Appendix: Two Dozen (or so) Theistic Arguments ALVIN PLANTINGA

PREFACE TO THE APPENDIX (JULY 2006)

What follows are notes for a lecture on theistic arguments given in a summer seminar in philosophy of religion in Bellingham, Washington, in 1986. Although the last twenty years have seen a good bit of interesting work on theistic arguments (for example, on the fine-tuning arguments), the notes, while shortened a bit, are unrevised. My intention had always been to write a small book based on these arguments, with perhaps a chapter on each of the main kinds. Time has never permitted, however, and now the chances of my writing such a book are small and dwindling. Nevertheless, each, I think, deserves loving attention and development. I'm not sure they warrant publication in this undeveloped, nascent, merely germinal form, but Deane-Peter Baker thought some people might find them interesting; I hope others will be moved to work them out and develop them in detail.

I've argued in Warranted Christian Belief and elsewhere that neither theistic nor full-blown Christian belief requires argument for justification or rationality or (if true) warrant. One can be justified and rational in accepting theistic belief, even if one doesn't accept theism on the basis of arguments and even if in fact there aren't any good theistic arguments. The same holds for Christian belief, which of course goes far beyond theism: One doesn't need arguments for justified and rational Christian belief. If theistic belief is true, furthermore, then, so I say, it can have warrant sufficient for knowledge for someone, even if he or she doesn't believe on the basis of theistic arguments, and even if in fact no good theistic arguments exist. That said, of course, it doesn't follow that there aren't any good theistic arguments, and as a matter of fact, so the title of this section intimates, there are good theistic arguments – at least two dozen or so. I hasten to add that the arguments as stated in the notes aren't really good arguments; they are merely argument sketches, or maybe only pointers to good arguments. They await that loving development to become genuinely good.

But what makes a theistic argument (or, for that matter, any other philosophical argument) a *good* one? Forty years ago, when I first wrote about theistic arguments in *God and Other Minds*, this question was much easier to answer. Then I was implicitly accepting some variety of classical foundationalism; the answer to this question is reasonably clear from that perspective. Of course, there is more than one variety of classical foundationalism; for the moment let's go with John Locke's version. As usual with these matters, there are problems connected with saying just what Locke had in mind. Perhaps the following will serve as a rough and ready account:

(L) A belief is properly basic for S just if it is incorrigible (like such beliefs as *I'm being appeared to redly*) or self-evident for S or "evident to the senses" for S; and a belief that isn't properly basic for S is rationally acceptable for S if and only if it deductively follows from or is sufficiently probable with respect to S's properly basic beliefs.

It is then reasonably clear what it is for an argument to be good: It must take as premises propositions that are properly basic for all or most people, and proceed via self-evidently valid deductive steps to the conclusion, or else it must make it evident that the conclusion is sufficiently probable with respect to all or most people's foundations.

Of course even here there are problems. An argument of the form p, therefore p

won't be a good argument even if *p* is properly basic for everyone. Such an argument, of course, is question-begging or circular, and a good argument will be neither; but under just what conditions is (or isn't) an argument question-begging or circular? That's not easy to say. Is circularity an epistemic property? Is it person-relative? Can it be characterized formally? These are hard questions. Furthermore, what is incorrigible will of course vary from person to person, as will what is evident to the senses. (It's evident to the senses for me that I am sitting before a computer; since I am alone in the room that is not evident to the senses for anyone else.) Less obviously, what is self-evident also varies from person to person; as Thomas Aquinas said, some propositions are self-evident only to the learned.

Another source of difficulty is the fact that self-evidence, or *intuitive sup- port*, as perhaps we can better call it, comes in degrees. Simple logical and arithmetical propositions such as 2+1=3 and the corresponding conditional of modus ponens (better, some instance of it) have maximal intuitive support (are maximally self-evident); propositions like *Nothing has properties in possible worlds in which it doesn't exist* and *There aren't any things that don't*

exist have some but much less than maximal intuitive support. This leads to trouble with the previous explanation of goodness for an argument: On that account as it stands, a good argument could take as premises propositions that have some but less than maximal intuitive support, and take as conclusion the denial of a proposition that has maximal intuitive support. Indeed, this isn't merely possible; consider the self-exemplification paradox. Some properties exemplify themselves and hence also exemplify the property self-exemplification; others do not. But then what about the property of non-self-exemplification? Sadly enough, it exemplifies itself if and only if it does not, which entails a contradiction. Here the premises (There is such a property as self-exemplification, All properties have complements, . . .) all have at least some intuitive support; the argument is such that each step follows self-evidently from previous steps; but the denial of the conclusion has near maximal intuitive warrant. So there are complications; still, the basic structure of the right answer is fairly clear, and a little Chisholming will presumably suffice to deal appropriately with the complications.

Classical foundationalism, however, is mistaken, as is now widely recognized. Given that it is mistaken, how shall we say what makes for goodness in an argument? That's a wholly nontrivial question. To make a beginning, we might say that an argument is maximally good if it meets the conditions for goodness appropriate to classical foundationalism. There are arguments that meet that condition, particularly in mathematics and logic; think, for example, of the argument for the conclusion that there is no greatest prime.² The theistic arguments that follow, however, do not meet that exalted standard; few if any philosophical arguments do. Perhaps a few do. Descartes's cogito meets that condition: that I think is incorrigible for me, and it is selfevident that if I think (or am appeared to redly, or for that matter go for a walk), then I exist. A reductio that by self-evident steps displays a contradiction in a philosophical position is a philosophical argument, and there are arguments of that type. But the vast majority of philosophical arguments don't meet that standard; some of those, presumably, are nevertheless good; so what constitutes goodness for a philosophical argument, given the demise of classical foundationalism?

We can effect one small but comforting simplification: Adding additional premises can turn any argument into one that is deductively valid, one where the premises entail the conclusion by steps each of which has near maximal intuitive support. (If worst comes to worst, we can always add as a premise a conditional whose antecedent is the conjunction of the premises and whose consequent is the conclusion.) So we need worry only about the premises. What conditions will the premises of a good argument have to

meet? Must they be justified, rational, warranted? Here, the first problem is that all three of these virtues are had by different propositions for different people. So perhaps we'll have to say that goodness, for an argument, is person relative; an argument isn't in the first instance, good simpliciter, but for a given person S. Then we can go on to say that an argument is good überhaupt (in a derived sense) just if it is good for a sufficiently large class of people, or perhaps of people meeting certain conditions of rationality.

Well, then, shall we say that an argument is good for S if each of the premises is justified (in the deontological sense, so that *p* is justified for me just if I am within my intellectual rights in accepting it) for S? But what about the self-exemplification paradox? For some reason or other, I might be such that I simply can't help believing each of the premises; in that case, I am within my rights in accepting them all; if so, the argument, by the current consideration, is good for me. But surely it isn't. There are various expedients one might try to amend this account; but there is probably no hope along these lines. Given the fact that beliefs (for the most part, anyway) are not under our voluntary control, and given that one is within one's rights in accepting a belief when one can't help accepting it, a standard in terms of justification is going to be much too permissive.

Shall we say that an argument is a good one for S just if each of the premises of the argument *has warrant* for S? Say that a belief is warranted for a person S, give or take a few bells and whistles, if it is produced in S by cognitive faculties that are functioning properly in an appropriate cognitive environment according to a design plan that is successfully aimed at the truth (Plantinga, *Warrant and Proper Function*, 1993). Unfortunately, that environmental condition produces a problem: Whether an argument is good, for S, should not depend, in this way, upon S's cognitive environment. Even if I'm a brain in a vat, so that my cognitive environment is defective and my beliefs lack warrant, some arguments ought to be good, for me – including ones that involve as premises beliefs that, due to my envatted condition, do not have warrant for me.

Shall we say that an argument is good for S just if each of the premises of *p* is *rational*, where a belief is rational if a rational human being – one whose rational faculties are functioning properly – could believe or accept *p*? First, we'd have to add that a rational person could accept *all* the premises of the argument. (It's not enough that each be such that it can be accepted by a rational person; it must also be that a rational person could accept them all.) Even so, this criterion will be extremely permissive; an extremely wide variety of premises can, at least in principle, meet this condition. Each of the premises of the self-exemplification paradox can be rationally accepted,

and a person can be rational even if he or she accepts them all – at least until that person sees the connection between premises and conclusion. Perhaps this problem can be skirted as follows. Note that one can hold a belief with varying degrees of firmness, and that rationality in this sense attaches to the firmness with which a belief is held as well as to the content of the belief itself. So perhaps we could say, with respect to the self-exemplification paradox, that a rational person will accept the denial of the conclusion more firmly than he or she accepts the premises – more exactly, there is at least one of the premises such that rationality dictates accepting the denial of the conclusion more firmly than that premise; we could then amend the criterion for goodness appropriately.

Still, this criterion is too liberal. Consider a person who has been brought up to believe some wild and implausible proposition – for example, the earth is on the back of a turtle, which is on the back of another turtle, so that it's turtles all the way down. A person brought up to believe this could believe it rationally. But now consider an argument whose conclusion is that there are infinitely many turtles and whose premises were the foregoing story about turtles. Is such an argument a good argument? I should think not.

As good a suggestion as any moves in quite a different direction. Peter van Inwagen suggests that an argument is a good one if it meets the following condition: It would convince an audience of ideal agnostics when the argument is presented in an ideal fashion, and when there is an ideal critic present who is permitted to criticize the argument:

An argument for p is a success just in the case that it can be used, under ideal circumstances, to convert an audience of ideal agnostics (agnostics with respect to p) – to belief in p – in the presence of an ideal opponent of belief in p.³

'Ideal', here, means pretty much what you think it does; we might add that the ideal agnostics in the audience take the conclusion to be about as probable as its denial with respect to the opponent's beliefs. But here too there are questions. Presumably, we are to suppose that ideal agnostics are rational in the proper function sense; but perhaps it isn't possible to be both rational and agnostic with respect to the conclusion. Could one be rational and also agnostic with respect to the question whether there is or has been a past? Whether there are people? An external world? If not, any argument for any of these conclusions – even if patently ridiculous – will be a good argument on the present suggestion; since there aren't any neutral

observers, it will be vacuously true that every neutral observer would accept the conclusion of the argument.

This problem is particularly poignant in the present connection; for according to one of the live options in the epistemology of religious belief, a rational person will have a powerful inclination to believe that there is such a person as God. Of course, we are thinking, here, of the *buman* cognitive design plan. Might there not be other design plans that didn't dictate this inclination to believe these propositions? No doubt there could be. Could we say, then, that an argument with the conclusion that p is a good one if it would convince an audience of ideal agnostics who had a design plan like the human, except that the design plan specifies no inclination to believe p or its denial? Perhaps.

A problem still remains, however: Whether the argument will convince someone depends in part on what else that person believes. Suppose I am neutral with respect to the question whether there are infinitely many unicorns, but, having read my David Lewis, believe that if it is possible that there be unicorns, there are infinitely many. (I'm also neutral with respect to the question whether unicorns are possible.) You argue that there are infinitely many unicorns by arguing that it's possible that there be unicorns (and your argument for that premise is such that it would convince an ideal agnostic). Then your argument for there being infinitely many unicorns would convince me - but not, perhaps, someone who doesn't share my belief that if it is possible that there be unicorns, then there are infinitely many of them. In the same way, one ideal agnostic might believe a conditional whose antecedent is one or more of the premises and whose consequent is the conclusion of the argument; but another might believe a conditional whose antecedent is one or more of the premises and whose consequent is the denial of the conclusion of the argument. There is no reason to believe that all ideal agnostics would react in the same way to the argument.

We could go further with attempts to patch up this sort of account of goodness for an argument; and we could go further with the question whether there *are* any plausible accounts of goodness for an argument. Let us instead simply note that it is difficult indeed to give a good criterion for argumentative goodness; and then let me instead briefly go on to say what the following arguments can be thought to be good *for* – that is, what they can plausibly be expected to accomplish.

Well, from the point of view of atheism, I suppose they aren't good for much of anything. So suppose we think about the matter from the point of view of theism, or, better, Christian belief: What are theistic arguments good for, from that perspective? One suggestion, perhaps endorsed

by Aquinas, is as follows: The function of arguments for the existence of God is to transform faith into knowledge, *scientia*. *Fides quarens intellectum*. But can they actually accomplish this function? *Scientia* is a pretty exalted epistemic condition: According to Aquinas, one has *scientia* of a proposition p just if one sees p to follow from propositions one sees to be true – where the seeing is a matter of self-evidence. I don't believe that any of the theistic arguments or all of them taken together can fulfill this function.

Furthermore, as I've argued here, theistic arguments are not needed for justification, or rationality, or, if true, warrant. But then what are these arguments good for? At least four things. First, they can move someone closer to theism - by showing, for example, that theism is a legitimate intellectual option. Second, they reveal interesting and important connections between various elements of a theist's set of beliefs. For example, a good theistic argument reveals connections between premises and conclusions, connections that in some cases can also contribute to the broader project of Christian philosophy by showing good ways to think about a certain topic or area from a theistic perspective. Examples would be the arguments from counterfactuals, numbers, propositions, sets, and properties. Third, the arguments can strengthen and confirm theistic belief. Not nearly all believers hold theistic belief in serene and uninterrupted certainty; most are at least occasionally subject to doubts. Here these arguments can be useful. I wake up in the middle of the night: I am assailed by doubts about the truth of theism itself. But then I remember that (as I think) there wouldn't even be such a thing as objective right and wrong, good and evil, if there weren't such a person as God; the doubt recedes. (Other arguments – for example, the arguments from proper function and contingent counterfactuals, and perhaps also the arguments from propositions, properties, and sets - can work the same way.) Finally, and connected with the last, these arguments can increase the warrant of theistic belief. For me as for most, belief in God, while accepted in the basic way, isn't maximally firm and unwavering; perhaps it isn't nearly as firm as my belief in other minds. Then perhaps good theistic arguments could play the role of confirming and strengthening belief in God; in that way they might increase the degree of warrant belief in God has for me. Indeed, such arguments might increase the degree of warrant of that belief in such a way as to nudge it over the boundary separating knowledge from mere true belief; they might in some cases therefore serve something like that Thomistic function of transforming belief into knowledge.

These are some of the roles theistic arguments can play, even if they are not needed for justification, rationality, or warrant.

TWO DOZEN (OR SO) THEISTIC ARGUMENTS (1986)

I've been arguing that theistic belief does not (in general) *need* argument either for deontological justification or for positive epistemic status (or for Foley rationality or Alstonian justification); belief in God is properly basic. But it doesn't follow, of course, that there aren't any good arguments. Are there some? At least a couple of dozen or so.

Swinburne: Good argument is one that has premises that everyone knows. Maybe there aren't any such arguments, and if there are some, maybe none of them would be good arguments *for* anyone. (Note again the possibility that a person might, when confronted with an arguent he sees to be valid for a conclusion he deeply disbelieves from premises he know to be true, give up (some of) those premises; in this way you can reduce someone from knowledge to ignorance by giving that person an argument seen to be valid from premises he or she knows to be true.)

These arguments are not coercive in the sense that every person is obliged to accept their premises on pain of irrationality. Maybe just that some or many sensible people do accept their premises (oneself).

What are these arguments like, and what role do they play? They are probabilistic, either with respect to the premises or with respect to the connection between the premises and conclusion, or both. They can serve to bolster and confirm ('helps' à la John Calvin), perhaps to convince.

Distinguish two considerations here: 1) You or someone else might just find yourself with these beliefs; so using them as premises gets an effective theistic arg for the person in question. (2) The other question has to do with warrant, with conditional probability in an epistemic sense: Perhaps in at least some of these cases, if our faculties are functioning properly and we consider the premises, we are inclined to accept them; and (under those conditions) the conclusion has considerable epistemic probability (in the explained sense) on the premises.

Add Aquinas's fifth way: this is really an argument from proper function, I think.

I. Half a Dozen (or so) Ontological (or Metaphysical) Arguments

(A) The Argument from Intentionality (or Aboutness). Consider propositions: the things that are true or false, that are capable of being believed, and that stand in logical relations to one another. They also have another property: aboutness or intentionality (not intensionality, and not thinking of contexts in which coreferential terms are not substitutable salva veritate).

Represent reality or some part of it as being thus and so. This crucially connected with their being true or false. Diff from, e.g., sets (which is the real reason a proposition would not be a set of possible worlds, or of any other objects).

Many have thought it incredible that propositions should exist apart from the activity of minds. How could they just be there, if never thought of? (Sellars, Rescher, Husserl, many others; probably no real Platonists besides Plato before Frege, if indeed Plato and Frege were Platonists.) (And Frege, that alleged arch-Platonist, referred to propositions as gedanken.) Connected with intentionality. Representing things as being thus and so, being about something or other – this seems to be a property or activity of *minds* or perhaps thoughts. So extremely tempting to think of propositions as ontologically dependent upon mental or intellectual activity in such a way that either they just are thoughts, or else at any rate couldn't exist if not thought of. (According to the idealistic tradition beginning with Kant, propositions are essentially judgments.) But if we are thinking of human thinkers, then there are far too many propositions: at least, for example, one for every real number that is distinct from the Taj Mahal. On the other hand, if they were divine thoughts, no problem here. So perhaps we should think of propositions as divine thoughts. Then in our thinking we would literally be thinking God's thoughts after him.

(Aquinas, *De Veritate*: "Even if there were no human intellects, there could be truths because of their relation to the divine intellect. But if, *per impossibile*, there were no intellects at all, but things continued to exist, then there would be no such reality as truth.")

This argument will appeal to those who think that intentionality is a characteristic of propositions, that there are a lot of propositions, and that intentionality or aboutness is dependent upon mind in such a way that there couldn't be something p about something where p had never been thought of.

(B) The Argument from Collections. Many think of sets as displaying the following characteristics (among others): 1) No set is a member of itself; 2) sets (unlike properties) have their extensions essentially; hence sets are contingent beings and no set could have existed if one of its members had not; 3) sets form an iterated structure: at the first level, sets whose members are nonsets, at the second, sets whose members are nonsets or first-level sets, etc. Many (Cantor) also inclined to think of sets as collections – i.e., things whose existence depends upon a certain sort of intellectual activity – a collecting or "thinking together" (Cantor). If sets were collections, that

would explain their having the first three features. But of course there are far too many sets for them to be a product of human thinking together; there are many sets such that no human being has ever thought their members together, many that are such that their members have not been thought together by any human being. That requires an infinite mind – one like God's.

A variant: perhaps a way to think together all the members of a set is to attend to a certain property and then consider all the things that have that property: e.g., all the natural numbers. Then many infinite sets are sets that could have been collected by human beings; but not nearly all – not, e.g., arbitrary collections of real numbers. (axiom of choice)

This argument will appeal to those who think there are lots of sets and either that sets have the above three properties or that sets are collections.

Charles Parsons, "What Is the Iterative Conception of Set?" in *Mathematics in Philosophy*, pp. 268 ff.

Hao Wang, *From Mathematics to Philosophy*, chap. 6: iterative and constructivist (i.e., the basic idea is that sets are somehow constructed and are constructs) conception of set.

Note that on the iterative conception, the elements of a set are in an important sense prior to the set; that is why on this conception no set is a member of itself, and this disarms the Russell paradoxes in the set theoretical form, although of course it does nothing with respect to the property formulation of the paradoxes. (Does Chris Menzel's way of thinking about propositions as somehow *constructed* by God bear here?)

Cantor's definition of set (1895): "By a "set" we understand any collection M into a whole of definite well-distinguished objects of our intuition or our thought (which will be called the "elements" of M)." *Gesammelte Abhandlungen mathematischen und philosophischen*, ed. Ernst Zermelo, Berlin: Springer, 1932, p. 282.

Shoenfield (*Mathematical Logic*) 1967 writes: "A closer examination of the (Russell) paradox shows that it does not really contradict the intuitive notion of a set. According to this notion, a set A is formed by gathering together certain objects to form a single object, which is the set A. Thus before the set A is formed, we must have available all of the objects which are to be members of A" (238).

Wang: "The set is a single object formed by collecting the members together" (238).

Wang (182): "It is a basic feature of reality that there are many things. When a multitude of given objects can be collected together, we arrive at a set. For example, there are two tables in this room. We are ready to view them as given both separately and as a unity, and justify this by pointing

to them or looking at them or thinking about them either one after the other or simultaneously. Somehow the viewing of certain objects together suggests a loose link which ties the objects together in our intuition."

(C) The Argument from (Natural) Numbers. (I once heard Tony Kenny attribute a particularly elegant version of this argument to Bob Adams.) It also seems plausible to think of *numbers* as dependent upon or even constituted by intellectual activity; indeed, students always seem to think of them as "ideas" or "concepts," as dependent, somehow, upon our intellectual activity. So if there were no minds, there would be no numbers. (According to Kronecker, God made the natural numbers and man made the rest – not quite right if the argument from sets is correct.) But again, there are too many of them for them to arise as a result of human intellectual activity. We should therefore think of them as among God's ideas. Perhaps, as Christopher Menzel suggests (special issue of Faith and Philosophy), they are properties of equinumerous sets, where properties are God's concepts.

There is also a similar argument re *properties*. Properties seem very similar to *concepts*. (Is there really a difference between thinking of the things that fall under the concept *horse* and considering the things that have the property of being a horse?) In fact many have found it natural to think of properties as reified concepts. But again, there are properties, one wants to say, that have never been entertained by any human being; and it also seems wrong to think that properties do not exist before human beings conceive them. But then (with respect to these considerations) it seems likely that properties are the concepts of an unlimited mind: a divine mind.

- (D) The Argument from Counterfactuals. Consider such a counterfactual as
 - (1) If Neal had gone into law he would have been in jail by now.

It is plausible to suppose that such a counterfactual is true if and only if its consequent is true in the nearby (i.e., sufficiently similar) possible worlds in which its antecedent is true (Stalnaker, Lewis, Pollock, Nute). But of course for any pair of distinct possible worlds W and W*, there will be infinitely many respects in which they resemble each other, and infinitely many in which they differ. Given agreement on these respects and on the degree of difference within the respects, there can still be disagreement about the resultant total similarity of the two situations. What you think here – which possible worlds you take to be similar to which others *überhaupt* will depend upon how you *weight* the various respects.

Illustrative interlude: Chicago Tribune, June 15, 1986:

"When it comes to the relationship between man, gorilla and chimpanzee, Morris Goodman doesn't monkey around.

"No matter where you look on the genetic chain the three of us are 98.3% identical," said Goodman, a Wayne State University professor in anatomy and cell biology.

"Other than walking on two feet and not being so hairy, the main different between us and a chimp is our big brain," said the professor.... the genetic difference between humans and chimps is about 1.7%.

"How can we be so close genetically if we look so different? There's only a .2% difference between a dachshund and a Great Dane, yet both look quite different [sic]," Goodman said.

"He explained that if you look at the anatomies of humans and chimps, chimps get along better in trees than people, but humans get along better on the ground. (Or in subways, libraries and submarines.)"

How similar *überhaupt* you think chimps and humans are will depend upon how you rate the various respects in which they differ: composition of genetic material, hairiness, brain size, walking on two legs, appreciation of Mozart, grasp of moral distinctions, ability to play chess, ability to do philosophy, awareness of God, etc. End of Illustrative interlude.

Some philosophers as a result argue that counterfactuals contain an irreducibly *subjective* element. E.g., consider this from van Fraassen:

"Consider again statement (3) about the plant sprayed with defoliant. It is true in a given situation exactly if the 'all else' that is kept 'fixed' is such as to rule out the death of the plant for other reasons. But who keeps what fixed? The speaker, in his mind.... Is there an objective right or wrong about keeping one thing rather than another firmly in mind when uttering the antecedent?" (*The Scientific Image*, p. 116)

This weighting of similarities therefore doesn't belong in serious, sober, objective science. The basic idea is that considerations as to which respects (of difference) are more important than which is not something that is given in *rerum natura*, but depends upon our interests and aims and plans. In nature apart from mind, there are no such differences in importance among respects of difference.

Now suppose you agree that such differences among respects of difference do in fact depend upon mind, but also think (as in fact most of us certainly do) that counterfactuals are objectively true or false: you can hold both of these if you think there is an unlimited mind such that the weightings it makes are then the objectively correct ones (its assignments of weights determine the correct weights). No human mind, clearly, could

occupy this station. God's mind, however, could; what God sees as similar is similar.

Joseph Mendola, "The Indeterminacy of Options," *APQ*, April 1987, argues for the indeterminacy of many counterfactuals on the grounds that I cite here, substantially.

(E) The Argument from Physical Constants. (Look at Barrow and Tipler, The Anthropic Cosmological Principle)

Carr and Rees ("The Anthropic Principle and the Structure of the Physical World" (*Nature*, 1979): "The basic features of galaxies, stars, planets and the everyday world are essentially determined by a few microphysical constants and by the effects of gravitation.... several aspects of our Universe – some which seem to be prerequisites for the evolution of any form of life – depend rather delicately on apparent 'coincidences' among the physical constants" (p. 605).

If the force of gravity were even slightly stronger, all stars would be blue giants; if even slightly weaker, all would be red dwarfs. (Brandon Carter, "Large Number Coincidences and the Anthropic Principle in Cosmology," in M. S. Longair, ed, *Confrontation of Cosmological Theories with Observational Data*, 1979, p. 72.) According to Carter, under these conditions there would probably be no life. So probably if the strength of gravity were even slightly different, habitable planets would not exist.

The existence of life also depends delicately upon the rate at which the universe is expanding. S. W. Hawking, "The Anisotropy of the Universe at Large Times," in Longair, p. 285: "... reduction of the rate of expansion by one part in 1012 at the time when the temperature of the Universe was 1010 K would have resulted in the Universe's starting to recollapse when its radius was only 1/3000 of the present value and the temperature was still $10,000~\mathrm{K}$ " – much too warm for comfort. He concludes that life is only possible because the Universe is expanding at just the rate required to avoid recollapse.

Davies, P. C. W., *The Accidental Universe*, 1982: "All this prompts the question of why, from the infinite range of possible values that nature could have selected for the fundamental constants, and from the infinite variety of initial conditions that could have characterized the primeval universe, the actual values and conditions conspire to produce the particular range of very special features that we observe. For clearly the universe is a very special place: exceedingly uniform on a large scale, yet not so precisely uniform that galaxies could not form; . . . an expansion rate tuned to the energy content to unbelievable accuracy; values for the strengths of its forces that permit

nuclei to exist, yet do not burn up all the cosmic hydrogen, and many more apparent accidents of fortune." (p. 111).

And what is impressive about all these coincidences is that they are apparently required for the existence of life as we know it (as they say).

Some thinkers claim that none of this ought to be thought surprising or as requiring explanation: no matter how things had been, it would have been exceedingly improbable. (No matter what distribution of cards is dealt, the distribution dealt will be improbable.) This is perhaps right, but how does it work? And how is it relevant? We are playing poker; each time I deal I get all the aces; you get suspicious: I try to allay your suspicions by pointing out that my getting all the aces each time I deal is no more improbable than any other equally specific distribution over the relevant number of deals. Would that explanation play in Dodge City (or Tombstone)?

Others invoke the *Anthropic Principle*, which is exceedingly hard to understand but seems to point out that a necessary condition of these values of the physical constants being observed at all (by us or other living beings) is that they have very nearly the values they do have; we are here to observe these constants only because they have the values they do have. Again, this seems right, but how is it relevant? What does it explain? It still seems puzzling that these constants should have just the values they do. Why weren't they something quite different? This is not explained by pointing out that we are here (a counterexample to Hempelian claims about explanation). Like "explaining" the fact that God has decided to create me (instead of passing me over in favor of someone else) by pointing out that I am in fact here, and that if God had not thus decided, I wouldn't have been here to raise the question.

From a theistic point of view, however, no mystery at all and an easy explanation.

(F) The Naive Teleological Argument. Swinburne: "The world is a complicated thing. There are lots and lots of different bits of matter, existing over endless time (or possibly beginning to exist at some finite time). The bits of it have finite and not particularly natural sizes, shapes, masses, etc; and they come together in finite, diverse and very far from natural conglomerations (viz. lumps of matter on planets and stars, and distributed throughout interstellar space). . . . Matter is inert and has no powers which it can choose to exercise; it does what it has to do. Yet each bit of matter behaves in exactly the same way as similar bits of matter throughout time and space, the way codified in natural laws. . . . all electrons throughout endless time and space have exactly the same powers and properties as all other electrons (properties of

attracting, repelling, interacting, emitting radiation, etc.), all photons have the same powers and properties as all other photons etc., etc. Matter is complex, diverse, but regular in its behaviour. Its existence and behaviour need explaining in just the kind of way that regular chemical combinations needed explaining; or it needs explaining when we find all the cards of a pack arranged in order." (*The Existence of God*, 288)

Newton: "Whence arises all this order and beauty and structure?"

Hume *Dialogues*: "Cleanthes: Consider, anatomize the eye. Survey its structure and contrivance, and tell me, from your own feeling, if the idea of a contriver does not immediately flow in upon you with a force like that of sensation. The most obvious conclusion, surely, is in favour of design, and it requires time, reflection and study to summon up those frivolous, though abstruse objections which can support infidelity."

The idea: the beauty, order and structure of the universe and the structure of its parts strongly suggest that it was designed; it seems absurd to think that such a universe should have just been there, that it wasn't designed and created but just happened. Contemplating these things can result in a strong impulse to believe that the universe was indeed designed – by God.

(Hume's version may be very close to a wholly different style of "argument": one where the arguer tries to help the arguee achieve the sort of situation in which the *Sensus Divinitatis* operates.)

- (G) Tony Kenny's Style of Teleological Argument
- (H) The Ontological Argument
- (I) Another Argument Thrown in for Good Measure. Why is there anything at all? That is, why are there any contingent beings at all? (Isn't that passing strange, as S says?) An answer or an explanation that appealed to any contingent being would of course raise the same question again. A good explanation would have to appeal to a being that could not fail to exist, and (unlike numbers, propositions, sets, properties and other abstract necessary beings) is capable of explaining the existence of contingent beings (by, for example, being able to create them). The only viable candidate for this post seems to be God, thought of as the bulk of the theistic tradition has thought of him: that is, as a necessary being, but also as a concrete being, a being capable of causal activity. (Difference from S's Cosmo Arg: on his view God a contingent being, so no answer to the question "Why is there anything (contingent) at all?"

II. Half a Dozen Epistemological Arguments

(J) The Argument from Positive Epistemic Status. Clearly many of our beliefs do have positive epistemic status for us (at any rate most of us think so, most of us accept this premise). As we have seen, positive epistemic status is best thought of as a matter of a belief's being produced by cognitive faculties that are functioning properly in the sort of environment that is appropriate for them. The easiest and most natural way to think of proper functioning, however, is in terms of design: a machine or an organism is working properly when it is working in the way it was designed to work by the being that designed it. But clearly the best candidate for being the being who has designed our cognitive faculties would be God.

This premise of this argument is only a special case of a much broader premise: there are many natural (nonartifactual) things in the world besides our cognitive faculties such that they function properly or improperly: organs of our bodies and of other organisms, for example. (Tony Kenny's design argument)

Objection: perhaps there is indeed this initial tendency to see these things as the product of intelligent design; but there is a powerful defeater in evolutionary theory, which shows us a perfectly natural way in which all of these things might have come about without design.

Reply: (1) Is it in fact plausible to think that human beings, for example, have arisen through the sorts of mechanisms (unguided random genetic mutation and natural selection) in the time that according to contemporary science has been available? The conference of biologists and mathematicians ("Mathematical Challenges to the NeoDarwinian Interpretation of Evolution," ed. Paul Morehead and Martin Kaplan, Philadelphia, Wistar Institute Press; the piece by Houston Smith.) The chief problem: most of the paths one might think of from the condition of not having eyes, for example, to the condition of having them will not work; each mutation along the way has to be adaptive, or appropriately connected with something adaptive. (2) There does not appear to be any decent naturalistic account of the origin of life, or of language.

(K) The Argument from the Confluence of Proper Function and Reliability. We ordinarily think that when our faculties are functioning properly in the right sort of environment, they are reliable. Theism, with the idea that God has created us in his image and in such a way that we can acquire truth over a wide range of topics and subjects, provides an easy, natural explanation of that fact. The only real competitor here is nontheistic evolutionism; but

nontheistic evolution would at best explain our faculties' being reliable with respect to propositions which are such that having a true belief with respect to them has survival value. That does not obviously include moral beliefs, beliefs of the kind involved in completeness proofs for axiomatizations of various first order systems, and the like. (More poignantly, beliefs of the sort involved in science, or in thinking evolution is a plausible explanation of the flora and fauna we see.) Still further, true beliefs as such don't have much by way of survival value; they have to be linked with the right kind of dispositions to behavior. What evolution requires is that our behavior have survival value, not necessarily that our beliefs be true. (Sufficient that we be programmed to act in adaptive ways.) But there are many ways in which our behavior could be adaptive, even if our beliefs were for the most part false. Our whole belief structure might (a) be a sort of by-product or epiphenomenon, having no real connection with truth, and no real connection with our action. Or (b) our beliefs might be connected in a regular way with our actions, and with our environment, but not in such as way that the beliefs would be for the most part true.

Patricia Churchland (JP 84, Oct. 87) argues that the most important thing about the human brain is that it has evolved; hence (548) its principle function is to enable the organism to move appropriately. "Boiled down to essentials, a nervous system enables the organism to succeed in the four F's: feeding, fleeing, fighting and reproducing. The principle chore of nervous systems is to get the body parts where they should be in order that the organism may survive. . . . Truth, whatever that is, definitely takes the hindmost." (Self-referential problems loom here.) She also makes the point that we can't expect perfect engineering from evolution; it can't go back to redesign the basics.

(L) The Argument from Simplicity. According to Swinburne, simplicity is a prime determinant of intrinsic probability. That seems to me doubtful, mainly because there is probably no such thing in general as intrinsic (logical) probability. Still we certainly do favor simplicity; and we are inclined to think that simple explanations and hypotheses are more likely to be true than complicated epicyclic ones. So suppose you think that simplicity is a mark of truth (for hypotheses). If theism is true, then some reason to think the more simple has a better chance of being true than the less simple; for God has created both us and our theoretical preferences and the world; and it is reasonable to think that he would adapt the one to the other. (If he himself favored antisimplicity, then no doubt he would have created us in such a way that we would, too.) If theism is not true, however, there would

seem to be no reason to think that the simple is more likely to be true than the complex.

(M) The Argument from Induction. Hume pointed out that human beings are inclined to accept inductive forms of reasoning and thus to take it for granted, in a way, that the future will relevantly resemble the past. (This may have been known even before Hume.) As Hume also pointed out, however, it is hard to think of a good (noncircular) reason for believing that indeed the future will be relevantly like the past. Theism, however, provides a reason: God has created us and our noetic capacities and has created the world; he has also created the former in such a way as to be adapted to the latter. It is likely, then, that he has created the world in such a way that in fact the future will indeed resemble the past in the relevant way. (And thus perhaps we do indeed have a priori knowledge of contingent truth: perhaps we know a priori that the future will resemble the past.) (Note here the piece by Aron Edidin: "Language Learning and a Priori Knowledge," APQ, October 1986 (Vol. 23/4); Aron argues that in any case of language learning a priori knowledge is involved.)

This argument and the last argument could be thought of as exploiting the fact that according to theism God has created us in such a way as to be at home in the world (Wolterstorff).

(N) The Putnamian Argument (the Argument from the Rejection of Global Skepticism). Hilary Putnam (Reason, Truth, and History) and others argue that if metaphysical realism is true (if "the world consists of a fixed totality of mind independent objects," or if "there is one true and complete description of the 'the way the world is'"), then various intractable skeptical problems arise. For example, on that account we do not know that we are not brains in a vat. But clearly we do know that we are not brains in a vat; hence metaphysical realism is not true. But of course the argument overlooks the theistic claim that we could perfectly well know that we are not brains in a vat even if metaphysical realism is true: we can know that God would not deceive us in such a disgustingly wholesale manner. So you might be inclined to accept (1) the Putnamian proposition that we do know that we are not brains in a vat, (2) the anti-Putnamian claim that metaphysical realism is true and antirealism a mere Kantian galimatias, and (3) the quasi-Putnamian proposition that if metaphysical realism is true and there is no such person God who has created us and our world, adapting the former to the latter, then we would not know that we are not brains in a vat; if so, then you have a theistic argument.

Variant: Putnam and others argue that if we think that there is no conceptual link between justification (conceived internalistically) and truth, then we should have to take global skepticism really seriously. If there is no connection between these two, then we have no reason to think that even our best theories are any more likely to be true than the worst theories we can think of. We do, however, know that our best theories are more likely to be true than our worst ones; hence ... you may be inclined to accept (1) the Putnamian thesis that it is false that we should take global skepticism with real seriousness, (2) the anti-Putnamian thesis that there is no conceptual link between justification and truth (at any rate if theism is false), and (3) the quasi-Putnamian thesis that if we think there is no link between the two, then we should take global skepticism really seriously. Then you may conclude that there must be a link between the two, and you may see the link in the theistic idea that God has created us and the world in such a way that we can reflect something of his epistemic powers by virtue of being able to achieve knowledge, which we typically achieve when we hold justified beliefs.

Here in this neighborhood and in connection with antirealist considerations of the Putnamian type, there is a splendid piece by Shelley Stillwell in the '89 *Synthese* entitled something like "Plantinga's Anti-realism," which nicely analyzes the situation and seems to contain the materials for a theistic argument.

(0) The Argument from Reference. Return to Putnam's brain in a vat. P argues that our thought has a certain external character: what we can think depends partly on what the world is like. Thus if there were no trees, we could not think the thought there are no trees; the word 'tree' would not mean what it does mean if in fact there were no trees (and the same for other natural kind terms – water, air, horse, bug, fire, lemon, human being, and the like, and perhaps also artifactual kind terms – house, chair, airplane, computer, barometer, vat, and the like). But then, he says, we can discount brain in vat skepticism: it can't be right, because if we were brains in a vat, we would not have the sort of epistemic contact with vats that would permit our term 'vat' to mean what in fact it does. But then we could not so much as think the thought: we are brains in a vat. So if we were, we could not so much as think the thought that we were. But clearly we can think that thought (and if we couldn't we couldn't formulate brain in vat scepticism); so such skepticism must be mistaken.

But a different and more profound skepticism lurks in the neighborhood: We *think* we can think certain thoughts, where we can give general

descriptions of the thoughts in question. Consider, for example, our thought that there are trees. We think there is a certain kind of large green living object that grows and is related in a certain way to its environment; and we name this kind of thing 'tree'. But maybe as a matter of fact we are not in the sort of environment we think we are in. Maybe we are in a sort of environment of a totally different sort, of such a sort that in fact we can't form the sort of thoughts we think we can form. We think we can form thoughts of certain kind, but in fact we cannot. That could be the case. Then it isn't so much (or only) that our thoughts might be systematically and massively mistaken; instead it might be that we can't think the thoughts we think we can think. Now as a matter of fact we can't take this skepticism seriously; and, indeed, if we are created by God we need not take it seriously, for God would not permit us to be deceived in this massive way.

- (P) The Kripke-Wittgenstein Argument from Plus and Quus (See Supplementary Handout)
- (Q) The General Argument from Intuition. We have many kinds of intuitions: (1) logical (narrow sense and broad sense): the intuitions codified in propositional modal logic if it could be the case that the moon is made of green cheese, then it is necessary that that could be so; (2) arithmetical, set theoretical and mathematical generally; (3) moral; (4) philosophical (Leib's Law; there aren't any things that do not exist; sets don't have the property of representing things as being a certain way; neither trees nor numbers are either true nor false; there are a great number of things that are either true or false; there is such a thing as positive epistemic status; there is such a property as being unpunctual; and so on). You may be inclined to think that all or some of these ought to be taken with real seriousness, and give us real and important truth. It is much easier to see how this could be so on a theistic than on a nontheistic account of the nature of human beings.

A couple of more arguments: first, the argument from the causal theory of knowledge: many philosophers think there is a problem with our alleged knowledge of abstract objects in that they think we can't know truths about an object with which we are not in the appropriate causal relation. They then point out that we are not in much of any causal relation with abstract objects, and conclude, some of them, that there is a real problem with our knowing anything about abstract objects (e.g., Paul Benacerraf). But if we think of abstract objects as God's thoughts, then he is in causal relation with them, and also with us, so that there should be no problem as to how it is that we could know something about them. (On the causal theory of knowledge, if you think of abstract objects as just *there*, and as not standing

in causal relations, then the problem should really be that it is hard to see how even God could have any knowledge of them.)

There is another realism/antirealism argument lurking here somewhere, indicated or suggested by Wolterstorff's piece in the Tomberlin metaphysics volume. It has to do with whether there are really any joints in reality, or whether it might not be instead that reality doesn't have any joints, and there are no essential properties of objects. Instead, there is only de dicto reality (this could be the argument from de re modality) with all classifications somehow being done by us. Interesting. Also another topic for Christian philosophy.

Another argument.... Thomas Nagel, *The View from Nowhere*, 78ff. Thinks it amazing that there should be any such thing as the sort of objective thinking or objective point of view that we do in fact have. Perhaps it is really amazing only from a naturalist point of view. He says he has no explanation. Maybe you find it amazing, maybe you don't. (I'm not sure I see why it is amazing yet.) He argues cogently that there is no good evolutionary explanation of this: first, what needs to be explained is the very possibility of this, and second, suppose that is explained, he goes on to argue that evolution gives us no good explanation of our higher mental abilities. The question is whether the mental powers necessary for the making of stone axes, and hunter-gatherer success, are sufficient for the construction of theories about subatomic particles, proofs of Gödel's theorem, the invention of the compact disc, and so on. He thinks not. So he is really on to something else: not so much 'objective thinking' as higher mental powers involved in these striking intellectual accomplishments.

The evolutionary explanation would be that intellectual powers got started by going along for the ride, so to speak, and then turned out to be useful, and were such that improvements in them got selected when we came down from the trees. (At that point a bigger brain became useful. Don't whales have an even bigger one?) A sort of two-part affair, the first part being accidental. So then the second part would be selected for survival value or advantage. But of course the question is whether this gives the slightest reason to think these theories have any truth to them at all. And he fails to mention the fact that all that really gets selected is behavior; there are various combinations of desire and belief that can lead to adaptive actions even if the belief is completely mistaken.

III. Moral Arguments

(R) Moral Arguments (actually R1 to Rn). There are many different versions of moral arguments, among the best being Bob Adams's favored version

("Moral Arguments for Theistic Belief," in C. Delaney, *Rationality and Religious Belief*, Notre Dame): (1) One might find oneself utterly convinced (as I do) that morality is objective, not dependent upon what human beings know or think, and that it cannot be explained in terms of any "natural" facts about human beings or other things; that it can't ultimately be explained in terms of physical, chemical or biological facts. (2) One may also be convinced that there could not be such objective moral facts unless there were such a person as God who, in one way or another, legislates them.

Here consider George Mavrodes' argument that morality would be 'queer' in a Russellian or nontheistic universe (in "Religion and the Queerness of Morality," in *Rationality*, *Religious Belief and Moral Commitment*, ed. Audi and Wainwright).

Other important arguments here: A. E Taylor's (*The Faith of a Moralist*) version, and Clem Dore's (and Sidgwick's) Kantian argument from the confluence of morality with true self-interest, some of the other arguments considered by Bob Adams in the above-mentioned paper, and arguments by Hastings Rashdall in *The Theory of Good and Evil*, and by W. R. Sorley, *Moral Values and the Idea of God* which we used to read in college.

(*R**) The Argument from Evil. Many philosophers offer an antitheistic argument from evil, and perhaps they have some force. But there is also a theistic argument from evil. There is real and genuine evil in the world: evil such that it isn't just a matter of personal opinion that the thing in question is abhorrent, and furthermore it doesn't matter if those who perpetrate it think it is good, and could not be convinced by anything we said. And it is plausible to think that in a nontheistic or at any rate a naturalistic universe, there could be no such thing. So perhaps you think there is such a thing as genuine and horrifying evil, and that in a nontheistic universe, there could not be; then you have another theistic argument.

How to make this argument more specific?: "what Pascal later called the 'triple abyss' into which mankind has fallen: the libidinal enslavement to the egotistical self: the *libido dominandi*, or lust for power over others and over nature; the *libido sentiendi*, or lust for intense sensation; and the *libido sciendi*, or lust for manipulative knowledge, knowledge that is primarily used to increase our own power, profit and pleasure" (Michael D. Aeschliman, "Discovering the Fall," *This World*, Fall 1988, p. 93).

How think about utterly appalling and horrifying evil? The Christian understanding: it is indeed utterly appalling and horrifying; it is defying

God, the source of all that is good and just. It has a sort of cosmic significance: in this way it is the other side of the coin from the argument from love. There we see that the deep significance of love can't be explained in terms of naturalistic categories; the same goes here. From a naturalistic perspective, there is nothing much more to evil – say the sheer horror of the Holocaust, of Pol Pot, or a thousand other villains – than there is to the way in which animals savage each other. A natural outgrowth of natural processes.

Hostility, hatred, hostility towards outsiders or even towards one's family is to be understood in terms simply of the genes' efforts (Dawkins) to ensure its survival. Nothing perverted or unnatural about it. (Maybe can't even have these categories.) But from a theistic pint of view, deeply perverted, and deeply horrifying. And maybe this is the way we naturally see it. The point here is that it is objectively horrifying. We find it horrifying: and that is part of its very nature, as opposed to the naturalistic way of thinking about it where there really can't be much of anything like objective horrifyingness.

On a naturalistic way of looking at the matter, it is hard to see how there can really be such a thing as evil (though of course there could be things we don't like, prefer not to happen): how could there be something that was bad, worthy of disapproval, even if we and all other human beings were wildly enthusiastic about it? On naturalistic view, how make sense of (a) our intuition that what is right or wrong, good or evil, does not depend upon what we like or think, and (b) our revulsion at evil - the story the prophet Nathan told David, at the sort of thing that went on in Argentina, Stalin's Russia, Hitler's Germany (Sophie's Choice); the case mentioned in Surin's book about the young child who was hanged and remained living for half an hour after he was hanged; the fact that the Nazis were purposely trying to be cruel, to induce despair, taunting their victims with the claim that no one would ever know of their fate and how they were treated; the thing from Dostoevsky, who says that beasts wouldn't do this, they wouldn't be so artistic about it. Compare dying from cancer with the sort of horror the Germans did: the second is much worse than the first, somehow, but not because it causes more pain. It is because of the wickedness involved, a wickedness we don't see in the cancer. An appalling wickedness.

There seems to be a lot more to it than there could be on a naturalistic account of the matter. So the naturalist says: evil is a problem for you: why would a good God permit evil, or all that evil? But evil also a problem for

him: There really isn't any evil (or isn't any of a certain sort, a sort such that in fact we think there is some of that sort) on a naturalistic perspective. (This needs working out, but I think there is something to it.)

IV. Other Arguments

- (S) The Argument from Colors and Flavors (Adams and Swinburne). What is the explanation of the correlation between physical and psychical properties? Presumably there *is* an explanation of it; but also it will have to be, as Adams and Swinburne say, a personal, nonscientific explanation. The most plausible suggestion would involve our being created that way by God.
- (*T*) The Argument from Love. Man-woman, parent-child, family, friendship, love of college, church, country many different manifestations. Evolutionary explanation: these adaptive and have survival value. Evolutionarily useful for male and female human beings, like male and female hippopotami, to get together to have children (colts) and stay together to raise them; and the same for the other manifestations of love. The theistic account: vastly more to it than that: reflects the basic structure and nature of reality; God himself is love.
- (*U*) The Mozart Argument. On a naturalistic anthropology, our alleged grasp and appreciation of (alleged) beauty is to be explained in terms of evolution: somehow arose in the course of evolution, and something about its early manifestations had survival value. But miserable and disgusting cacophony (heavy metal rock?) could as well have been what we took to be beautiful. On the theistic view, God recognizes beauty; indeed, it is deeply involved in his very nature. To grasp the beauty of Mozart's D Minor piano concerto is to grasp something that is objectively there; it is to appreciate what is objectively worthy of appreciation.
- (V) The Argument from Play and Enjoyment. Fun, pleasure, humor, play, enjoyment. (Maybe not all to be thought of in the same way.) Playing: evolution: an adaptive means of preparing for adult life (so that engaging in this sort of thing as an adult suggests a case of arrested development). But surely there is more to it than that. The joy one can take in humor, art, poetry, mountaineering, exploring, adventuring (the problem is not to explain how it would come about that human beings enjoyed mountaineering: no doubt evolution can do so. The problem is with its significance. Is it really true that all there is to this is enjoyment? Or is there a deeper significance? The

Westminster Shorter Catechism: the chief end of man is to glorify God and enjoy him (and his creation and gifts) forever).

- (W) Arguments from Providence and from Miracles
- (X) C. S. Lewis's Argument from Nostalgia. Lewis speaks of the *nostalgia* that often engulfs us upon beholding a splendid land or seascape; these somehow speak to us of their maker. Not sure just what the argument is; but suspect there is one there.
- (Y) The Argument from the Meaning of Life. How does thought about the meaningfulness or meaninglessness of life fit in? Sartre, Camus, Nagel.
- (Z) The Argument from (A) to (Y). These arguments import a great deal of unity into the philosophic endeavor, and the idea of God helps with an astonishingly wide variety of cases: epistemological, ontological, ethical, having to do with meaning, and the like of that.

Notes

- See, e.g., Neil A. Manson, God and Design (London and New York: Routledge, 2003).
- 2. Suppose p is the greatest prime. Consider the product P of p with all the primes q1, q2,... smaller than p, and add 1. P + 1 won't be divisible by any of p or q1, q2,...qn; it is therefore prime, but greater than p. *Reductio*; hence there is no greatest prime.
- 3. The Problem of Evil (Oxford: Clarendon Press, 2006), p. 47.