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The Thomistic Cosmological Argument

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Who is the designer? As a Christian I hold that the Christian God is the ultimate source of design behind the universe (though that leaves open that God works through secondary causes, including derived intelligences such as angels or teleological processes). But there's no way for design inferences based on features of the natural world to reach that conclusion. Design inferred from complex specified information in nature is compatible with Christian belief but does not entail it. This is as it should be. Nature is silent about the revelation of Christ in Scripture. At the same time, nothing prevents nature from independently testifying to the God revealed in the Scripture. The complex specified information exhibited in natural phenomena is perhaps best thought of as God's fingerprints. Fingerprints never tell us the character of the one whose fingers are in question. But they can tell us that we are dealing with the fingers of an intelligence, and this in turn can lead us to inquire into the character of that intelligence. An information-theoretic design argument therefore doesn't so much lead us to God as remove us from paths that lead away from God.

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A THOMISTIC COSMOLOGICAL ARGUMENT

W. David Beck

THE TERM "COSMOLOGICAL ARGUMENT" (HEREAFTER CA) REFERS TO A WHOLE class of arguments or patterns of thinking that have in common the conclusion that God is real because the things we see around us never exist unless something makes them exist. So, roughly, the CA concludes to God as a first cause or initiating source of things because there cannot be an infinite sequence of causes of the existence of the things around us, those things that we observe as existing only because they are caused to do so.

We can distinguish types of the CA in several ways. First, most have been based on observations of the real world. Some, however, have been argued strictly on the basis of what is logically possible and necessary (see below).

A second critical distinction is between arguments that imply that God is chronologically first in time versus those that conclude to a God as the first cause in a concurrent sequence of dependent causes, all at the same time. A third distinction is between those arguments that refer to the whole universe as a single dependent object and those that refer only to individual causal chains as the basis for needing a first cause.

Fourth, some arguments attempt to conclude to a full-blown concept of God. This demands a rather complex argument. By contrast, many

rather simple arguments arrive at the minimal conclusion of a first cause. They will then add supplemental arguments that provide a fuller conclusion as to the nature of this cause.

This chapter is concerned with the classic form of the CA, first fully stated by Aristotle and best known as developed by Thomas Aquinas. We will begin with a historical overview.

A LITTLE HISTORY

Looking at the development of Greek philosophy, we see a step-by-step unfolding of an argument delineating the source of the universe. What drives it is the recognition of change, motion, the combining and recombining of chemical elements, that is, the dependency of things on an organizing, designing and driving cause. In Heraclitus it is a *logos* or lawfulness; in Anaxagoras it has become Mind.

The first time, however, that this becomes a real argument for an actual agent is in Plato. In his *Phaedrus* and in *Laws*, we have the key elements of the CA: (1) the things we observe are arranged in sequences of causes and effects; (2) such sequences cannot go on endlessly; and (3) the beginning point, or initiating cause, will be different from the other causes in not being caused by something else. For Plato it is Soul.

Aristotle, Plato's student, carefully refines this argument into its standard format in his *Metaphysics*. He has a clearer concept of "infinite" and provides a subargument as to precisely why there cannot be an infinite sequence of causes of dependent things. He also provides some implications about the nature of this first cause that follow just because it cannot itself be caused but is precisely uncaused.

Little knowledge of Aristotle is preserved for Roman and early Christian Europe. It is, however, maintained in Arab culture and is central in the development of Islamic philosophy. The version of the CA put forward by al-Ghazali, Ibn Rushd and others understands the sequence of causes as a chronological argument for a first cause of the universe backwards in time. This CA has come to be known as the *kalam* argument and is the subject of another chapter.

By the twelfth century, Aristotle's *Metaphysics* had been brought to Europe by way of the Muslim conquest of Spain. Enter Thomas Aquinas.

What is most significant is his development of the argument within the context of Christian theology. In the *Summa Theologica* and in the *Summa Contra Gentiles* he gives five brief statements of the CA that have come to be known as the Five Ways, though they are not the same in each book.

Following Thomas, the CA develops in a number of different directions. One is initiated by Duns Scotus. What he does is preface each premise of the CA with "it is possible." The conclusion then is that it is possible that an uncaused first cause exists. This is a quite different argument in that it proceeds solely on the basis of what is logically possible. Scotus argues that if an uncaused being is possible, then it is actual, since nothing could limit its being. There are contemporary versions of this form found in the work of James Ross and others.¹

By far the most important direction taken by the CA comes in the eighteenth century at the hands of G. W. F. Leibniz and Samuel Clarke. The notable addition to the CA is what Leibniz calls the principle of sufficient reason: nothing happens or exists without a reason. This transforms the CA into a significantly different argument. First, it is now an argument about the reason for the entire universe rather than its cause. Second, it concludes to a God whose existence is necessary, that is, who exists in such a way that it makes no sense to ask the reason for the necessary being's existence.

It is precisely this second point that forms the basis for an attack by Immanuel Kant in his *Critique of Pure Reason* (1781). He holds that the very concept of a necessarily existing being is incoherent. The debate over Kant's criticism continues, but its effect on the entire discussion of the CA in the nineteenth century was devastating, even though Kant's criticism only affects Leibniz's version of the CA.

A renewed discussion begins in the 1960s as a result of the work of Bruce Reichenbach, William Rowe and others.² Since then, the volume

¹See James Ross, *Philosophical Theology* (Indianapolis: Bobbs-Merrill, 1969).

²See Bruce Reichenbach, *The Cosmological Argument: A Reassessment* (Springfield, Ill.: Charles Thomas Press, 1972), and William Rowe, *The Cosmological Argument* (New York: Fordham University Press, 1998). The latter is an excellent source on the entire history of the Leibnizian argument. First published in 1975, this new edition keeps the discussion current.

of published literature on this form of the CA and the principle of sufficient reason has exploded.

Another direction is taken by a tradition of late nineteenth and early twentieth century philosophers known as Personalists. They actually combined the CA with the teleological argument. Peter Bertocci, for example, argued that in fact there must be a self-sufficient source of our universe and that what directs our search is its design. We must conclude that there is a self-sufficient designing intelligence/creator of the universe. What was important to Bertocci and is to current philosophers like Richard Gale, who uses a similar approach, is that this argument demands only a finitely intelligent God, which provides them an answer to the vexing problem of evil.³

These three lines of development should not cloud the fact that the standard CA itself continues to be developed following Thomas. This process comes to an almost virtual standstill with the apparently successful critique leveled by Kant.

A renewed interest begins with the pronouncement of Vatican I, which directed Catholic philosophers and theologians to resume the study of Thomas Aquinas. This brought about a renewed discussion and appreciation of the CA in the early twentieth century. Catholic philosophers like Etienne Gilson and Jacques Maritain were crucial here. Within broader philosophical circles, and particularly among evangelicals, this renewal of interest in Thomas's CA had to wait until the 1960s and the work of Norman Geisler and others.⁴

THE ARGUMENT

Our purpose in this chapter is to examine the traditional argument of Aristotle and Thomas. This argument is based on simple observations of the world around us. It looks at causal connections as a concurrent series and not one going back in time. It focuses on individual, actual se-

³See Richard Gale, "A New Argument for the Existence of God: One That Works, Sort Of," in *The Rationality of Theism*, ed. Godehard Bruentrup and Ron Tacelli (Dordrecht: Kluwer, 1999).

⁴A good example of Norman Geisler's treatment is his *Philosophy of Religion* (Grand Rapids: Zondervan, 1974).

quences and does not need to talk of the universe as a whole. Finally, its conclusion is simple, with a minimal conception of God, and leaves a fuller concept of God to subsequent conclusions.

The briefest and most general statement of Thomas's argument is found in chapter fifteen of the *Summa Contra Gentiles*. It is also close to its predecessor in Aristotle.

We see things in the world that can exist and can also not exist. Now everything that can exist has a cause. But one cannot go on *ad infinitum* in causes. . . . Therefore one must posit something the existing of which is necessary. (*Summa Contra Gentiles* 15.124, excerpts)

There are three basic points in this argument.

Premise 1: What we observe in this universe is contingent. This argument begins with a simple observation concerning the things we see and know about in the real world around us. It is not intended to be about everything in the universe, let alone every possible entity, only those things we have actually observed. The key element in this first premise is the notion of contingency. In this context this means that something owes its existence to something else; it does not exist in and of itself.

So these causal relations are transferring not initiating. That is, A is caused by B, but only as B is caused by C. Everything we know of possesses this sort of contingency: it exists and functions only as it is caused by other factors in its causal chain. We know of nothing that by itself spontaneously initiates causal activity. But note that nothing here turns on our knowing about everything. Even if something does turn out to spontaneously initiate, it would have no effect on the CA.

Premise 2: A sequence of causally related contingent things cannot be infinite. The point of the second premise is to show that regardless of how complex and interconnected, and regardless of how extensive they may be, the sequence of causally related contingent things is not infinite. Thomas at one point uses the picture of a hand moving a stick moving a ball. Perhaps the most frequently used analogy in recent discussions is the train.

Imagine seeing a train moving past you for the first time. Baffled, you wonder how the boxcar is moving. You come to realize that it is being

pulled by another boxcar in front of it, and so on, and so on down the tracks.

This allows us to visualize the various naturalistic scenarios, so commonly heard in our society, that describe how it is that things exist in the real world. "The cosmos is a great circle of being," we are told. But stringing boxcars all the way around in a circle until the last one hooks up to the first will still not explain the motion even of the first boxcar. And likewise, if contingent things cause each other to exist in a circle, there is no initiating of the causality. The naturalist offers another more promising scenario: "The cosmos is an intricately evolved ecosystem in which everything is related causally to everything else." So boxcars clutter the world in an unimaginably complex system of railroads such that in some way every boxcar is coupled to and pulling the first one. We still have no accounting for the motion of that first boxcar and likewise for the existence of actual things.

It is always tempting, of course, to say that it is just enough to know that the one in front of it is pulling each boxcar. In one sense it is clearly true that boxcar A is pulled by boxcar B. But B can pull A only because at the same time C is pulling B. The pulling action of B is transferred from C. And so it is also true that A is being pulled by C. The same is true, of course, about D, and about E, and so on.

One last option suggests itself. Suppose that there are infinite boxcars, or as the naturalist says: "The intricacy of the universe is lost in infinite complexity." But infinite boxcars, no matter how complexly arranged, still leave unexplained why our first boxcar is moving and hence why any are. Letting the sequence go to infinity fails to explain anything. It just puts off infinitely the question of what initiates the causality.

Premise 3: The sequence of causally dependent contingent things must be finite. The rest of the CA simply draws the obvious conclusion from premise 2. If the sequence cannot be infinite, then it must be finite. There is, of course, one other alternative, just as there is one way in which the line of boxcars can be infinite, namely, if they are not moving at all. There might of course be infinite boxcars in the train, but there could not be a moving train that consisted only of an infinity of boxcars. Just so, there might exist infinite things but not an infinite network of

concurrently causally dependent, contingent things.

Conclusion: There must be a first cause in the sequence of contingent causes. If the causal sequence is finite, then there is a first cause regardless of how many causes there might be in the series. This concept of "first cause" involves two component concepts. To say that it is the *first* cause is to say that it neither requires nor has a cause itself. First is first! Thus it is fundamentally different from every other cause in the system: it is not contingent. It depends on, is limited by, or exists because of absolutely nothing else. It does not pass on causality it receives in a transferring relation; rather it strictly initiates causality. It is itself uncaused.

To say of the conclusion that it is the first *cause* is to define its relation to everything else in the sequence: namely, that it is their cause. It is the cause of all things in that it initiates all of the causal activity in the sequence, without negating that each cause is, in fact, a cause in its own right of the following one in the sequence, and is an effect of the proceeding one.

The only explanation for the moving line of boxcars is that somewhere there is a locomotive powerful enough to pull the whole train while itself not needing to be pulled. And so the concept of a first cause is richer than it might at first appear. It is the initiating cause of existence of everything in the series of causes and exists without any cause or dependency whatsoever. It is strictly an uncaused cause.

WHAT FOLLOWS ABOUT GOD'S NATURE?

The fairly simple argument of Aristotle and Thomas gives us no more than a first cause. It does, however, set up a series of subsequent arguments that fill in a good deal of content and provide a preface of something we are more justified in calling God.

For the most part, these subarguments go back to Parmenides. He was something of an oddity in Greek philosophy by thinking that the universe is just one simple uncaused thing and not a network of casually connected things. It is precisely this notion that pushed him to ask what characteristics the universe must possess if it is in-and-of-itself or necessary. But notice that this is exactly where the CA leaves us too. What follows from the fact that something is a first cause, that is, entirely without cause while causing all relevant effects?

Uniqueness. Why think that there is only one first cause? It seems to me that in fact many of the versions of the CA have been directed at precisely this goal. The obvious way to do it is to find a way to make the CA an argument about the entire universe, and the best way to do that is to incorporate some principle that includes all possible reality, for example, the principle of sufficient reason. But this is not the tactic taken by Aristotle and Thomas.

The subargument they use can be simplified like this. Imagine there are two first and uncaused causes. Call them FC1 and FC2. What is it that distinguishes them and hence determines that they are two, not one? What controls our thinking here is the logical principle that two things that do not differ in any respect at all are just the same thing.

Put briefly, the only way FC2 could differ from FC1 would be for it to have some characteristic that FC1 does not. But if FC1 lacks something that is available (since FC2 has it) then it is limited or caused not to have it. But that is impossible since FC1 is not caused in any way. And so we have to conclude that any two—or more for that matter—uncaused first causes would have to be identical in the strict sense, and therefore there could only be one of them.

Simplicity. That God is “simple” is a difficult but crucial concept. It means at least the following: (a) God has no parts and is therefore not material (made of measurable units); (b) God does not change, that is, he cannot add or subtract parts of what he is; (c) God is all one thing. There is not one part of him that is distinguishable from others. He simply is what he is.

All of the meanings given to simplicity imply that God has parts, that is, that God has internal differences. The Bible sometimes seems to refer such things to God, just as we correctly do to human persons, such as changing his mind, or being somewhere (such as a burning bush) but not somewhere else. With some people he seems to act judgmentally. With others he is loving and forgiving. How are we to understand this?

The argument here is a version of the argument for God’s uniqueness. Any differences between parts would involve a lack of something in one of them. Such a lack would have to be a limit due to some cause, but that is impossible for an uncaused first cause.

These two arguments might seem abstract or irrelevant at first glance, but they play quite important roles in a larger conception of God. That there is only one God is crucial enough, and so is the point that God is what he is without change. Put together, these arguments form boundaries for the Christian doctrine of the Trinity. That is, there is only one God, not three, and he does not have internal divisions or parts. The biblical data has to be compiled in a way that fits these logical boundaries.

Perfection. An uncaused first cause, existing in and of itself, must therefore be perfect. This is simply the reverse of the argument used in the first two points above. If God has no limitations in what he is, then he is simply unlimited.

The difficulty here is that we do not have any really positive meaning to this notion. When I say that I am 5'11" tall or that I am sitting at my desk, I am actually describing my limitations. My size is confined in certain ways, as is my presence in the room, as well as in the world. God, it turns out, must be described avoiding any limitations. Expressing that, however, can be accomplished only by consistently denying definitions of God. For example, God is *not* spatial. We say this by using the term *omnipresent*. But that should not be taken to mean that God is located in every space. Rather, he is just not located in any sense. And this is to be applied to every description of God. Thus a seemingly empty term, applied to God, turns out to generate a great deal of important theology. We have come to call it “perfect being theology.”

Personhood. We are still left with a rather abstract, nonrelational or, in general, nonpersonal being at best. Does anything follow from the CA that would indicate that God has personal characteristics?

Both Aristotle and Thomas do have subarguments that God possesses knowledge and will. Aristotle’s God, however, is nonrelational, knowing only himself. Thomas, however, shows that God’s knowing of himself as first cause of all things does in fact involve a perfect knowing that is truly relational.

I want, however, to mention here a simpler argument for personhood that flows from the CA. Among recent philosophers, it can be found in Norman Geisler’s discussions. Put briefly, since the universe contains persons who are rational, social, moral and free, how could the first cause of

all things be any less than a person? In particular, if the first cause is both uncaused and explains itself, then it must be free, not determined.

There is much more to be said here as to what can be developed out of the CA. This, however, is enough to show that Thomas's simple argument does provide the basis for a fuller concept of God.

SOME BASIC OBJECTIONS TO THE ARGUMENT

During our discussion of the argument we have dealt with a number of problems, objections or alternate views. Here I want only to bring up two very general objections to the CA.

First, certainly the most frequent criticism of the CA is that there is no reason to think that it concludes to God. Even if it were a sound argument, the objection typically goes, it only gives us a first cause. This could well be some space/time factor, say, the big bang or elementary particles of some sort, but not an infinite creator God who loves us and desires relationship and worship.

Any response to this objection will first have to pose the question of what it takes to identify someone. Specifically, what characteristics do you have to know in order to identify someone? Clearly one answer is that you need only one, if it is a uniquely identifying characteristic. If only one object in the universe has a specific property, and even if that is the only property I know, then I am able to correctly identify that object.

Given that principle, we should say that strictly speaking the minimal CA discussed above, by itself, does not uniquely identify God in its conclusion. However, that there must be finite links in every causal network and thus a first, uncaused cause is already enough to defeat most forms of atheistic naturalism which hold that the universe is a closed causal network.

More important, of course, the CA has immediate implications that do provide unique identifiers. So a good strategy is to leave the argument as simple as possible rather than burden it with all sorts of complex premises that only demand additional, often difficult and only moderately probable premises.

There are those who still object, including some Christian theists, that even with all the subarguments we are left with an abstract, impersonal

something that does not demand religious worship. The best response is to agree: the CA proves only what it proves. Certainly we will want more and different kinds of input, including revelation and experience. This further objection often supposes that unless we know everything about God, we know nothing. But this is not only obviously false—I certainly know many things without knowing everything about any of them—it is also self-contradictory since the objector clearly does not know everything about the objection. I conclude that the argument yields a little but crucial and uniquely identifying knowledge of God.

A second frequent objection makes the point that infinite series are possible. Since the CA depends on a denial of an infinite series of causes, the argument fails. It is, of course, true that infinite series are possible. The sequence of cardinal numbers, as we all learned in elementary school, is infinite. We could assign a cardinal number to each member of any causal sequence, and we would then have an infinite sequence of causes.

This objection occurs in many forms, but they all overlook the specifics of the sequence of causes in the CA. There are four characteristics of this series and each is crucial to eliminating the possibility of infinity. (1) It is a sequence, a connected series of causes to effects. (2) Each cause is itself contingent. It, in turn, needs a cause. (3) The dependency in the Aristotelian/Thomistic CA is concurrent not chronological. It refers to concurrent dependency relations of cause and effect. (4) The specific relation to which the generic CA refers is the causing of existence itself. The key point in the CA is that there cannot be an infinite series of causes with all four of the above characteristics, not that there cannot be infinite series of other types.

Note that, given this point, it is irrelevant to the argument whether the universe itself might be infinite. Thomas thought that it is at least possible that the universe exists in infinite time, as Aristotle had held. That God created the beginning of time we know only by revelation. Many objections attempt to show that in some respects the universe is infinite, so the CA must be wrong. Attached to this is typically that Thomas's physics is just wrong. But this is all irrelevant to the CA. It shows only that there cannot be an infinite sequence of concurrent dependent causes of existence.

CONCLUSION: WHY IS THIS ARGUMENT IMPORTANT?

It is clear that Thomas intended this argument to play a critical role in our understanding, not just of God and religion but, as it did for Aristotle, of everything. We cannot make sense of our reality at all apart from God. The God of the CA best explains life as we experience it.

At the same time this argument is not a starting point. It is based on other arguments and observations, and so God is also a conclusion from the evidence. My point here is that one way in which the CA is important is that it demonstrates that God is not a belief or a creation of faith but part of our true description of things. So the CA is tremendously valuable for apologetics.

This argument along with its subarguments is also vital in setting logical guidelines for theology. We mentioned earlier how it helps us in regard to the doctrine of the Trinity, but there are many other applications. The CA demands that God is unchanging. Applied to God as knowing, choosing, willing or acting in any way at all, we will have to see “unchangingly” as a filter that always modifies our understanding of how God is to be conceptualized. If we extend this to all of the aspects of God’s nature that are identified in the various subarguments of the CA and then apply them in turn to each of God’s actions, we have built a framework for theology: a perfect being theology.

Finally, the CA is important for us in doing science. It specifies the relationship between God’s acting and the processes of science, including the behaviors of human beings. It says that God is the true source—the first cause—of all processes, every event and even every free action. We must note that this concept does not eliminate, replace or reduce the necessity of doing science. It is not a god-of-the-gaps view. It respects the proper place of science; in fact, it grounds science by explaining why it is even possible.

This brings us back to the original question of how the universe operates and the subsequent moves in philosophy that culminate in Aristotle’s and Thomas’s arguments. The CA can be seen as establishing or underwriting a worldview: a big-picture understanding of how everything works—namely, theism, as opposed to naturalism.

I have argued that cosmological thinking is important to our large un-

derstanding of everything. There is much work yet to be done on the CA, and it may well be that faults will be found with our current ways of wording this argument. The objections that have been brought against it over virtually the entire history of both western and eastern philosophy either fail or only point out the obvious limitations of the CA. It remains an essential part of a Christian apologetic.

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