After God, with Reason Alone

Proceedings of the Society for Medieval Logic and Metaphysics

Volume 8

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After God, with Reason Alone

By

Saikat Guha

Edited by Timothy Kearns

(Series Editors Gyula Klima
and Alexander W. Hall)

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After God, with Reason Alone
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By Saikat Guha
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EDITOR'S NOTE

The present volume commemorates the life and work of Saikat Guha. The five essays collected in this volume present only one, yet important facet of his thought: his engagement with medieval philosophy and the Catholic philosophical and theological tradition. Saikat died young, but even within the confines of a short life, he produced an astonishingly rich and intriguing body of work, which, however, tragically remained in torso. One can only hope that even this torso of a body of work will inspire others, especially young readers, not unlike the Apollo torso that inspired the poet:

> We cannot know his legendary head
> with eyes like ripening fruit. And yet his torso
> is still suffused with brilliance from inside,
> like a lamp, in which his gaze, now turned to low,
>
> gleams in all its power. Otherwise
> the curved breast could not dazzle you so, nor could
> a smile run through the placid hips and thighs
> to that dark center where procreation flared.
>
> Otherwise this stone would seem defaced
> beneath the translucent cascade of the shoulders
> and would not glisten like a wild beast's fur:
>
> would not, from all the borders of itself,
> burst like a star: for here there is no place
> that does not see you. You must change your life.
>
> **Archaic Torso of Apollo**
> by Rainer Maria Rilke
> translated by Stephen Mitchell

INTRODUCTION*

TIMOTHY KEARNS

The *Proceedings of the Society for Medieval Logic and Metaphysics* (PSMLM) collects original materials presented at sessions sponsored by the Society for Medieval Logic and Metaphysics (SMLM). Founded by Gyula Klima (Director), Joshua Hochschild (Secretary), Jack Zupko and Jeffrey Brower in 2000 (joined in 2011 by Assistant Director, Alexander Hall) to recover the profound metaphysical insights of medieval thinkers for our own philosophical thought, the Society currently has over a hundred members on five continents. The Society's maiden publication appeared online in 2001 and the decade that followed saw the release of eight more volumes. In 2011, PSMLM transitioned to print. Sharp-eyed readers of these volumes will note the replacement of our (lamentably copyrighted for commercial use) lions, who guarded the integrity of the body of an intellectual tradition thought to be dead, with the phoenixes that mark our rebirth. Friends of the lions will be happy to note that they remain at their post, protecting PSMLM's online proceedings at http://faculty.fordham.edu/klima/SMLM/.

These five papers are collected from the works of Saikat Guha. Guha was deeply interested in medieval philosophy and medieval themes in contemporary questions, and that interest can be seen in many of his more than four hundred unpublished works. These five are the papers Guha wrote directly on medieval topics and in the tradition of medieval philosophers. As such, they are published in these proceedings in his honor.

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Three of these papers reformulate some of Aquinas's key doctrines on God: his first, second, and third ways, and his account of how necessity of being entails absolute perfection. The fourth paper presents a logical model of the doctrine of the Trinity in order to prove that the doctrine can be understood without logical contradiction, that Christian accounts of the Trinity can be coherent. The fifth paper considers whether Ockham's razor requires the presumption of atheism.

Guha's career was short: he began his undergraduate work at the University of Texas at Austin in physics and mathematics; he later finished a bachelor's in philosophy at Boise State University; he received a master's degree from the University of Washington at Seattle; and he had finished doctoral coursework at Syracuse University and was writing his dissertation proposal when he died. These brief notices do not adequately indicate the breadth of his understanding or the sharpness of his intellect.

Guha envisioned and intended to produce (in collaboration with others, he hoped) a philosophical system comparable to the scholastic synthesis embodied in the work Thomas Aquinas. He believed this project to be of the utmost importance for philosophy as a discipline, to say nothing of theology, culture, or the questions of post-modernity. (Among his papers, there is an outline of his synthesis, a "systematic philosophy" he calls it, but without him it can be of only limited interest.) He had begun work on this project when he died, and many of his papers treat directly of pieces of the grand structure that he hoped to make.

Opposed to this, Guha doubted the value of philosophy as a discipline and an intellectual pursuit. If a man is starving, you can give him a fish; you can do better by teaching him how to fish, but what does it matter to the starving man what the ethics of fishing are, or whether there is some great Intelligent Fish Designer in the sky? He indulged in this open-ended worry oftener than one would expect.

His friends report that only once did he claim to have an answer to questions like this. Not surprisingly, it arose from teaching. He asked his students and himself this question: can we attain to wisdom? For a brief time, when he was his happiest and most successful, Guha answered "yes". It is perhaps a truism among philosophers, and one may guess that

doubt as to that question's answer does not trouble professionals. But it troubled Guha.

I make the following brief points about what his answer to that question was like because it is a frame on which he built a life's work, even if a life cut short. Wisdom is our vision of things that has been refined by honest and diligent thought: ours, a vision, and refined. We begin with our intuitions, since we have nothing else, and we refine them to what Guha called "speculative wisdom", "good judgment in theoretical matters". In a letter to Trent Dougherty, a graduate student at the University of Rochester, Guha says this: "As David Lewis put it, we do two seemingly contrary things: we try to *improve* our intuitions, that is, to make them better, but we try to improve *our* intuitions, that is, the ones we actually have."[1] He continues in another letter: "There is . . . an act of trust in going with the dim lights one has. And there is an act of hope that keeps us going to what (we hope) is the right place. And there is an act of love whereby we embrace the truth we are given and seek to live in it."[2] But beneath all this, and nestled together with our intuitions, we must find the desire to understand better, for without it, intuitions do not get refined at all.

Desire to see things better, trust in one's own headlights, hope that they will light the windy way, and love to embrace the truth we find and live it: this is Sophia. The desire requires the trust in our own abilities, the trust implies that we have hope, and the hope implies that we love what we hope to get: they are not many but one, wisdom, as Guha might have said. Philosophy began for him with technical questions about the certainty of scientific theories and it led him beyond the merely technical to a way of living the life of the mind, a way anyone can see the value in.

But his understanding of wisdom is also directly relevant to his approach to medieval philosophy. Guha was not a historian of philosophy. How much he valued historical work in philosophy is hard to say: often, he shrugged it off; but oftener still, he drew inspiration from historical texts and contemporary interpretations of them and contemporary arguments over which interpretation is right. Because he thought of wisdom as an act

[1] From unpublished email correspondence with Trent Dougherty, January, 28th, 2005.
[2] From unpublished email correspondence with Trent Dougherty, January, 30th, 2005.

of refining intuitions and trying to understand better and live the truth we understand, he oriented himself more toward solving philosophical problems than to painstakingly figuring out what view an earlier thinker had actually held.

We can see how this follows from his understanding of wisdom: for the philosopher, the desire to understand is not directed at the history of philosophy; the desire to understand is directed at the world. The further step that the history of philosophy is a part of that world and therefore an important component of our understanding was not a step Guha was interested in taking. Ironically, Guha was like many medieval philosophers in this. He was as a-historical as they were and as concerned about it. For some, this is a grave error. For others, it is of little concern. My purpose is to make clear how he approached these questions.

The following papers all deal directly with the question that occupied Guha most in his early years: is there a God? His answer to this question is the keystone of his projected system. These papers, then, are more than a good introduction to Guha's thought; they cut to the heart of it. In addition, from these papers, the reader can see Guha's basic disposition and philosophical temper: on the one hand, a certain levity of style in dealing with philosophical problems and, on the other hand, a high seriousness when confronting important issues. He never tired of making reference to amusing bits from philosophy's history. One of his favorites was the story of David Hume and the fishwife: Hume once fell into a bog, and a woman selling fish came along but she refused to help out "Hume the Atheist" unless he recited the Lord's Prayer; he promptly did as she asked, and she pulled him out; Hume later said that the fishwife was the most acute theologian he had met. But Guha also never tired of arguing about God: he invested dozens of hours in discussion with a friend at the Philosophy Club at Boise State University just to convince him that Anselm's ontological argument was valid; he did convince his friend, and the man found himself committed to Anselm's God but somehow without religious faith of any kind, surely an odd place. The force of Guha's dialectical ability left many people in situations like this one. They are the greatest tribute to who he was.

On behalf of colleagues, friends, and family, I extend a heartfelt thanks to Gyula Klima and the Society for Medieval Logic and Metaphysics for the opportunity to collect and publish these essays.

On a personal note, the need to end this introduction reminds me of an anecdote about ending. One summer, Guha and I stayed with a friend near Notre Dame in South Bend, Indiana. A certain book caught Guha's attention: *John Buridan on Self-Reference* edited by G. E. Hughes. Guha borrowed the book from the Hesburgh Library, and serious trouble quickly arose. Guha loved the book, but it was not cheap to buy or easy to find used. The end of our vacation approached. Guha was unwilling simply to photocopy the book. He said he didn't know much about copyright law, but, smiling, he said he did want to refrain from all appearance of evil.

So, in the last month of our stay at Notre Dame, Guha sent a letter to the rights division of Cambridge University Press and asked for permission to make one photocopy of this book in spiral bound format. Weeks passed, and the letter came granting those permissions. Guha took the letter proudly to a copy shop with the book and had it photocopied. When Guha took his new copy of the book out of the store, he flipped to the end and read aloud in the car as we drove: *Et relictis maledictionibus, benedicat nos Deus qui ante saecula benedictus. Amen.* "I should end a book like that one day." He paused. "I think I will." He didn't, in point of fact. But I will end this introduction like that, for him.

May God give us his blessing,
Who is blessed from all eternity.
Amen.

AN INTERPRETATION OF AQUINAS'S FIRST AND SECOND WAYS

Introduction

Aquinas's First Way, often called the "argument from change", or the "argument from motion"—where "motion" is a synonym for "change", according to Aristotle's usage, whereas motion in our sense, that is, change of position, is called "local motion" by Aristotle—runs as follows:

> The first and more manifest way is the argument from motion. It is certain, and evident to our senses, that in the world some things are in motion. Now whatever is in motion is put in motion by another, for nothing can be in motion except it is in potentiality to that towards which it is in motion; whereas a thing moves inasmuch as it is in act. For motion is nothing else than the reduction of something from potentiality to actuality. But nothing can be reduced from potentiality to actuality, except by something in a state of actuality. Thus that which is actually hot, as fire, makes wood, which is potentially hot, to be actually hot, and thereby moves and changes it. Now it is not possible that the same thing should be at once in actuality and potentiality in the same respect, but only in different respects. For what is actually hot cannot simultaneously be potentially hot; but it is simultaneously potentially cold. It is therefore impossible that in the same respect and in the same way a thing should be both mover and moved, i.e. that it should move itself. Therefore, whatever is in motion must be put in motion by another. If that by which it is put in motion be itself put in motion, then this also must needs be put in motion by another, and that by another again. But this cannot go on to infinity, because then there would be no first mover, and, consequently, no other mover; seeing that subsequent movers move only inasmuch as they are put in motion by the first mover; as the staff moves only because it is put in motion by the hand. Therefore it is necessary to arrive at a first mover, put in motion by no other; and this everyone understands to be God.

I am going to interpret this argument in what I take to be a promising manner, supplying supporting arguments for the crucial premises.[1] It will turn out that the same sort of interpretation works equally well for the very similar Second Way. I think the arguments, thus interpreted, are good, so far as they go—they show that there is something that moves but is not itself moved and something that produces other things but is not itself a product. The intent of the First Way is to show simply that there is an unmoved mover.

Many people have been put off by the abrupt statement at the end ("et hoc omnes intelligunt Deum"; in the fourth and fifth ways, he says "*et hoc dicimus Deum*".) Of course, Aquinas wasn't addressing himself to a modern audience, but addressed to such an audience the claim has the air of rhetorical sleight-of-hand; at the very least, it would be a rhetorical mistake to show that there is an unmoved mover and then assert that everyone understands this to be God. Someone might think that we were inferring "God exists" from "There is an unmoved mover", which would be a mysterious inference indeed, or that we were attempting something rather shady here—proving that something or the other was an unmoved mover, and then hastily concluding that this must be God, hoping that no-one notices the glaring gap in the reasoning. It might seem amazing that someone would suspect Aquinas of such stupidity or arrant knavery, but the historical ignorance of contemporary analytic philosophers makes many otherwise incredible assertions par for the course.[2] So let me just assert categorically, right now: in saying "et hoc dicimus Deum", Aquinas does *not* take himself to have shown, as of that point in his work, that there is a perfect being, or indeed a being even recognizably similar to the God of traditional theism. He takes himself to have demonstrated the conclusion of the First Way, which is that there is an unmoved mover, and

[1] Aquinas provides other, more elaborate arguments for these premises in the *Summa Contra Gentiles*, which I don't discuss here.

[2] As, for instance, in Pruss & Gale's "A New Cosmological Argument", *Religious Studies* 35 (1999): 461–476 (article accessed in online format): "One of the aims of our argument was to escape the closing of the gap problem that has infected past cosmological arguments, the unwarranted move from a conclusion that there exists a first mover (cause, etc.) to the claim that this being is God, that is, has all of the divine perfections. This yawning chasm was papered over by St. Thomas's glib remark that "et hoc dicimus Deum."" One wonders if the authors have ever *read* more than three pages of Aquinas. If so, it is glib of them indeed to dismiss Aquinas's whole natural theology in two sentences.

he *asserts*—an assertion which he later goes to great lengths to back up—that what theists call God is in fact, whether they know it or not, this unmoved mover. (The "we" in "dicimus" refers to *theists*; similar remarks apply to the Second Way.) Anyone who doubts me can convince himself of this by the simple expedient of *reading Aquinas*. (Since you are likely to be familiar with the Five Ways, I suggest you skip those and *read the rest* of the Treatise on God; even better, try Book I of the *Summa Contra Gentiles*.) He will find—wonder of wonders!—that Aquinas *argues* for the claim that an unmoved mover has all the characteristics the theist attributes to God, including unity or oneness. (That is, he *argues* for the claim that there is but one God.) Anyone who actually reads and understands these arguments, and thinks he has good objections to them, has the right to criticize Aquinas; but it is mere impudence to criticize a philosopher without reading him. I do not propose to comment on the entire Treatise on God and its success, or lack thereof; I am only going to follow it as far as the claim that there is an unmoved mover and a first efficient cause. With that understood, I turn to the arguments.

Interpreting the First and Second Ways

That things change is one of the few facts all sane men, apart from a few philosophers, have agreed on.[3] It is certainly something on which everyone should agree. The things that most clearly show change are material things—individual material objects or collections of them. Material things change by having different characteristics at different times, with respect to a vast number of measurable, qualitative, and other properties—temperature, mass, density, color, shape, size, and so on. Sometimes they also gain or lose parts, as when an animal grows or a tree sheds its leaves. If we use the term "the physical universe" to mean a single material object which is the sum of all material things, then the physical universe is constantly changing in both of these ways, since it constantly changes parts, as things come to be and cease to be, and thereby constantly changes features as well.[4] Aquinas's First Way is an argument that starts from the

[3] As for those philosophers, I for one have my doubts about their sanity, or at least about their mental health.

[4] Some philosophers deny that there is any such thing as the physical universe, in the sense in which I have defined the term, and some deny that there is such a thing in any reasonable sense of that term. If you belong to this camp, take "the physical universe" as being what Russell called a "logical construction" or "theoretical

first sort of change—change in individual parts of the physical universe—while his Second Way starts from the fact that the physical universe changes parts, that is, that individual physical things come to be and cease to be. Here one has to distinguish between real or *intrinsic* changes and so-called mere-Cambridge changes, which we might also call relational or *extrinsic* changes. If a barn a hundred miles south of you catches fire at this moment, then you immediately acquire a certain property—the property of being one hundred miles north of a burning barn—which you didn't have a moment ago. This, however, is not a real change in you; if anything, it is really a change in the barn. *Because* you are a hundred miles north of the barn, and the barn catches fire, it comes about that you are a hundred miles north of a burning barn. You acquire this property simply in virtue of the (spatial) relation in which you stand to the barn, which is why the change may be called merely relational or extrinsic. If on the other hand *you* catch fire at this moment, that is something for you to be concerned about, precisely because this is a real change in you. That change is *intrinsic* in that you yourself change. It is real changes that Aquinas has in mind, and it is typically real changes that we have in mind when speaking of change; henceforth, it is real changes that we shall concern ourselves with here. In understanding the argument, it is best to have in mind some familiar kind of material object, or body, undergoing some readily imaginable and clear-cut sort of change (take your pick), and, though the role this plays is only heuristic, I urge the reader to do so.

When anything undergoes a change, it will, initially, be in a different condition from that in which it is found to be finally, and the two conditions will be mutually incompatible, that is, it will be impossible for anything to be in both states at once. For change consists precisely in the fact that the object is *not*, finally, as it initially was. If afterwards the object remains just as it was previously, then no change has occurred; indeed, there is then no "before" and "afterwards" to compare between. But to be *not* in condition A and at the same time to be in condition A is obviously impossible. Therefore, since the initial and final states of the object are incompatible, anything that changes is capable of being in each of two incompatible states. Thus for instance a thing that turns from being

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fiction". Such talk as I shall engage in involving "the physical universe" can be readily understood by appropriate forms of paraphrase. (For an elaborate and systematic program involving such paraphrase, see van Inwagen's *Material Beings* (Ithaca: Cornell University Press, 1995).)

red to not being red is capable both of being red and of not being red.[5] Now, I think Thomas can be reasonably interpreted as believing that changes require an explanation. If a thing changes from one state to another, both of which it is perfectly *capable* of having, then there must be an explanation of why it *was* in one state and then *came to be* in a distinct and incompatible state. And here he seems indisputably right; surely changes *do* call for an explanation. Indeed, the whole of natural science would be unworkable if there was no explanation for why material things change as they do. It seems equally indisputable that a change in an individual thing has got to be explained, if at all, in terms of the activities or behavior of individual things. Perhaps the object itself will be one of the things involved in the explanation, and perhaps there will be other objects involved, but however the explanation goes it must be in terms of various individual things and what they do. But, I think Thomas would maintain, very reasonably, a change in a certain object cannot be explained *just in terms of that object alone*. For the object is equally capable of being in either of the two incompatible states in which we find it initially and finally; its own nature cannot decide it in favor of the one as opposed to the other, else it never would be in one state and then the other—it would, instead, be in just one of the states forever. To put it another way, if the object had within itself what was sufficient to put it in its final state, then *it would already be there*. And if it doesn't have within itself all that is required to put it in its final state, then the fact that it changes to that state cannot be explained just from the object itself. Consequently, if the change is to be explained, it must be explained at least in part in terms of *other objects*, objects external to the thing in question, and their activities. (There needn't be, for anything we've said thus far, more than one other such object; I am using "other objects" in what might be called the mathematician's plural, in which an equation "has solutions" just in case it is not insoluble.) Now, how could other objects and their activities figure in the explanation of the change in *this* object? The only way that seems possible is, by *acting on the object* and thereby *bringing about*, or at least bearing partial responsibility for bringing about, the change which needs to be explained. Otherwise, these other objects and their activities would be explanatorily irrelevant. But to change a thing by acting on it is just what Thomas means by "moving" it, and this is why he says that whatever

[5] That is, of course, quite different from being capable of being both red and not red; this is a capability absolutely nothing has, although some philosophical arguments have rested on a failure to distinguish the two.

moves is moved by another. This is the first important step of the First Way.

If anything that changes is changed by things external to it, then of course there have to *be* things external to it. Now there are only two conceivable ways a thing might act on something else: either the thing itself will change in acting on the other, or it will not change in acting on the other. In the first alternative, the "mover" (the thing acting to produce change) is itself "moving" (changing) in the course of its action. It is therefore what one might call a *moving mover*. In the second alternative, the mover is an *unmoved mover*. In the case of a moving mover, by the general principle already established, that whatever moves is moved by another, each mover of the original object must have movers of its own, and, if those movers be also moving movers, they must have movers of *their* own, and so on. Now mayhap someone thinks that such a chain of movers could be circular, with A moved by B, and B moved by C, and so on, until finally somewhere in the chain one comes to a mover, say Z, which is moved by A. But this is evidently impossible, for at least two reasons. First, in no such chain of movers can all the movers act simultaneously on one another, since the motive influences from one object to another take some time, however small, to propagate. Hence it cannot be the case that, at precisely the same instant, A acts on B, making B act on C, making C act on D, and so on, and therefore some of the movers will act before the others. Now, in a chain of movers where each mover moves only when moved by another mover, no link in the chain moves until the links which move *it* move. For instance, in the A through Z chain just mentioned, A cannot move until B acts. But then, since B depends for its action ultimately upon Z, and Z cannot move until A acts, B cannot move until A acts, and therefore A cannot move until A acts, so that in order for motion to occur at all, A would have to move before it moved! Secondly, in a circular chain of movers, of this type, there is no explanation for the motion of anything in the circle. For it is a general truth about explanations that *no explanation can be circular*. If you explain one fact in terms of another, you cannot turn around and explain the second fact in terms of the first; to do that is a mere waste of breath, since nothing has actually been explained.[6] But in a circular chain of movers this is precisely how the

[6] This is what's wrong with the childish ploy embodied in the following discourse: "Why do you love her?"; "Because she's so lovely!"; "Well, what's so lovely about her?"; "Why, the fact that I love her!".

"explanation" would go; the fact that A moves will be explained by way of B, whose motion will be explained by way of C, and so on, until finally Z's motion is explained in terms of A again, completing a nice, vicious loop. It is therefore impossible to have a circular chain of moving movers. This being so, there are exactly two possibilities: either there is an infinite chain of moving movers, with no beginning, or the *chain terminates in an unmoved mover*.[7] This is the second important step of the First Way.

Aquinas provides an argument against the existence of an infinite chain of moving movers. This I find somewhat surprising, since such a chain seems to me about as absurd as anything can be, and I know of no one who believes in such a thing. Aquinas appears to think that in any chain of moving movers that terminates in some final motion, all the motions that bring about the final motion must take place simultaneously. But, so far as I can tell, the strength of the First Way does not in any degree depend on *that* assumption. Suppose we reject the assumption. Even then, and even if someone thought that the universe was everlasting, without a beginning or end in time, it seems like the height of folly to maintain that *every single change* that has ever taken place is the result of the interaction of an infinite, beginningless chain of movers. Unless you happen to *know* that the universe is infinite, both as to its constituents and as to its age—at least in the past direction—it is foolish to assume that the changes we see around us every day require an infinite universe to account for them. It seems perfectly possible, both metaphysically and epistemically, that what we have is a *finite* physical universe—finite both as to age, spatial extent, and number of material objects—in which things move and change. If current cosmology is right, that's probably the sort of universe we do have. And even if current cosmology is wrong, we certainly *could* have lived in

[7] It is easy to *prove* that these are the only remaining possibilities using elementary set theory. The proof derives from the set-theoretical fact that if R is a (nonempty) transitive, asymmetric (binary) relation on a set S , then either R is not a serial relation, or else S is infinite. I take it for obvious that "moves" is a transitive relation; if *x* moves *y* and *y* moves *z*, then *x* moves *z*. The fact that one cannot have a circle of moving movers is then equivalent to the claim that "moves" is anti-symmetric, and added to the fact that nothing moves itself, yields that the relation is asymmetric. Hence, the converse relation, "is moved by", is also transitive and asymmetric. If we fix S as the set of all movers and moving things, then the claim that "is moved by" is not a serial relation entails that there is an unmoved mover (set-theoretically, an R-maximal element of S), and the claim that S is infinite and R is a serial relation entails that there is an infinite chain of moving movers.

such a universe; for even if the probable implications of current cosmology aren't in fact true, they are certainly *possible*. If someone maintains that an infinite chain of movers is the way to go, he had better explain why this doesn't entail the (false) conclusion that a finite physical universe of changing things is impossible. He will have to maintain that the infinite chain of movers is a matter of *contingent* fact; but then it will be difficult indeed to see how he can be justified in believing in such a chain, since there are possible worlds with the same changes to explain in which there is no such infinite chain of movers. Since the empirical data in such worlds is exactly the same, it is difficult to see how one can rationally maintain that as a matter of contingent fact there is such a chain, though there didn't have to be. There does not seem, therefore, to be any way to maintain the infinite-chain view that isn't false or irrational. On the other hand, the person who admits an unmoved mover, and adds that an infinite chain of movers is absurd and impossible faces no such difficulty; indeed, he says something intuitively plausible and plausible on the evidence at hand—for there is not the slightest reason to suppose that an infinite chain of moving movers is possible.[8] If you are willing to accept the First Way up to the second step, it would seem to be the better part of wisdom, therefore, to admit an unmoved mover and be done with it.

Nonetheless, Aquinas provides an argument for the claim that there cannot be an infinite chain of moving movers, and it seems to be a good argument. The heart of the argument is encapsulated in the words, "subsequent movers move only inasmuch as they are put in motion by the first mover; as the staff moves only because it is put in motion by the hand." The point, once more, seems to involve the notion of explanation. If there were a beginningless chain of moving movers, then it would be the

[8] It is no use talking about "logical possibility", or freedom from contradiction, in this context. Plenty of necessary falsehoods are logically possible, in the sense of being formally consistent. For instance: Mark Twain is the Eiffel Tower; Bill Clinton is a poached egg; I was born of Lee Harvey Oswald and Ayn Rand. If you say that such a chain is possible because you can imagine it, I say you're wrong; I *can't* imagine it, and I refuse to believe *you* can. (I refuse to believe that your powers of imagination could be so much better than that of us mere mortals as to lend you insight into the intrinsic possibility of infinite chains of moving movers, where the rest of us have none.) If you say that infinite sequences of numbers and other abstracta are possible, and therefore an infinite chain like this is possible, you have committed a *non sequitur*, for it's obvious that no logic licenses that inference.

case that each of these infinitely many objects *move*, and that must have an explanation. The explanation for the motion of the staff is that the hand moves it; likewise, there must be an explanation for the motion of the infinite chain of movers. That is, there has got to be an explanation for the fact that all these infinitely many movers move. What explanation can there be? The only candidate anywhere in the vicinity seems to be that each mover in the chain is moved by another mover in the chain. But *that* isn't an explanation of the desired explanandum at all! The claim, "For every A_n in the causal chain $<A_1, A_2, A_3, \ldots>$, A_n is P because (A_{n+1} is Q and (for any *n*, if A_{n+1} is Q, then A_n is P))" is simply not an explanation of the fact that every A_n is P. To see this, it should suffice to produce two examples. First, suppose that a wheel had been spinning, frictionless and suspended in space, for all eternity up to the present moment. Suppose we label the rotations of the wheel starting from the present moment and going back in time, as R_1, R_2, and so on. Then it is true, given the laws of physics (of inertia), that for every rotation R_n in the causal chain $<R_1, R_2, R_3, \ldots>$, R_n occurred because (R_{n+1} occurred before the next rotation in time and (for any *n*, if R_{n+1} occurred before the next rotation in time, then R_n occurred)). Now, does that explain why all those rotations occurred? Does it, in fact, explain why *any* of them occurred? No, for it merely explains one rotation in terms of another. What one *wants*, at a minimum, is to understand why the wheel was spinning *at all*—why it wasn't, say, at rest, or wobbling violently, or in some *other* state of motion. The second example is drawn from Leibniz. Suppose a book was the last member of an infinite, beginningless chain of copies—a copy of a copy of a copy of a copy, and so on to infinity. For ease of visualization, suppose the text in this book were identical to that of *Huckleberry Finn*. Now, it is true of each book in the series that it contains the text it does because it is a copy of the previous book, which contained the same text. Does that *explain* why each of these infinitely many books contains the text of *Huckleberry Finn*? Does it, in fact, explain why *any* of them do? No, it does not. What one wants to know, at the very least, is why the chain of books is of *Huckleberry Finn* to begin with—why not *Oliver Twist*, or a recent edition of *Playboy*, or just blank pages, or something else? And this is something which no description of the copying process, however faithful, could possibly give. Yet, there seems to be nothing *else* that could explain the fact, since there is no "room" in the chain for anything else to intrude—it being already infinite, and therefore not capable of accommodating

anything earlier or more primary—and it is only by being somewhere in the chain that something *could* explain the facts in question.[9]

The conclusion to be drawn, I think, is that such a chain is impossible. This being so, the conclusion of Aquinas's First Way does seem to be correct—there must, it seems, be an unmoved mover. It is, of course, not at all obvious at this point that the unmoved mover is *God*, or anything remotely resembling God. In fact, there is no reason to think that there is only one unmoved mover. Perhaps there are several. But the claim in question is neither that the unmoved mover is God, nor that there is only one unmoved mover. It is merely that there is *at least* one—and that seems correct.

Let us now turn to the Second Way, the argument for a first cause:

> The second way is from the nature of the efficient cause. In the world of sense we find there is an order of efficient causes. There is no case known (neither is it, indeed, possible) in which a thing is found to be the efficient cause of itself; for so it would be prior to itself, which is impossible. Now in efficient causes it is not possible to go on to infinity, because in all efficient causes following in order, the first is the cause of the intermediate cause, and the intermediate is the cause of the ultimate cause, whether the intermediate cause be several, or only one. Now to take away the cause is to take away the effect. Therefore, if there be no first cause among efficient causes, there will be no ultimate, nor any intermediate cause. But if in efficient causes it is possible to go on to infinity, there will be no first efficient cause, neither will there be an ultimate effect, nor any intermediate efficient causes; all of which is plainly false. Therefore it is necessary to admit a first efficient cause, to which everyone gives the name of God.

This argument is very similar to the First Way, and can be understood along the same lines, but it is in a way simpler in that its premises are more obvious. Only, instead of changes in material objects, what calls for explanation here is *production*, or the coming into existence of new material objects. The principle here, analogous to the principle that

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[9] It is no use resorting to transfinite ordinals to give the chain a first element even while keeping it infinite. Such a chain of movers seems clearly impossible—metaphysically impossible, that is, not logically—and even if that were not so, the same question could be asked of the first member of such a chain as for a finite chain—does *it* move?

nothing moves itself, is that nothing produces itself, and this seems even more obviously true, since, as Thomas puts it, something that produced itself would be, impossibly, prior to itself—both in time, since the producer must precede the product in time, and in the order of explanation, since the existence of the producer is explanatorily prior to that of the product. Just as the explanation of motion calls for something besides the thing moved alone, so the explanation of production calls—even more obviously—for some individual thing besides the product itself. (Thomas takes it as so obvious that something cannot come from nothing that he doesn't even bother to argue for that claim; neither will I.) Hence, for each product, there must be a producer, and such a producer must be prior to the product, both in time and in the order of explanation. As with the chain of movers, a chain of producers cannot be circular—for the same reasons, which are more obvious here, since in a circular chain of producers something would have to exist before it existed and there would be no explanation for the existence of anything in the chain, since no explanation can be circular. Consequently, one is, as before, reduced to either an infinite chain of produced products, or a producer that is not itself a product. This producer that is not itself a product is what Aquinas means by a "first efficient cause". The infinite chain of produced products is impossible for the same reason that an infinite chain of unmoved movers is impossible. Such a chain cannot explain itself, and since it includes everything of explanatory relevance to its existence, it cannot be explained by way of anything outside it, so it cannot be explained at all—and it is not possible for there to be an infinite chain of produced products for the existence of which there is no explanation! The existence of a producer that is not itself a product, or first cause, then follows.

Objections and Replies

There have been many, many analyses of cosmological arguments, most especially of the First and Second Ways, and objections from many quarters. I will make no attempt to survey them all, since my purpose is primarily to show that these arguments are *prima facie* plausible. I will therefore discuss and defeat a few simple objections that I have heard raised at the most elementary level of dialectic on these issues. (I do not say that they are often raised by trained philosophers, although it isn't unheard of even among them.) If someone has more sophisticated objections, they are not dealt with here.

*The Inconsistency Objection***:** The Second Way assumes that everything must have a cause, but then says that there is a first uncaused cause. But that is contradictory—if everything must have a cause, then there cannot be an uncaused cause.

Reply: The Second Way does not assume anything of the sort, as even a marginally intelligent person could discover by reading it. What it does assume, implicitly, is that nothing comes from nothing; every individual thing that comes into existence must be produced by some individual thing—and that is not the same as assuming that every individual thing must be produced by some individual thing. To suppose otherwise is either to fail utterly at understanding the argument, or to beg the question by supposing that every individual thing comes into existence.

The Taxicab Objection: Cosmological arguments are, to use Schopenhauer's phrase, like taxicabs that we summon as needed and dismiss when they have taken us whither we desire. Explanations have to stop somewhere—why not with the realm of moving things rather than in an unmoved mover? Why suppose that an unmoved mover or first efficient cause is any better a place to stop the explanatory regress than moving movers and caused causes? Isn't that arbitrary and *ad hoc*?

Reply: To the last question: No, it isn't! One has to admit an unmoved mover and a first efficient cause for the reason that has been stated; the reason is that there is no alternative—all the conceivable alternatives turn out to be impossible. And the reason that one cannot stop with moving things or caused causes is the same—to do so is to admit the impossible. So in this, as in other things, Schopenhauer was wrong. There is nothing at all arbitrary in insisting on the only possible explanation. Nor can it be supposed that the regress isn't truly ended by admitting an unmoved mover and an uncaused cause, since where there is no explanandum there is no question of an explanation, and what is to be explained is, in the one case, motion, and in the other case, production, which is an explanandum only for moving things and products.

The Agglomerative Explanation Objection: An infinite chain of movers or causes is self-explanatory, since each link in the chain is explained by the others; so it can be admitted.

Reply: Wrong! See above.

The Alternative-to-God Objection: Even granting that there is a first cause and prime mover, this need not be God, nor need these be identical, nor need there be one such being. So the argument fails as a piece of natural theology.

Reply: As to the claim that the first cause and prime mover need not be God: oh, really? Do you have a better candidate? If you do, what is it? If you say "matter", "the universe", or something of that sort, have you examined Aquinas's detailed arguments against those proposals, and those of other philosophers? If so, have you refuted them? And as to the claim that the argument fails as a piece of natural theology because it doesn't prove that there is a God, is there any particular reason Aquinas cannot use "God" as a label for the prime mover and first cause he takes himself to have proven? If your objection is that God, so construed, need not be either one or at all like the God of traditional theism, again: have you examined the arguments of Aquinas (in the *Summa Contra Gentiles*, say) and many other theistic philosophers for the claim that God, so construed, *is* the one God of traditional theism? If so, have you refuted them? If not, your objection is baseless. If on the other hand your complaint is merely that I haven't proven the existence of the traditional theistic God, that is irrelevant, since I didn't set out to do so.

The Quantum Mechanics Objection: These arguments may have been all very well in Aquinas's day, seeing there was no science then. But modern physics—specifically, quantum mechanics—provides counterexamples to the principle that nothing comes from nothing. For instance, in radioactive decay, nuclei change completely by chance, without any cause or explanation, and particles produced in these decay events are also products of chance. Thus some of the premises of these arguments are false.

Reply: That is a more sophisticated objection than many, but it still doesn't work. First of all, even if submicroscopic phenomena can exist without cause or explanation, this doesn't mean that macroscopic phenomena, such as those Aquinas is concerned with, can do so. At the macroscopic level quantum mechanics can be ignored—and is ignored, since we do not, in daily life, suppose that shoes and ships and sealing-wax can pop up out of nowhere, like quantum particles. Even if Aquinas thought his principles held always and everywhere, and was mistaken on this point, it wouldn't follow that the principles do not hold in sufficiently many cases to allow the argument to go through, since a single chain of movers and causes of the sort envisioned by the argument is enough. If on the other hand the

claim is that every chain of movers and causes terminates in chance phenomena, observed quantum-mechanical phenomena, like radioactivity, certainly do not constitute good reasons for supposing *that*. (If you resort to cosmological theories which posit quantum indeterminacy to explain the existence of everything, you are resorting to speculation, not observation.) Secondly, how can you be sure that observed quantum-mechanical phenomena like radioactivity are really without cause or explanation? Do you know for sure that the Copenhagen Interpretation is true? How do you know there isn't a perfectly well-behaved deterministic theory that accounts for it all? To be sure, Bell has proved that such a theory would have to be non-local. But there *are* non-local hidden-variable theories—David Bohm's theory, for instance—that are deterministic. It is therefore insufficient merely to point to observations of radioactivity; you must also make assumptions as to which brand of theoretical physics to accept, and experiment does not decide that. Indeed, this is a major issue in the philosophy of science, and it is exceedingly hasty to just assume the matter is to be settled in your favor. How can you be sure that these phenomena are really counterexamples, then? Third, given that it is a matter of controversy how to interpret quantum phenomena, ought we not to go with our pre-theoretical intuitions so long as the controversy is unsettled? One of those intuitions says that nothing comes from nothing. Why shouldn't we take that intuition seriously, then?

This completes my articulation and defense of Aquinas's First and Second Ways. In view of the apparent strength of these arguments, I suggest that we take them as *prima facie* plausible and currently undefeated. As for the future, who can say?

A FORMULATION OF AQUINAS'S THIRD WAY

Aquinas's Third Way runs as follows:

> The third way is taken from possibility and necessity, and runs thus. We find in nature things that are possible to be and not to be, since they are found to be generated, and to corrupt, and consequently, they are possible to be and not to be. But it is impossible for these always to exist, for that which is possible not to be at some time is not. Therefore, if everything is possible not to be, then at one time there could have been nothing in existence. Now if this were true, even now there would be nothing in existence, because that which does not exist only begins to exist by something already existing. Therefore, if at one time nothing was in existence, it would have been impossible for anything to have begun to exist; and thus even now nothing would be in existence—which is absurd. Therefore, not all beings are merely possible, but there must exist something the existence of which is necessary. But every necessary thing either has its necessity caused by another, or not. Now it is impossible to go on to infinity in necessary things which have their necessity caused by another, as has been already proved in regard to efficient causes. Therefore we cannot but postulate the existence of some being having of itself its own necessity, and not receiving it from another, but rather causing in others their necessity. This all men speak of as God. [S. Th. I Q. 2 Art. 3]

It is thought by many that Aquinas's "possibility and necessity" are not the metaphysical possibility and necessity of contemporary analytic philosophers. It is in fact difficult to see just what sort of possibility and necessity is involved here. Whatever it is, it seems to have something to do with time, coming to be, and ceasing to be. I suggest that one fruitful way to understand the relevant notion of possibility and necessity is in terms of *perishability*. A thing is *perishable* if it might cease to exist; that is,

x is perishable $=_{\text{Df.}}$ possibly, x ceases to exist

where "possibly" is cashed out in possible-worlds semantics and where x ceases to exist $=_{\text{Df.}}$ there are times t_1 and t_2 such that (x exists at t_1) & ($t_1 < t_2$) & (x does not exist at t_2).

and likewise,

x begins to exist $=_{Df.}$ there are times t_1 and t_2 such that (x does not exist at t_1) & ($t_1 < t_2$) & (x exists at t_2).

(To avoid ontological commitment to times, which might prove inconvenient here, we may take the quantifier in this definition, and all quantifiers over times in the argument, as substitutional. Note that "<" means "is earlier than".)

Now suppose that by "possible not to be" Aquinas means "perishable". Then "necessary", i.e. "*not* possible not to be", will mean "imperishable", where a thing is imperishable just in case it is not perishable. Note that perishability is a property of *things*, not of propositions only. Indeed, imperishability is just the same thing as *being essentially such as not to cease to exist*, or *essentially not ceasing to exist*. Perishability, on the other hand, is just the complement of *essentially not ceasing to exist*.

We will also need the notion of *being eternal* and its complement, *being transient*. Let us define the latter notion instead of the former:

x is *transient* $=_{Df.}$ there are times t_1 and t_2 such that (x exists at t_1) & (x does not exist at t_2)

A thing will be *eternal* just in case it is not transient. Note that, on the assumption that < is a connected relation, transience entails either ceasing to exist or beginning to exist. Since it is obvious that < is a connected relation, we will assume this in the sequel. This fact is part of the reason for calling this property "transience", since, in ordinary language, the transient is what comes to be and ceases to be—we take it for granted that whatever ceases to be also comes to be, and, hopes for personal immortality aside, vice versa.

Given this understanding of Aquinas's notion of necessity, necessity as imperishability, we can formulate the Third Way as an argument for the existence of an *intrinsically imperishable being*, that is, a being which is imperishable and depends on nothing external to it for its imperishability, where by "external" we mean something not identical to the imperishable itself, or any part of it, or anything contained in it. I think this way it is