or the active events which constitute the reality which you and I experience. Perhaps this means something like 'the universe is all an idea in the mind of God', or that 'God is the animating soul of the universe'. We can hypothesize that this god's only motivating impetus is a driving desire to create endlessly, so that all possible realities are being churned out. It does not matter whether this infinite creation is simultaneous, serial, or expansive in nature. So long as enough possible realities or combinations of possibilities are realized, the universe which we live in will very probably be produced. Thus this one motivating factor or law is sufficient to produce the observed effect. Giving God additional traits seems to be redundant if what we want is the simplest yet sufficient explanatory hypothesis which is consistent with the existing universe, and this one satisfies all those conditions.

As an aside, Swinburne himself admits in an appendix to his 2004 edition of *The Existence of God* that his argument is not really an argument to the god of Christianity, since he considers that god to be Trinitarian. It is at best an argument for a monotheistic god like the one of Judaism or Islam. It is, however, compatible with the Christian god (Swinburne, 2004, 343-345). Thus if a distinctly Trinitarian hypothesis is the correct one, then this will be an even less simple hypothesis than the one which Swinburne has been advancing.

5.2 A New Calculation

If other hypotheses can be advanced which are both true to Swinburne's criteria and which are fully consistent with the existence of the universe, then some recalculation of the numbers is needed. Supposing that we can actually create a jointly exhaustive and mutually exclusive list of possible hypotheses (divided up into classes), I propose the following division and subsequent consequences.

To begin with, it ought to be noted that perhaps the very simplest explanation of the universe is the brute fact hypothesis - the idea that the universe just exists unexplained. On this hypothesis, we have only one 'entity', presumably only of one ontological kind, with no need for any explanatory content. Swinburne's definitions seem to imply that the brute-fact explanation is simpler than one which involves additional content, just as it also seems to imply that complete nothingness is the absolute simplest state of affairs. So if the brute-fact hypothesis is overwhelmingly simple, and simplicity is the primary determinant of prior probability, then it might end up being that the probability of the universe existing given the brute-fact hypothesis is not as low as Swinburne asserts when he says that it is "infinitesimally low" (341).

Keeping these new considerations in mind, let us return to Swinburne's reasoning in *The Existence of God* and see how our conclusions are altered. In 2.10 we saw that Bayes' Theorem can be written as:

$$P(h|e\&k) = \frac{P(e|h\&k) P(h|k)}{P(e|h\&k)P(h|k) + P(e|\sim h\&k)P(\sim h|k)}$$

where $P(e|h\&k)$ is the probability of the universe with all its listed characteristics existing given Swinburne's god-hypothesis, and $P(e|\sim h\&k)$ is the probability of this universe

existing given any other hypothesis besides his. Recall that in this context k is merely tautological background knowledge, e is the total evidence which Swinburne has considered in favour of and against theism, aside from religious experience, and h is his own god-hypothesis, with all the features he has described. $\sim h$ is the negation of Swinburne's hypothesis. $P(h/k)$ is the intrinsic probability of Swinburne's god-hypothesis given tautological background knowledge, and conversely, $P(\sim h/k)$ is the intrinsic probability of the disjunction of the competing hypotheses to h . As before, $\sim h$ can be divided up into classes of hypotheses. Let us change this list to include the considerations we looked at in 5.1, so that we have the following list:

- h_1 The hypothesis of many or limited gods
- h_2 The hypothesis of no god, but rather an initial or everlasting physical state of the universe which brought about the present state
- h_3 The brute fact hypothesis
- h_4 The universe-god hypothesis (as outlined in 5.1)

Now these hypotheses together constitute $\sim h$, and since $\sim h$ represents the disjunction of a number of different classes of hypotheses, we can expand it to show that $\sim h$ is the conjunction of these various hypotheses. So, as we saw earlier, we can expand $P(e|\sim h \& k)P(\sim h|k)$ to:

$$P(e|h_1 \& k)P(h_1|k) + P(e|h_2 \& k)P(h_2|k) + P(e|h_3 \& k)P(h_3|k) + P(e|h_4 \& k)P(h_4|k).$$

Swinburne concluded that $P(e|\sim h \& k)P(\sim h|k)$ would not exceed $P(e|h \& k)P(h|k)$. He argued that, because of both simplicity and explanatory power, the posterior probability of theism will not be less than 1/2, when compared against only h_1 , h_2 , and h_3 . However, if my argument in 5.1 is convincing, then we should include hypotheses like h_4 , and $P(h|k)$ will be lower than $P(h_4|k)$, while $P(e|h \& k)$ will be at least equal to $P(e|h_4 \& k)$. We saw that h_4 is simpler than h and thus has a greater intrinsic probability. h_4 is also very strictly defined, limiting the number of disjunctions which can be made within this class of hypothesis, to an extent that I think it is on level with Swinburne's hypothesis in the ways in which it can be modified. In addition it explains everything which the god-hypothesis explains with greater simplicity, meaning that $P(e|h \& k)$ will be at least equal to $P(e|h_4 \& k)$. This entails that $P(e|h \& k)P(h|k)$ will be less than $P(e|h_4 \& k)P(h_4|k)$. Therefore $P(e|\sim h \& k)P(\sim h|k)$ will exceed $P(e|h \& k)P(h|k)$, and theism will not be probable.

The important point to note here is that I have reached the opposite conclusion with very minor changes to Swinburne's original arguments, taking for granted all of his assumptions and principles. I strongly suspect that many re-calculations of the probability of God could also be constructed if one were to focus on modifying the probability values of the evidence following rigorous counter-arguments which could be levelled against Swinburne's own values. Many of these values are very contentious and invite debate and disagreement. We will save such an exercise for a different day. I hope that my own example above is sufficient to show the level of flexibility allowed by Swinburne's own arguments, even while accepting most of his assumptions and principles, a flexibility that casts serious doubt on the quality of his approach and method.

Concluding Remarks

If it fails, the attempt should not be condemned out of hand but should be classed among the many models that have, over the years, been set up only to be knocked down again. Indeed many useless hypotheses belong among those sorts of wrong answer that must be given so that we can know why they are wrong. (Herm, 1975, 88).

The quotation above, from the historian Gerhard Herm, captures my own sentiments about Swinburne's arguments in *The Existence of God*. If my arguments are right and Swinburne's approach is misguided, then we should be careful not to disregard some valuable lessons which can be learned. I particularly feel that my arguments here can provide insight into a common problem faced in many areas of apologetics. In many arguments for either the existence, properties, or character of God, their proponents make a similar error to the one Swinburne has committed. They try to reason from aspects of their experience within the universe to conclusions about what an omnipotent god must be like, without considering the restrictions about drawing conclusions about possible entities which lie beyond the limits of the universe. Unless some very convincing arguments can be presented in favour of the exportation of principles from the universe in order to reach conclusions about states of affairs beyond the universe, then we ought to be on guard against anyone exporting such principles.

Following his own rebuttal of Swinburne's arguments, William Hasker writes:

The moral to be drawn is not that Christianity is unworthy of acceptance, but rather that human beings who wish to reach conclusions about the general character of life and the universe are best advised to employ some method other than Swinburnean confirmation theory (Hasker, 2002, 257).

Based on my analysis here, I wholly endorse Hasker's sentiments. Given additional theoretical development and some additional discoveries (such as confirmation that substance dualism is true), a Bayesian approach might eventually yield us a positive or negative conclusion which most people could find reasonable. However, as things stand now, the approach raises far too many questions and relies on unsupported assumptions which make bold claims about how the universe is without establishing that it is so. It is not clear that substance dualism is true, nor is it clear that we can use the simplicity principle in any coherent way to establish prior probabilities for hypotheses which are metaphysically located beyond the Domain of the Universe.

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