

THE COSMOLOGICAL ARGUMENT: A CURRENT BIBLIOGRAPHICAL APPRAISAL

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To begin, just a word about my topic. I intend this purely as a descriptive assessment of where we are at this point in the discussion of the cosmological argument. I will add nothing new, but so much discussion has occurred over the last years, especially even the last five, that I think some summation and agenda-setting might be helpful. That will be my limited purpose in what follows.

I should add that, due to the overwhelming amount of material, I will restrict my attention to the traditional form of the argument. Particularly, I will leave to others an assessment of both the Kalaam and Swinburne's inductive arguments. Nor will I get into the constantly increasing literature exegeting Thomas.

When I first began writing, it was, significantly, twenty-five years since the publication of Bruce Reichenbach's *The Cosmological Argument* (1972). I think it was this event that marked the beginning of more positive evaluation of the argument within broader philosophical circles. Further encouragement and stimulus came from the appearance, two years later, of Norm Geisler's *Philosophy of Religion* (1974). The next year saw the publication of William Rowe's *The Cosmological Argument* (1975), the culmination of several earlier projects. Prior to Reichenbach, the discussion had been largely negative, mostly based on Kantian-type objections against Leibniz/Clarke-type arguments. Given the general presuppositionalism, as well as the standard rejections of Carl Henry and Gordon Clark, evangelicals were not often on the affirmative side. There were of course among Christian philosophers some exceptions, like the Catholic Thomists Mascall, Maritain, Copleston, Gilson, Owen, Brown, Trethowen, and others. But the withering barrage from the positivist and analytical camps -- Flew, Edwards, Russell, Hampshire, Nielsen, Smart, et al., -- had made it just about impossible to be both an intelligent philosopher and also think that there was something to the cosmological argument.

In that context, Reichenbach's *The Cosmological Argument: A Reassessment* was certainly a courageous book. As he himself notes, the door had been opened just a crack by the reexamination of Kant's rejection of the ontological argument by Malcolm, Hartshorne, Hick and others. Certainly, the gauntlet had been laid down by rejections of the cosmological argument by Alston, Plantinga, and Rowe in the sixties. Nevertheless, to publish a full-scale defense and restatement of the argument on the metaphysical thin ice of the early seventies still deserves our applause.

Where are we now, at the end of the century? I will divide my remarks into three topics. First, I will examine the progress of the argument by looking at the major categories of objections. Second, I will look at two current restatements and analyses of the argument itself. Finally, some comment on the significance of the argument is in order. This will then leave us with an agenda for future work.

A. ISSUES AND OBJECTIONS

The last thirty years have witnessed a great deal of progress on several issues related to the cosmological argument. To a large extent this has been dictated by the form of argument that began the discussion. Both Reichenbach and Rowe were interested in the Leibniz/Clarke version. Hence, much of the subsequent discussion has been concerned with issues related to the nature of necessity and the principle of sufficient reason. But issues related more to the Thomistic argument have been resurgent as well, especially those unique to the Third Way.

1. Problems with the Principle of Sufficient Reason

Reichenbach (1972) saw the principle of sufficient reason (PSR) as the linchpin in an argument of his type. The basic outline of a defense of the PSR had been laid out already in Rowe's (1968, 1970, 1971) earlier

articles that later evolved into his own book on the argument (1975). Although there is no reference to Rowe, Reichenbach develops a similar response to problems with PSR, distinguishing between a strong form and a weak one, and arguing that the weak form, that there is a sufficient reason for all contingent beings, is all that is needed for a successful cosmological argument. His defense is the same as Taylor's (1963), that any attempt to prove it would have to appeal to considerations less plausible than the principle itself. Rowe (1975) notes that a weak PSR has never been proven false. On the other hand, there is no proof for it, it is not self-evident, and if it is presupposed then it is not known to be true. Hence, the cosmological argument, while not a successful proof, may still be reasonable and hence of some value to the project of theism.

Several lines of response have developed. Adams (1978) in his review of Rowe rejects the notion that a strong PSR is fatally circular. If the sufficient reason for there being any positive contingent state of affairs is a free, hence contingent, decision on God's part, then the conjunction of the general desire and the choice of each individual instance are independent and contingent, and they jointly provide a noncircular explanation.

Smith (1995) argues that Rowe's problem only effects the conjunction of all possible contingents and not the issue of why there are contingents at all and offers a way out of circularity.

Rowe (1997) responds to both. To Adams, his response is that the resultant explanation is still argues that in a conjunct explanations can be considered individually. Further, he rejects the principle that allows Smith to claim non-circularity.

Ross (1980), Van Inwagen (1993) and others have argued that PSR is false since the second order contingent fact would have to be one of the conjuncts of the huge conjunctive fact of all contingent facts, but could have no explanation.

Vallicella (1997), however, has responded that one does not need a second order contingent fact at all. The simple list of individual explanations of each conjunct is sufficient.

To all of this Rowe (1998) has recently responded by noting that none of this impacts on his weak version of PSR, but leaves the circularity issue unresolved.

Here clearly the conversation must continue on two fronts: first, is there still a viable form of a strong PSR that does not suffer from circularity, and second, is the weaker version really strong enough to give us any more than what Rowe allows, which is clearly too little for the theist?

2. Causality Issues

Several types of objections come under this heading. One is easily dealt with, and has thankfully all but disappeared from the journal discussion, though it seems to live on even in philosophical circles: namely, Hume's rejection of causal connections which then becomes his refutation of any causal argument.

3. The Problem of Bad Science

In this category I want to deal with two specific problems related to science. One is that current science refutes the cosmological argument, the other that medieval science fatally damages the premises.

It has been primarily the Kalaam argument that has had to contend with issues in contemporary science, especially because of its possible implications for a big bang singularity. But there are potential defeaters for the traditional form as well.

A good discussion of several such issues is in Koons (1997). He notes that neither the indeterminism of wave collapse, the Bell inequality theorems or other features of quantum mechanics pose any threat to a universal causality premise which typically appears in a cosmological argument. Two caveats: a causal view in which contingents are determined, that is, necessitated, or one that implies, as some statements of PSR do, that every correlation or co-occurrence can be explained, would run into some difficulties with quantum mechanics as currently understood.

One of the commonplaces in critiques of the argument is the contention that it depends on antiquated, medieval, or just plain bad science. Best known, and frequently deferred to, is Kenny's (1969, 1979) list of scientific inaccuracies in the first three ways of Thomas.

Others have picked up this objection, including some theists who accept other arguments. Adler (1980), for example, argues that the traditional cosmological argument depends on the false medieval view that continuing existence needs continuing causal action. Wainwright (1988) contends that ancient and medieval science denies the plausibility of the Thomistic arguments, but that modern versions based on contingency considerations like Leibniz's and Clarke's, are not touched by this problem. Mackie (1988) also argues that Thomas's first and second arguments depend too much on antiquated physical theory to be of any interest.

Responses here have been quite uniform. They all make the point that such objections are irrelevant, certainly to any Thomistic argument. Davies (1993) notes that this is a metaphysical argument about causality and in no way depends on getting the actual science right. Fogelin (1990) responds specifically to Kenny that examples of "bad science" appear only as illustrations, never in the actual premises. The whole point of the argument is that science cannot provide satisfying explanations.

This response to Kenny is already in Rowe (1975). Granting that Thomas may well be guilty of bad astronomy, Rowe argues that belief in a series of essentially ordered causes responsible for the present existence of things is entirely a result of metaphysical analysis, not scientific observation.

In effect, then, this type of objection appears to be purely an ad hominem approach. No one has argued why bad illustrations should affect the overall metaphysical analysis of causality in the cosmological argument. Absent such, I suggest that this objection be put to rest.

4. The Conclusion Is Not God

If Thomas had only come up with a better ending to each of the Five Ways! I know he meant well, but he created no end of problems. On the other hand, there really is little excuse for this objection anymore; nevertheless it is quite frequent. The best current example is Martin (1990) where I count it three times.

Some rather dramatic versions are like Kaufmann's (1958) claim that the God of Aquinas's theology is not the God of Job, Moses, or Jesus. More subtle is Flew's (1966) remark that the idea of God as a logically necessary being is clearly not a biblical one. Other examples are not hard to find. Matson (1965) claims that the conclusion of first cause might well just be the big bang. Martin (1990) allows for the same conclusion to some feature of the universe or the universe itself.

Another version is that the conclusion is empty. Le Poidevin (1996) offers the contention that "first cause" is uninformative. It simply repeats the assertion that there is a cause, it says nothing about it, and so cannot be identified with God.

Martin (1990) adds other possibilities. He thinks that the argument implies nothing about intelligence or knowledge, and especially nothing related to perfection or goodness. Thus, the conclusion does not get us beyond natural process, even something evil. For that matter, he alleges that Reichenbach, in particular, fails to rule out plurality.

Now there is an important issue here, and one that the cosmological argument shares with all of the others. All too often we see popular versions that simply overstate the conclusion. Clearly, it is important to the integrity of this and all of the theistic arguments that one, first, be very precise as to the actual content of the conclusion, and, second, be very clear to separate extensions of the conclusion as further arguments or implications.

Those points have been the common response to the above objection. Geisler (1974, 1988) notes that the conclusion of the argument is the simple existence of an uncaused cause. At the same time, this concept can be extended by argument to demonstrate singularity, immateriality, simplicity, and infinity. In turn, these concepts can be extended to imply more specific attributes of God.

Shepherd (1975), whose study of the argument I think is both one of the finest and also most neglected, concludes to a CEB... a cosmos-explaining-being. Nothing more. But then he shows how to derive by further argument properties like perfection and creator/sustainer. Kretzmann (1996) in a study of an often overlooked version of the argument in the *Summa contra Gentiles* simply refers to the conclusion as alpha, but notes how Thomas carefully and properly extends the discussion to include important and identifying properties of God. I need to mention one related objection. Both Flew (1966) and Gale (1991) argue that the first cause conclusion implies that God is the cause of evil. In fact, for Gale, this becomes the conclusive reason for rejecting any cosmological argument. Gale's study is an extremely valuable addition to the literature that has not gotten enough attention. Several reviewers have examined other features of the study (Helm, 1993 and Jeffrey, 1996), but not his discussion of the cosmological argument. Having worked his way around many objections, including Rowe's and Edwards's, to three apparently sound versions, he then proceeds to argue that all three have impossible conclusions since each refers to an unsurpassably great being. This conclusion would involve its being maximally excellent in a moral sense, but in the section on the problem of evil he had already concluded that such a being is logically impossible given certain evil properties of the world.¹

I will not comment on this issue further except to note that Gale's objection is not internal to the cosmological argument. But then that appears to be true of all such "the-conclusion-isn't-God" objections. While they remind us to be cautious about overstating the conclusion and also to point out the appropriate role of a cosmological argument in a cumulative case, they have no bearing as such on the soundness of the argument.

5. The Problem of Uncaused Contingents

As I understand the logic of the Thomistic argument the concept of necessity is derived not in the opening premises from its possibility, but as an extension of the conclusion based on its uncaused nature. As a result, a great deal hinges on the issue of whether there could be a contingent being that is uncaused. If so, then the conclusion to an uncaused cause in a series of causes gets us nowhere.

Craighead (1975), in his rejoinder to Reichenbach (1972), asserts that a causeless contingent is possible. It is possible because it is conceivable.

Mackie (1988) has a similar assessment. He claims that the principle that "nothing comes from nothing" is clearly not a priori and that therefore the existence of an uncaused being is perfectly conceivable.

I find Shepherd (1975) especially helpful on this issue. He provides an extended discussion of the various definitions of contingency, noting that in the argument it functions not as a property of propositions but of existents. He finds five components: (1) dependence on God; (2) dependence on other existents; (3) transience; (4) lack of ontological self-sufficiency; and (5) capacity to arouse a sense of ontological shock. It is the last one, our intellectual need to seek a final explanation of the very existence of a universe at all, he labels "world-contingency," which he develops and defends, especially against Nielsen's charge that this is only a culturally conditioned, emotional response. All of this converges on the idea that "necessity" refers to the property of self-sufficiency: the lack of needing explanation. Hence, the cosmological argument

simply demands that there be a world-explaining but itself unexplained existent. An uncaused contingent is therefore contradictory.

Reichenbach (1975), in his response to Craighead (1975), noted that the assertion that a causeless contingent is conceivable is empty. Craighead gives no argument beyond the purely psychological claim. I can, in some sense, conceive of round squares, but that is no argument for the actual possibility of such existents. I would add that I see nothing more in Mackie's (1988) Humean argument either. Some notion of psychological conceivability is simply irrelevant to questions of actual possibility.

Norris Clarke (1988) provides a good treatment of the argument that a being which is self-sufficient for its own existence must therefore be infinite along the lines that it would otherwise have to both exist and not exist at the same time. Thus, the concept of a causeless contingent, again, is contradictory.

Davis (1997) notes that it is possible that there be an everlasting contingent but not a causeless one. It is everlasting because God causes it always to exist. He concludes, "I cannot imagine a possible scenario in which there exists no necessary being and there does exist an everlasting contingent being."

Some of this issue may well be conceptual and Adler (1980) reminds us that contingent is a radical notion. A contingent existent that ceases to be does not transmutate into some other mode of existence. Its ceasing to be, that is, its ontological dependency, is replaced by absolutely nothing at all.

This is an important part of the argument, especially the Thomistic version. Without it, the conclusion to an uncaused cause may leave us with no more than an unexplained contingent, say a big bang or perhaps eternal matter. Though we should note that in first cause arguments it effects only the extension of the conclusion and is not an objection to the argument itself. For contingency arguments like Reichenbach's it uncouples the internal move from contingent existents to necessary existent and so is far more crucial.

My judgment is that so far no one has brought forward a viable form of this objection and that theistic responses have been sufficient. Nevertheless, this is a difficult metaphysical issue that deserves continued scrutiny.

6. Existence as a Predicate

While this issue is normally relegated to discussions of the ontological argument, Kenny (1979) alleges that it affects the cosmological argument as well. It is, he argues, a property so thin and so vague that it is largely uninteresting. Hence, it invalidates the argument. There can be arguments only in reference to the relation of properties to a thing, not that something just "is." The discussion in Hughes (1995) is most relevant here. The very premise of his study is that one must clarify the concept of existence before one can move on to the extensions of the cosmological argument such as singularity and simplicity.

Existence as the property relevant to the cosmological argument is the capacity to enter into causal relations. This is certainly not an uninteresting property. It distinguishes for example between the number two and the Eiffel Tower. If one adds modal qualifiers like contingent and necessary, one has even more interesting properties. Necessary existence, for example, can be defined as the property of being "unable to cease to be capable of entering into causal relations." It seems clear to me that Kenny and others are simply wrong here to think that "is" can function only as an empty term between subjects and predicates. It can also indicate an interesting property.

7. Are Infinite Regresses Possible?

The real crux of the first cause argument is the denial of an infinite regress of dependent causes of existence. This factor is what forces the conclusion to an existent which is not itself the effect of any cause.

So if it turns out that the appropriate type of infinite regress is possible there will be no inference to a first cause.

Contingency arguments also depend on a kind of denial of infinite regress, namely of sufficient reasons. Here it must be shown that no conjunction, combination, or set of contingents, even if infinite, would provide a truly and ultimate sufficient reason.

Now this is an old objection, often stated simplistically as the obvious truth that, since there is an infinity of cardinal numbers, it is easy to conceptualize an infinitely long series of causes, as, for example, in Nielsen (1971).

More recent claims have been more sophisticated, like Martin (1990) or Mackie (1982), and include at least the element of dependent causes. The most detailed is Conway (1983). Even Swinburne (1979, 1991) and Davis (1997) think that Thomas's argument fails here. It is this "completist fallacy" that leads Swinburne to an inductive argument based on Leibniz, rather than a deductive one against an infinite regress.

Frankly, I do not think that any of these have included all of the definitional elements in Thomas's type of series. The classic statement remains Brown (1966). Other extensive treatments are in Geisler (1975, 1988) and Sadowsky (1980). A brief but excellent discussion is also in Kretzmann (1996).

They have in common an emphasis on taking all of the factors into account, most important perhaps that Thomas and Scotus refer to essentially ordered causes of existence, not change, and this makes an enormous difference.

This is, no doubt, an objection that needs further detailed treatment. Especially Swinburne's challenge needs direct response. While I do not, in fact, see anything new there, it may be that further refinement of the argument is needed. But as it is stated, Swinburne's allegation against Aristotle, Thomas, Scotus and Hume seems to me to beg the question. It is an empty and definitional victory to claim that "full explanations" really are full even if some factors included in it, though sufficient, themselves are dependent. Again, I am not convinced that there is anything truly new to be said here, but further clarificatory work is warranted.

8. The "What Caused God" Issue

The insistence on asking the causal question in reference to God comes either because of a rejection of all arguments against an infinite regress, as discussed above, or on the basis of an overstated causal principle.

The latter is a simple error which theists must take care to avoid. One cannot affirm simply "everything has a cause" as a premise in the cosmological argument, only to contradict it by a conclusion affirming something which does not have a cause. Mackie (1982) was right to claim that such cosmological arguments give us no reason to stop the causal questioning and hence they have eliminated a need for God up front.

This problem deserves little attention, which is what it has been given. Koons (1997) notes that by definition necessary beings have no causes. Davis (1997) similarly observes that necessary existence clearly includes beginningless existence and hence the question of a cause makes no sense.

Here I think we clearly have another objection that should be discarded, though not without a caution flag to the theist.

9. Necessary Existence Issues

As we all learned in our undergraduate history of philosophy class, Kant, in his Critique of Pure Reason (A 620), reduces the cosmological argument to the ontological because of its use of the concept of necessary existence. "The concept of necessity," he argued, "is only to be found in our reason, as a formal condition of thought, it does not allow of being hypostatized as a material condition of existence.

Flew (1968) notes correctly, I think, that this objection applies only to arguments dependent on the principle of sufficient reason and not to the Thomistic first cause argument. Penelhum (1960) provided a typical version of this objection. Arguing that necessary being is defined as self-explanatory, he observes that nothing can be explained by reference to itself. Therefore, the very concept is logically impossible.

The most careful statement can be found in Smart (1996). He begins by distinguishing four meanings of necessary: necessary existence or non-dependence; logical necessity; physical necessity (boundary conditions); and legal necessity, that is, consistency with established laws. Smart argues, however, that all four reduce to a first-order logical consistency with contextually agreed background assumptions. This is equivalent to interpretability in any non-empty universe. So the kind of necessity for God called for in the cosmological argument must be a kind of mathematical necessity. Smart thinks that the theist's best bet is to give mathematics a Platonic interpretation, despite the fact that its intuitions do not easily fit current epistemology. This, of course, leaves the theist, at best, with a God who "exists" in the same way that the number 23 does, which is not likely to give much comfort to the theologian. In any case, the only meaning of necessary turns out to be essentially logical and the argument fails to conclude to anything meaningful for the theist. This is the same view Smart presented in his essay in the now classic *New Essays in Philosophical Theology* (1955).

The basic response remains Hick's (1960). Others, like Wainwright (1988), Haldane (1996), and Rowe (1975, 1998), have developed similar clear concepts of factual necessity. Swinburne (1979, 1990) argues that Kant (et al.) is simply wrong. Factual necessity is to be defined in terms of the conformity of material bodies to laws of nature. It is thus a necessity in the things, not a purely conceptual condition, that consists for God in his being a terminus of explanation. This, of course, remains part of a larger discussion about the nature of necessity. While I see no convincing argument that necessity can only be the logical necessity of propositions, it also seems correct that self-explanation, as Penelhum (1960) contends, is contradictory. But the cosmological argument only needs the concept of a negated contingency: an end to explanation, dependency or causality, itself unexplained. Clearly, work remains on this possible objection, but, while it provides some challenge to contingency arguments, it seems irrelevant to first cause arguments.

Smart (1996) admits the coherence of the concept but thinks that such a being is not God; it might simply be the universe. That is an objection we have dealt with.

10. Is There a Fallacy of Composition Here?

In my experience perhaps the most frequent objection to all forms of the cosmological argument is that they commit the fallacy of composition, that is, they attribute to the whole a property of the parts. There are actually two allegations here. One is a specific logical blunder some find in Thomas's Third Way, the other is a general fault alleged against all contingency arguments; namely that they infer the contingency of the universe as a whole from an unvarying contingency of each existent.

Let me begin with the Third Way. Plantinga (1967) claimed that there was a quantifier mistake in Thomas's move from "everything can fail to exist at some time" to "everything fails to exist at some time."

Ross (1980) refers to it as an illegitimate reversal of existential and universal quantifiers. Most often, however, this mistake of Thomas is simply noted as obvious with little care either to demonstrate precisely what the mistake is or to demonstrate by careful exegesis of the text that Thomas actually commits it. Martin (1990) is a good example.

Haldane (1996) and Fogelin (1990) are two recent attempts to exonerate Thomas. Both argue that the appearance of temporality in the Third Way is strictly part of the definition of contingency.

For example, it is important to distinguish Thomas's notion of contingent from that of the contemporary modal logician. Thomas's concept has termination or temporal limitation built in. For Haldane, too, the solution lies in recognizing that time functions in the Third Way only as part of the context of contingency. Since Thomas's argument is not about temporal succession, it cannot be translated or interpreted as implying a point in the past at which time nothing existed. This is not a horizontal argument but a vertical one. So the Third Way simply argues that if truly everything needs to be caused to exist then nothing would exist. While this is not the easiest or most obvious reading of Thomas, it certainly fits his pattern more consistently. The other locus of an alleged fallacy of composition is in contingency arguments that refer to the universe as a whole. Angeles (1974) and Martin (1990) are typical examples of recent claims that such cosmological arguments illicitly move from the claim that everything has a cause to the claim that the universe has a cause.

Three points have been made in the recent literature. The first is Davis' (1997) reminder that the problem is bypassed by not referring to the universe as a whole. None of the Thomistic arguments, for example, make this move.

Second, Miller (1995) points out that the fallacy of composition is an informal or material fallacy, not a formal one. That is, it has to be assessed on a case by case basis as noted by Rowe (1962) and Reichenbach (1972). The problem here is that no one has identified a decision procedure for distinguishing appropriate from inappropriate conclusions from parts to whole. Think of a picture puzzle in which every piece is triangular. Can one conclude that the whole puzzle is triangular? Clearly not. But if each piece is red, then surely the whole is red also. But why shape functions differently from color, and what a general decision procedure would look like has yet to be determined.

Nevertheless, conclusions from parts to whole clearly are sometimes legitimate. Thus one way to defend the cosmological argument is to argue that contingency or modality in general operates like color, not shape, as Miller (1995), Adler (1980) and others have done. This seems convincing, but would certainly be stronger if a general decision protocol were available. A third tactic is to argue directly for the contingency of the whole. Koons (1997) for example does so, as does Wainwright (1988). Typically, this involves arguing for the need of an explanation that there is a universe at all, rather than constructing a conjunction of all of its parts. This bypasses Edwards's (1959) now famous Eskimo analogy, and is, in general, a simpler and less vulnerable approach.

B. NEW FORMS OF THE ARGUMENT

One of the difficulties in assessing the cosmological argument is that the new versions of the argument in the twentieth century have been about as frequent as the authors who have written about it. Even those configuring specific historical versions have almost invariably, like Mackie (1982) or Martin (1990), provided their own restatements of them. Usually, these new wordings are attempts to avoid a specific objection or to bring out a particular failure. I want here to comment briefly on two recent additions to the discussion. In a way, they represent the cutting edge of the current debate, with certain new advances and other niceties built in.

1. Robert Koons' (1997) article in the *American Philosophical Quarterly* is a good example of using the current state of developments in logic as well as the pitfalls identified in the recent discussion and applying them to the Aristotelian/Thomistic argument based on contingency. It reads as follows:

- (1) All the parts of a necessary fact are themselves necessary.
- (2) Every contingent fact has a wholly contingent part.
- (3) If there are any contingent facts, C is a wholly contingent fact.
- (4) If there are any contingent facts, C has a cause.

(5) Every contingent fact overlaps C.

Therefore

(6): If there are any contingent facts, then C has a cause that is a necessary fact.

This argument works for any contingent facts, even one, such as the cosmos, and so bypasses composition issues. It is still susceptible to identification problems, but Koons includes an excellent development of corollaries that follow the traditional lines.

The weak points are, first, its use of modalities, but Koons develops a standard modal logic supplemented by a calculus of individuals that is hardly controversial. Second, it does assume an equivalent of the denial of an infinite regress, in the form of the claim (or axiom) that any non-empty set of facts can be aggregated into a single fact, a totality of all contingent facts. Third, it assumes a principle of the universality of causality in order to devise (4). Koons argues that it is empirically supported and that its denial would be radical skepticism. Thus, it is somewhat vulnerable but along lines that have strong support.

2. Bernard Katz and Elmar Kremer (1997), in *Faith and Philosophy*, provide a version of Clarke's argument that replaces the principle of sufficient reason with an epistemic principle of explanation. It runs as follows:

(1) The proposition that there is a unique necessary being who brought about the existence of everything other than itself by willing that the other beings should exist, would, if true, explain why there are contingent beings.

(2) There is a possible explanation of the fact that there are contingent beings.

(3) There is no proposition consistent with the claim that there are only contingent beings which, if true, would explain why there are contingent beings.

(4) Any possible explanation of the fact that there are contingent beings entails that there is a necessary being.

Therefore

(5): It is reasonable to believe that there is a necessary being.

The principle here is PPE: Given that (i) there is a possible explanation of the fact that F (here: that there are contingent beings) and (ii) any possible explanation of the fact that F entails P (here: there is a necessary being), it is reasonable to believe that P.

This argument does, as claimed, have the advantage of not relying on any form of PSR. It is not necessary to have the argument that all or any contingent facts have an explanation, including the fact that there are contingent beings. It only proposes such an explanation.

As the authors note, this argument fails if there is some truth that makes (1) false. This may be a serious defect, since it may be open to an objection like Gale's use of the problem of evil. Premise (3) is, in fact, as I see it, a form of the denial of infinite regress and is open to possible objections from that corner, though this hardly seems critical.

What will need most careful consideration is just how far PPE actually gets us. This is a version of a "best possible explanation" argument, and in this case not only are there rival candidates, one of them is that there just is no explanation. But, of course, in the face of possible explanations it is always reasonable to believe that there is one.

This is not the place for further discussion of this argument, suffice it to say that it needs sustained analysis and critique, especially on the use of the principle of explanation for a necessary being.

C. THE SIGNIFICANCE OF THE ARGUMENT

Much, I would argue is at stake here. It is not so much that all of Christian theology somehow depends solely on the success of the cosmological argument. Nevertheless, the argument portrays the relationship between God and everything else. And there is, I think, a clear sense in which if one gets that relationship wrong, there is a great deal else one will get wrong, even if one does get the nature of God largely right. Thus, there is a good deal of theology and also science, but especially the relationship between the two, that is involved.

It is also the case that the philosophical concepts involved in this argument are central, basic, and critical. The nature of being, existence, contingency, necessity, properties, finite, infinite, causality, explanation, dependence and many others are intricately connected. The fundamental issues in metaphysics all play a role in this argument, and it for them. Perhaps, in the end, one doesn't understand finite and infinite, for example, until one sees their relatedness in this argument. Thus the argument relates us to metaphysical issues as well.

I want only to indicate two matters each in the two areas mentioned above and point out why the cosmological argument specifically is so crucial and in which directions I see need for further work. Take this as setting an agenda.

First, the cosmological argument sets parameters and provides basic concepts for any theology, especially its doctrine of God. At a time when aspects of God's infinity and necessity are in question, the role of this argument cannot be exaggerated. Catholic philosophers especially have done outstanding work here, showing how to derive basic attributes of God from the conclusion of the argument. A good recent example is Blandino (1995). But for the most part these discussions are heavy with Thomistic language and conceptions and not easily translated into current evangelical jargon, and hence have little influence outside their own circles. Some work has been done. One of the finest is Morris (1991), who develops a "perfect being" theology dependent in part on the insights of the cosmological argument. Other good, though brief discussions are in Koons (1997), Kretzmann (1996), and Kovach (1988). Overall, I think the best thing recently is Hughes (1995) book *The Nature of God*, but it is too philosophically intricate to be readable by most theologians. There is much to do here.

A second area is the importance of the argument to our understanding of science and to the relationship between science and theology. The concept of first cause directly ties the argument to scientific process in ways that, if it is true, make it impossible to do science at any level without understanding the nature of God. The argument lays out the basis for an understanding of both God's action as initiative of all scientific processes and events, as well as of how to explain scientific, i.e. causal events as contingent on God. Perhaps most importantly, it tells us how to insist that attributions to God's activity and to ordinary causal sequences are both true. In doing so, it runs counter to contemporary naturalist science but also to the strict dichotomies and fideisms found in much of current evangelical theology and practice, especially in the churches, that insist on two kinds of truth: religious and scientific.

Moreland (1989) and Ratzsch (1986) are good examples, but we need much more and we need to see applications to specific scientific and ethical issues. Much has been done in relation to the teleological argument and it needs to be done with the cosmological as well. And it needs to be directed both for the larger scientific community and our generally naturalistic culture, as well as for the evangelical lay community.

Third, and turning to philosophical issues, the cosmological argument is important because of its relationship to the other theistic arguments, including arguments from experience, joy, need, miracles, and others. Mitchell (1973) and Geivett (1997) have made great contributions by developing the notion of a cumulative case, but ever since Kant we have been gun-shy to even suggest that there are connections between the arguments. It is not the concept of necessary being that is presupposed, and that roots, illegitimately, all of the arguments. Rather, the conclusion to a first cause in the cosmological argument provides the combinative element that allows each argument to contribute different components or properties to a united overall identity that can reasonably be thought to be God.

Since one of the most frequent criticisms of each of the arguments separately is that they do not conclude to something recognizable as God, it is clear that we must develop more particularly their interrelatedness. In doing so, the cosmological argument is most crucial since it provides the bedrock conception of causality or explanation that all others rely on.

Finally, working with this argument relates one to virtually every other philosopher because the scope and depth of concepts it involves are so extensive. Everything being done on cause and explanation by philosophers of science, on modality by metaphysicians, epistemologists, and logicians, on action, on finite/infinite, on properties and natures, and more, has a bearing on this argument, and vice versa.

So we have an obligation to listen to and be involved in many of these conversations. It is possible, after all, that some forms or even all the current ones are beset by some flaws, and some might be fatal. The theist is only helped by hunting down bad arguments. Having made much progress in returning theism to a position of being a reasonable partner in the larger dialogue of philosophy, I urge the members of the Evangelical Philosophical Society to continue the Kathairesis, the demolition of arguments, with continued -- even intensified-commitment.

REFERENCES

- Adler, Mortimer. *How to Think About God*. New York: MacMillan, 1980.
- Alston, William. "God's Action in the World." In *Evolution and Creation*, edited by Ernan McMullin, 197-220. Notre Dame: University of Notre Dame Press, 1985.
- Angeles, Peter. *The Problem of God: A Short Introduction*. Columbus, Ohio: Charles E. Merrill, 1974.
- Baldwin, Thomas. "There Might Be Nothing." *Analysis* 56 (1996): 231-8.
- Brown, Patterson. "Infinite Causal Regression." *Philosophical Review* 75 (1996): 510-25.
- Blandino, Giovanni. "The Existence of God. The Proof From Contingent Beings to the Absolute Being." *Aquinas* 38 (1995): 529-52.
- Campbell, Joseph. "Hume's Refutation of the Cosmological Argument." *International Journal for Philosophy of Religion* 40 (1996): 159-73.
- Clark, Gordon. "The Cosmological Argument." *The Trinity Review* (September 1979): 1-3.
- Clarke, Norris. "Natural Theology Today." In *Physics, Philosophy, and Theology: A Common Quest for Understanding*, edited by Robert Russell, William Stoeger, and George Coyne, 80-123. Vatican City State: Vatican Observatory, 1988.
- Conway, David. "Concerning Infinite Chains, Infinite Trains, and Borrowing a Typewriter." *International Journal of Philosophy of Religion* 14 (1983): 71-86.
- Corduan, Winfried. *Reasonable Faith: Basic Christian Apologetics*. Nashville, TN: Broadman & Holman, 1993.
- Cox, Hughes. "The Joint Cosmological Argument, Recent Scientific Cosmology, and Termination Rules." In *The Existence of God: Essays from "The Basic Issues Forum"*, edited by John Jacobson and Robert Mitchell, 10-23. New York: Edwin Mellen Press, 1988.
- Craig, William Lane. *Reasonable Faith*. Wheaton, IL: Crossway, 1994.
- _____. "A Further Critique of Reichenbach's Cosmological Argument." *International Journal of Philosophy of Religion* 6 (1975): 53-60.
- Craighead, Houston. "The Cosmological Argument: Assessment of a Reassessment." *International Journal of Philosophy of Religion* 6 (1975): 117-24.
- Davies, Brian. *An Introduction to the Philosophy of Religion*. New York: Oxford University Press, 1993.
- Davis, Stephen T. *God, Reason & Theistic Proofs*. Grand Rapids, MI: Eerdmans, 1997.
- _____. "Hierarchical Causes in the Cosmological Argument." *Philosophy of Religion* 31 (1992): 13-27.
- Dilley, Frank. "Right and Wrong Cosmological Arguments." *Studies in Philosophy and the History of Philosophy* 8 (1980): 83-95.
- Driessen, Alfred. "The Question of the Existence of God in the Book of Stephen Hawking A Brief History of Time." *Acta Philosophica* 4 (1995): 83-93.
- Edwards, Paul. "The Cosmological Argument." In *The Rationalist Annual for the Year 1959*, 63-77. London: Pemberton, 1959.
- Fawkes, Don and Tom Smythe. "Simplicity and Theology." *Religious Studies* 32 (1996): 259-70.

Flew, Anthony. *God and Philosophy*. New York: Dell, 1996.

Fogelin, Robert. "A Reading of Aquinas's Five Ways." *American Philosophical Quarterly* 27 (1990): 305-13.

Gale, Richard M. *On the Nature and Existence of God*. New York: Cambridge University Press, 1991.

Garcaso, Pieranna and Lory Lemke. "Taylor's Defenses of Two Traditional Arguments for the Existence of God." *Sophia* 29 (1990): 31-41.

Geisler, Norman. *Philosophy of Religion*. Grand Rapids, MI: Zondervan, 1974.

____ and Winfried Corduan. *Philosophy of Religion*. Grand Rapids, MI: Baker, 1988.

Helm, Paul. "Gale on God." *Religious Studies* 29 (1993): 245-55.

Hick, John. *Philosophy of Religion*. New Jersey: Prentice Hall, 1990.

____. "God as Necessary Being." *The Journal of Philosophy* 57 (1960): 726-34.

Hughes, Gerald. *The Nature of God*. New York: Routledge, 1995.

Hughes, Martin. "Creation, Creativity and Necessary Being." *Religious Studies* 26 (1990): 349-61.

Jeffrey, Andrew. "Gale on Reference and Religious Experience." *Faith and Philosophy* 13 (1996): 91-112.

Katz, Bernard and Elmar Kremer. "The Cosmological Argument without the Principle of Sufficient Reason." *Faith and Philosophy* 14 (1997): 62-70.

Kaufmann, Walter. *Critique of Religion and Philosophy*. New York: Doubleday, 1958.

Kenny, Anthony. *The God of the Philosophers*. Oxford: Clarendon, 1979.

____. *The Five Ways*. New York: Schocken Books, 1969.

Koons, Robert. "A New Look at the Cosmological Argument." *American Philosophical Quarterly* 34 (1997): 193-211.

Kovach, Francis. "Contingency and the Existence of God." In *The Existence of God: Essays from "The Basic Issues Forum,"* edited by John Jacobson and Robert Mitchell, 131-148. New York: Edwin Mellen Press, 1988.

Kretzmann, Norman. "Aquinas's Disguised Cosmological Argument." In *Faith, Freedom, and Rationality: Philosophy of Religion Today*, edited by Jeff Jordan and Daniel Howard-Snyder, 185-204. Lanham, Maryland: Rowan and Littlefield, 1996.

Lang, Helen. "Topics and Investigation: Aristotle's Physics and Metaphysics." *Philosophy and Rhetoric* 29 (1996): 416-35.

Lantzer, Michael. "The Proofs for the Existence of God: Henry of Ghent and Duns Scotus as Precursors of Leibniz." *The Modern Schoolman* 74 (1997): 143-60.

Le Poidevin, Robin. *Arguing for Atheism: An Introduction to the Philosophy of Religion*. London and New York: Routledge, 1996.

____. "Creation in a Closed Universe." *Religious Studies* 27 (1991): 39-48. Luft, Erik von der. "The Empirical Version of the Ontological Argument and the A Priori Version of the Cosmological Argument." In *Existence of God: Essays from "The Basic Issues Forum,"* edited by John Jacobson and Robert Mitchell, 149-61. New York: Edwin Mellen Press 1988.

Mackie, John L. *The Miracle of Theism: Arguments for and against the Existence of God*. Oxford: Clarendon, 1982.

Martin, Dean. "God and Objects: Beginning with Existence." *International Journal for Philosophy of Religion* 41 (1997): 1-9.

Martin, Michael. *Atheism: A Philosophical Justification*. Philadelphia: Temple University Press, 1990.

Matson, Wallace. *The Existence of God*. New York: Cornell University Press, 1965.

Mayes, G. Randolph. "Ross and Scotus on the Existence of God: Two Proofs from Possibility." *Thomist* 54 (1990): 97-114.

McMullin, Ernan. "Natural Science and Belief in a Creator." In *Physics, Philosophy, and Theology: A Common Quest for Understanding*, edited by Robert Russell, William Stoeger, and George Coyne, 1-79. Vatican City State: Vatican Observatory, 1988.

Mitchell, Basil. *The Justification of Religious Belief*. New York: Seabury, 1973.

Mixie, Joseph. "The Cosmological Argument and the Ontological Status of the Big Bang Singularity." *Philosophia Christi*, Series 1, 19 (no. 2, 1996): 41-53.

Moreland, J. P. *Christianity and the Nature of Science: A Philosophical Investigation*. Grand Rapids, MI: Baker, 1989.

Morris, Thomas. *Our Idea of God: An Introduction to Philosophical Theology*. Downers Grove, IL: InterVarsity, 1991.

Murphy, George. "The Man for Whom the World was Made." *Touchstone: A Journal of Ecumenical*

Orthodoxy 3 (no. 3, Fall 1989): 11-14.
Nelson, Mark. "The Principle of Sufficient Reason: A Moral Argument." *Religious Studies* 32 (1996): 15-26.
Nielsen, Kai. *Contemporary Critiques of Religion*. New York: Herder and Herder, 1971.
Oppy, Graham. "Craig, Mackie, and the Kalaam Cosmological Argument." *Religious Studies* 27 (1991): 189-97.
Owens, Joseph. "Aquinas on Infinite Regress." *Mind* 71 (1962): 244-6.
Penelhum, Terrence. "Divine Necessity." *Mind* 69 (1960): 175-86.
Prevost, Robert. "Swinburne, Mackie and Bayes' Theorem." *International Journal for Philosophy of Religion* 17 (1985): 175-84.
Purtill, Richard. *Thinking About Religion*. Englewood Cliffs, NJ: Prentice Hall, 1978.
Quinn, Phillip and Charles Taliaferro, editors. *A Companion to Philosophy of Religion*. Cambridge: Blackwell, 1997.
Ratzsch, Del. *Philosophy of Science*. Downers Grove, IL: InterVarsity, 1986.
Reichenbach, Bruce. "The Cosmological Argument and the Causal Principle." *International Journal for Philosophy of Religion* 6 (1975): 185-90.
_____. *The Cosmological Argument: A Reassessment*. Springfield, IL: Charles C. Thomas, 1972.
Ross, J. *Philosophical Theology*. Indianapolis: Hackett, 1980.
Rowe, William. *The Cosmological Argument*. New York: Fordham University Press, 1998.

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