



# P.S.M.L.M.



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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

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**Papers by Saikat Guha**

**Edited and with an Introduction by Timothy Kearns**

## Introduction

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and medieval themes in contemporary questions, and that interest can be seen in many of his more than four hundred unpublished works.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.

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.”<sup>1</sup> 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.”<sup>2</sup> 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 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

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<sup>1</sup> From unpublished email correspondence with Trent Dougherty, January, 28<sup>th</sup>, 2005

<sup>2</sup> From unpublished email correspondence with Trent Dougherty, January, 30<sup>th</sup>, 2005

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.

Timothy Kearns

The Catholic University of America, 2009

# 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.<sup>3</sup> 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

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<sup>3</sup> Aquinas provides other, more elaborate arguments for these premises in the *Summa Contra Gentiles*, which I don't discuss here.

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.<sup>4</sup> 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 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.<sup>5</sup> 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

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<sup>4</sup> 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.

<sup>5</sup> As for those philosophers, I for one have my doubts about their sanity, or at least about their mental health.

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.<sup>6</sup> Aquinas’s First Way is an argument that starts from the 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 red to not being red is capable both of being red and of not being

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<sup>6</sup> 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 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.<sup>7</sup> 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 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

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<sup>7</sup> 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.

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.<sup>8</sup> But in a circular chain of movers this is precisely how the “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*.<sup>9</sup> 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

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<sup>8</sup> 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!”.

<sup>9</sup> 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.

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 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.<sup>10</sup> 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

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<sup>10</sup> 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.

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 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  $\langle A_1, A_2, A_3, \dots \rangle$ ,  $A_n$  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  $\langle R_1, R_2, R_3, \dots \rangle$ ,  $R_n$  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.<sup>11</sup>

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,

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<sup>11</sup> 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?

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 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 =<sub>Df.</sub> possibly,  $x$  ceases to exist

where "possibly" is cashed out in possible-worlds semantics and where

$x$  ceases to exist =<sub>Df.</sub> 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 =<sub>Df.</sub> 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*  $\equiv_{\text{Df.}}$  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 considerably more plausible than many other accounts of the Third Way.<sup>12</sup> Here is how this formulation runs:

Either everything is perishable, or something is imperishable. We will give a *reductio* of the first case. Suppose that everything is perishable. Then, since nothing that is perishable is eternal\*, nothing is eternal. Now, whatever is not eternal is transient, and whatever is transient either begins to exist or ceases to exist. But everything that ceases to exist begins to exist.\* Therefore, whatever is transient begins to exist. It follows that everything begins to exist. If everything begins to exist, then at some time nothing existed.\* Therefore, at some time nothing existed. Now, if at some time nothing had existed, then nothing would begin to exist afterwards.\* But then, it follows that nothing exists now—which is absurd\*. Therefore, something is imperishable. If something is imperishable and nothing is intrinsically imperishable, then there is an infinite chain of imperishable beings dependent on other imperishable beings.\* But there is no such chain.\* So, if something is imperishable, then something is intrinsically imperishable. Therefore, something is intrinsically imperishable.

I have marked the premises here with an asterisk. Here they are:

- a) Nothing that is perishable is eternal.
- b) Everything that ceases to exist begins to exist.
- c) If everything begins to exist, then at some time nothing existed.
- d) If at some time nothing had existed, then nothing would begin to exist afterwards.

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<sup>12</sup> For instance, that of Plantinga in *God, Freedom, and Evil*, Grand Rapids: Eerdmans, 1974.

e) Something does exist now.

f) If something is imperishable and nothing is intrinsically imperishable, then there is an infinite chain of imperishable beings dependent on other imperishable beings.

g) There is no infinite chain of imperishable beings dependent on other imperishable beings.

If these premises are all true, then the conclusion is true, since the argument is valid. Let us now see about the premises. I suppose no sane person denies e); indeed, I have counted it as a premise only because it isn't an analytic truth—or at least not uncontroversially so.<sup>13</sup> Both a) and b) are very plausible, and there is an enormous amount of evidence for them—more so now than in Aquinas's day, since we have discovered a much greater portion of the universe, and every perishable thing we know of is transient, and everything we know of that ceases to exist also begins to exist. If empirical evidence is of any value at all, a) and b) deserve to be believed, and there seems no rational excuse not to believe them. I suggest, therefore, that we grant these premises. As to d), it too is very plausible, for just the reasons Aquinas mentions—whatever comes to be must come to be from *something* pre-existing,<sup>14</sup> so if there is nothing at some time, then nothing can begin to exist afterwards. It might be thought that modern physics provides an exception, in the form of spontaneous generation of particles, in vacuum fluctuations, for instance. But this is a misconception; quantum mechanics provides no exceptions to this rule. Normal quantum-mechanical processes, which obey energy conservation, must obey this rule since energy and mass are inseparable, so that some pre-existing mass is needed. As to exotic processes like vacuum fluctuations, they require a pre-existing quantum field, as well as enough space to form the particles. In any event, spontaneous particle generation belongs at the speculative edge of physics, not in the region of established facts, and therefore does not provide a clear-cut exception to this principle. It is not necessary for Aquinas's argument, incidentally, that it be *impossible* for something to come from nothing—what is required is the much weaker counterfactual claim that *if* at some time nothing had existed, then nothing *would* come to exist afterwards. This requires only that the most similar possible worlds to the actual world in which the antecedent is true—if indeed there are any such worlds—be such that the consequent is also true in them. And this seems indisputable. Let us therefore grant d) as well. The *interesting* premises are the remaining ones, c), f), and g). To these I now turn.

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<sup>13</sup>  $(\exists x)(x = x)$  is a theorem of standard logic, and if we use a temporal logic with a temporal “rule of necessitation”, that is, a rule to the effect that  $\Box P$  follows from any theorem  $P$ , where “ $\Box$ ” means “it is, was, and always will be the case that”, then we will have  $\Box(\exists x)(x = x)$  as a theorem assuming all theorems of standard first-order logic are counted in the temporal logic. However, one might be tempted to formalize a quantified temporal logic free of existential assumptions, as with modal logic, so it is controversial whether this premise is analytic.

<sup>14</sup> Or perhaps something atemporal. But if the cause were atemporal it would be imperishable, and so the point would be gained trivially. Thus I leave this possibility out of account here.

Premise f) is based on the definition of intrinsic imperishability plus certain standard Scholastic principles about causation. If a thing is not intrinsically imperishable, then, by definition, it depends on something external for its imperishability. This dependence has to be causal, since there is no other way one thing could make another imperishable, and if the external thing did not somehow make a dependently imperishable thing imperishable, then the dependent imperishable would not depend on it. Therefore, if there were an imperishable but no intrinsic imperishables, then every imperishable would depend causally on something external to it. Now, in an order of causal dependence it is not possible to go in a circle, since the cause precedes the effect both temporally and explanatorily—in other words, if there were a circle, then something would have to exist before it existed, and certain facts would be explanatorily prior to themselves, both of which are impossible. So there cannot be a circle of dependently imperishable beings. It seems obvious that only an imperishable thing could be the cause of imperishability in another. If A depends on B for imperishability, yet B is not itself imperishable, then it is possible for B to cease to exist. Indeed, it seems obvious that if B is perishable, then it is possible that B cease to exist while A depends on B for imperishability. But if B were to cease to exist, then, since A depends on B for imperishability, A would cease to be imperishable. Therefore, imperishability is not an essential property of A, since in some possible world A loses this property. Therefore, since imperishability is accidental to A, there is a possible world in which A is not imperishable. But then, there is a possible world in which A ceases to exist—which is absurd, since A is by hypothesis imperishable.<sup>15</sup> So only imperishables can cause imperishability in others. This being so, if there are no intrinsic imperishables, then there must be an infinite chain of dependently imperishable things—and this is what f) says. Thus f) seems correct. Now an infinite chain like this is an infinite chain of beings all causally dependent on previous members of the chain. But this Aquinas considers, rightly I think, to be impossible. I have elsewhere argued for the claim that Aquinas is right in ruling out infinite causal chains of the sort that are ruled out in the First and Second Ways.<sup>16</sup> Here I will just assume that if the chains ruled out in the First and Second Ways are impossible, then so is this one. Thus, g) also seems true. Even without the claim that such a chain is impossible, it would seem rational to reject it in favor of the simpler hypothesis of a finite chain of imperishables ending in an intrinsic imperishable. So we should accept f) and g).

The only premise left to consider is the most puzzling one to most—the claim that if everything begins to exist, then at some time nothing existed. On the face of it you might think—as I myself did for quite a while—that there is no reason why there couldn't have always been an eternal succession of perishables, always coming and going, but with no time unoccupied by at least one. Such a possibility, however, is ruled

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<sup>15</sup> As always, this assumes that the accessibility relation between possible worlds is an equivalence relation.

<sup>16</sup> In "An Interpretation of Aquinas's First and Second Ways", reproduced above, p. 7.

out on Aquinas's principles because it would require an infinite causal chain. The reason is that, as Aquinas takes for granted, nothing comes from nothing. So, if a thing begins to exist, it must come from something pre-existing. So if everything begins to exist, then everything must have a pre-existing cause. That means an infinite chain of the kind Aquinas rules out in the Second Way. (I have defended the Second Way elsewhere; the interested reader may look to that defense. Here I will take it for granted.) Consequently, he can rule out the possibility of the "always perishables coming and going" scenario. But if we rule that out, then there have not always been perishables. Now, we are supposing in the Third Way's *reductio* that there are no imperishables. So, there have never been any, since if there had been they would still exist, being imperishable. There seem, then, to be only two possibilities. Either time itself had a beginning, that is, time doesn't stretch back infinitely in the past, or before some time nothing existed. For if time is infinite in the past and perishables have not always been around *and* there are no imperishables, then obviously before some time there was nothing at all. If on the other hand time had a beginning, then there can only have been finitely long causal chains of perishables, at least assuming that there are only finitely many perishables at each stage in a causal chain and that each stage takes up a period of time greater than zero. But this contradicts the principle that nothing comes from nothing, that is, that whatever begins to exist has a pre-existing cause, since if there are finite causal chains of perishables stretching into the past and there have never been anything but perishables, then in each such chain there will be a first perishable in that chain, a thing that began to exist but was caused by *nothing*. And that, on Aquinas' principles, is impossible. This scenario, therefore, seems equally untenable. So, if everything begins to exist, and there are no imperishables, it seems like there has to be a time at which nothing whatever exists—and that is c).

Thus there seem to be good reasons to accept all the premises of the Third Way, so interpreted. These reasons are not conclusive, as mathematical proofs are; rather, they rely, as do all philosophical arguments, on a distinctive framework of metaphysical and other philosophical assumptions. The framework in question here, however, seems eminently defensible, since it was adopted by the Scholastics almost universally, and this includes many philosophers of undoubted genius. This means, to my mind at least, that the Third Way is *prima facie* justified, and plausible. If there is something wrong with it, it is not obvious what it is.

## From Self-Existence to Absolute Perfection

This is an interpretation (and modification) of Aquinas's account of God's absolute perfection.

Suppose that, by cosmological arguments, we have shown that there is a first efficient cause that exists necessarily and does not derive its existence from anything external to it. Let us say that this First Cause is "self-existent", to avoid repeating the phrase "exists necessarily and does not derive its existence from anything external to it".

Everything else we know of derives its existence from something else. In contemporary terms we construe this in terms of explanatory relations among facts: the fact that this exists is explained partly by facts about other things. But in the medieval philosophical framework, one would take this talk of deriving existence more literally. And to understand this we must understand something of their notion of existing.

On the medieval view, each substance has an *esse*, or "act of being", which is simply that thing's *being there* or existing. To get on familiar terms with this notion, let us consider the *esse* of an individual man. In speaking of a man's existence, we speak of his *esse*, though nowadays we are more apt to speak of his "life". This is an event, which begins when the man comes into existence and continues from then on, moving from one place to another as the man moves, and ending if the man ceases to exist. It is called his life because it is what his *being alive* or *living* consists in; likewise it is called his existence because it is what his *being there* or *existing* consists in. But it is not the man himself; one's life or existence is not identical with oneself, nor with one's essence. For one's *esse* includes all those accidents that individuate *this* existence, *this* life, from all the others one *might have had* as well as those possessed by other people, whereas these are not included in one's essence. For the same reason, one is distinct from one's existence, for one might have existed differently—that is, one might have had a different existence.

What about one's *esse*? Does *it* exist? Surely the answer is yes. Just as an accident like a whiteness has itself what it gives to its subject—namely, whiteness—so one's existence has what it gives to its subject—namely, existence. But this does not mean that one's existence has another existence by which *it* exists, just as one's whiteness does not have another whiteness by which *it* is white. But also, one cannot suppose that one's existence is *its* own existence, in the same way that it is one's own existence. That is, one cannot suppose that one's existence stands to itself in that very relation in which it stands to oneself. For the relation in which one's existence stands to oneself is contingent, because one can have a different existence, and indeed one can lose existence just as one can gain it. Thus one is separable from one's existence; but one's existence is not separable from itself. It would be better to say that, as an existence, one's existence does not stand in need of something to be *its* existence. For essence, existence, matter, and accidents must all be posited because of the individual substance's ability to survive change and to have different histories. And they must be distinguished from each other and from the substance because of their separability. Thus accidents are separable in time, since they can be acquired and lost by the same

substance, without change in essence. Again, matter can be gained and lost by a substance without change of essence, and there may be change of accidents without change of matter or vice versa. Existence and essence must be distinguished because of a substance's capacity for different existences, whereas the substance has no such capacity for different essences. (For the essence is the principle of persistence, and thereby the principle of unity.) Existence and accidents must be distinguished since a substance has many accidents but only one existence. Finally, essence and substance must be distinguished because of the additional constituents of a substance, such as matter and its accidents, which are added to the essence to individuate the substance. So these different things in the substance are posited on account of the substance's ability to survive change and its ability to have different histories. But no such posits need be made for these various things themselves. Thus there is no need to posit an essence for the essence, or accidents for each accident, or matter for the matter, or finally an existence for the existence.

Nonetheless, as one has one's being contingently and not by necessity, and as it is derived from other things, one's existence is not self-existent. For it is derived, and thus would not be unless something else existed. And it might not have been at all. One's existence derives from the existence and causal activity of other substances—one's parents, for instance. So, just as heat is transmitted from the thing heating to the thing heated, so existence is transmitted from the thing which gives existence to the thing which receives it. The heat of a heated thing is of course not the heat of the thing which heats it; for if it were, it would not be the heat of the heated thing, since a form cannot belong simultaneously to two substances. (For just as substance is individuated by form, so form is individual to its substance; otherwise it could not individuate it.) Nonetheless it *derives from* the heat of the heating thing. The heat in the heated thing comes into existence when that thing is heated; until then it did not exist, though in a sense it pre-existed, potentially, in the heat of the heating thing. And so it is with the existence of a thing; before it exists, its existence does not exist either, though it pre-exists, potentially, in its efficient cause. On the other hand, the thing heated exists before it becomes hot, and this is the key difference between the reception of existence and of some accident such as heat. For what receives existence does not exist until it has received existence. This might seem to pose a paradox. For if it does not exist before it receives existence, how can it receive existence? Or what is it that receives? Heating is possible, clearly, only because something is available prior to heating that can serve as the recipient of heat. What, then, is the recipient of existence when existence is being received, but before it has been received? (As when a thing is being made, or when an animal is being formed in the womb.)

It might be thought that the existence is received by the matter being formed, which exists before the thing which is being brought into existence. But this is impossible, for at least two reasons. First, it is not matter that is brought into existence by forming matter, but a new substance. And since the existence received is received by that which is brought into existence, it cannot be the matter that receives it. For what receives the existence thereby begins to exist after not existing, which is not true of the matter. Secondly, each bit of matter must itself receive existence, for each bit of matter is itself

contingent, and moreover it seems probable that matter was brought into existence at the beginning of the material universe, and it may be that matter has been destroyed or created since. And in case of the coming-to-be of matter, one cannot posit further matter as the recipient of existence, for it is absurd to say that matter is made of yet other matter, and that of yet other matter, and so on to infinity. So this account is inadequate.

One must hold, rather, that the essence of the substance actualized is available beforehand to receive being. It is by the actualization of its essence that the substance itself comes to be. For the existence of a thing follows upon the existence of its essence. (And thus it has the same existence as its essence, though it is not its essence.) The thing itself is not, indeed, available, for prior to its creation it is not individuated. If a couple is trying to have a child, for instance, it is senseless to ask beforehand "Which child are you trying to have?". All that can be said is that they are trying to have *a child*, that is, some individual human being. It is only when humanity is actualized in some particular bit of matter and the individuating accidents are added that the child can be identified and distinguished from all other human beings. And to do this is to bring into existence a certain human essence, an essence of a human being, together with the matter and accidents that individuate that human being at that place and time. Likewise in the case of a craftsman, no sense can be made before his artifact is produced of the question, "Which object are you trying to make?", unless this were a clumsy way of asking, "What *kind* of object are you trying to make?". It is only when that kind of object is actualized in some particular bit of matter and the individuating accidents added that it can be identified and distinguished from everything else. But the essence pre-exists, either formally, as humanity pre-exists in the parents of the child, or eminently, as the concept of a certain kind of object pre-exists in the mind of the craftsman.

Perhaps a substance might also pre-exist in this way, if its individuating characteristics were completely pre-determined in the efficient cause. However we do not find this to be the case in nature, nor indeed in art. It is another question whether all things are thus pre-determined in the divine intellect which is their first efficient cause. But at present we see no evidence of this. We may also say that the substance pre-exists in the pre-existence of its essence. But it is only by its essence that it pre-exists, and so it is better to say that the existence is received by the preexisting essence.

So each contingent and dependent substance derives its existence from other things. But we have established, so we suppose, a First Cause which does not thus derive existence. And its existence is not contingent, but necessary. Let us inquire into the properties (in the logical sense) of this First Cause. And as in our experience every efficient cause is a substance, we shall proceed at first on the assumption that the First Cause is also a substance. (We shall later see that this assumption is not literally correct. But for the moment it will help the weakness of our minds, unaccustomed to contemplating the highest things.)

And first we may note that this substance cannot have any matter in it; it must be entirely immaterial. This can be shown in at least three ways. First, matter and the material universe are contingent. There might not have been any matter at all. But

whatever is material is necessarily material (if it exists at all). It follows that what is immaterial is necessarily immaterial, if it exists, and so a necessarily existing thing is also necessarily immaterial. Second, every material substance depends for existence on the forming of its matter; otherwise it would not exist even if its matter did. And that matter must be formed by some efficient cause. So every material thing depends on some external cause for existence, which cannot be said of something self-existent. (These points hold true whether or not the substance comes into existence after not existing.) Third, every material substance is corruptible. For it is a composite of matter and form, and just as the addition of its form to matter generates it, so the removal of this form from the matter destroys it. As the form can be added to the matter, so it can be removed from it. It may be objected that perhaps a material object could exist forever, without ever coming into existence or ceasing to exist. But even so it is *possible* for the matter to exist without the form, since the matter, as such, is in potentiality to many different forms, each of which it is equally capable of assuming. And thus it is at least possible for the substance not to exist, with some other substance or perhaps unformed matter in its place. (I say “unformed”, meaning, “without a single substantial form structuring it throughout”, not absolutely formless, like prime or ultimate matter. Obviously absolutely formless matter cannot exist.)

So the First Cause is immaterial. As such, it cannot have any *material* accidents, such as shape, size, color, texture, and the like. But can it have other accidents, immaterial accidents? If it does, then its existence is distinct both from itself and from its essence, just as in a man (and for similar reasons). But, if the existence is distinct from the essence, then the existence is something added on to the essence, just as in a man. Then it seems we must suppose that the existence is received from some external agent. For, though the particular individuating accidents possessed by some substance need not be possessed by it, still it is hard to see how a substance with individuating accidents could exist without possessing any such accidents at all. Having *these* accidents may be optional, but having *some* accidents would seem to be obligatory if you have any accidents at all. Though accidents may be gained and lost, it would seem that they can be gained and lost only in favor of other accidents. For though it doesn't matter to the thing's existence *which* accidents individuate it, still it must be individuated *somehow*, by *some* accidents, in order to exist as an individual at all. This being so, a thing with accidents cannot exist without any accidents. Thus, if a thing *has* accidents, every possible existence for that thing will include some accidents. Therefore so will whichever existence this thing actually has. Now these accidents cannot be derived from the essence of that thing alone, for what flows from the essence alone is essential, not accidental. Consequently, if this substance has accidents, its existence cannot derive from its essence. If not from its essence, the existence can derive only from something external, for, taking away the essence and accidents, nothing else remains in the substance to serve as an agent. But by hypothesis the First Cause is self-existent. The conclusion to be drawn is that the First Cause has no accidents, so it is not individuated by accidents.

This can be seen in another way. The existence of a thing is determined by its essence and whatever individuates it from other things (if any) with the same essence. For if A

and B have the same essence and the same individuating marks (whatever these may be), then A is numerically identical to B, since there is nothing to individuate A from B. And since they are the same thing, “they” have the same existence. Now whatever gives existence to a thing also individuates it, for to *be* this thing is the same as to be *this* thing. (So that, as they are the same, they cannot have different origins.) Therefore, whatever gives a thing existence also gives the thing its individual existence (*esse*). By definition, a self-existent thing gets existence only from itself, and not at all from anything else. Therefore a self-existent thing also gets its individual existence (*esse*) from itself, and not at all from anything else. Therefore, its individual existence is fixed and essential. For it is fixed and essential to each thing, whatever it be, that it is *that* thing, and not some other. (I do not mean, of course, that what a thing is like is, in general, fixed and essential, since things generally change in various ways. But in all such changes, it remains the case that the thing is *that* individual, since otherwise it would not persist through the change. And that is what I mean to call “fixed and essential”.) Therefore, the individual existence of a self-existent thing cannot include any accidents, since inasmuch as it includes accidents it is not fixed and essential.

So we are left with the substance, its essence, and its existence. But as there is no individuating matter or accidents and there cannot be any, there is no distinction to be made between essence and existence, except perhaps a purely conceptual or logical distinction—no real distinction. We must conclude, then, that the essence and the existence of the First Cause are identical. Again, since there is no matter to divide substance from essence, these two must be identified: the First Cause is identical to its essence. It follows by the transitivity of identity that the First Cause is its own essence and being, or that being, essence, and substance are in this case one and the same thing. The First Cause is absolutely simple; it has no parts or constituents of any kind.

Because the First Cause is absolutely simple, it has no unrealized passive potential—no potential to gain or lose any form, and thus no capacity to gain or lose perfection (actuality). If it could gain perfection, then it would be possible for it to have some actuality (form) which it in fact lacks. This form cannot be its essence, for it has its essence. Neither can it be an accident, since it cannot receive accidents. And as all forms are either accidental or essential, this shows that there cannot be any such form. For the same reason, the First Cause cannot in any way be diminished or corrupted, for this would imply the loss of form, and only accidental forms can be lost. It follows from this that the First Cause has the highest degree of perfection or actuality that it can possibly have, since any variation in form is impossible. Therefore, any degree of perfection that the First Cause is *capable* of having, it *actually has*. Another way to see the same point is that, as the First Cause is its own existence, and the First Cause is one thing, it has but one possible existence, which is the existence that it actually has. And thus its degree of perfection is invariable.

Another point to note is that the First Cause exists outside time. Obviously it does not have a finite duration, for a self-existent thing can neither begin to be, nor cease to be. And since it is simple, its existence cannot be divided into temporal parts, so that it cannot have an infinite duration either. Therefore it exists outside time. As it is impossible to exist in space without existing in time, the First Cause exists outside both

time and space. That it exists outside space is shown also by its immateriality. This point has a subtlety, however. From the mere fact that a substance is immaterial, it cannot be inferred that it is not in space. For an immaterial substance may be the substantial form of a material substance, as the human soul is of the body. Or if we deny the soul the name “substance” on the grounds that it does not of itself possess a complete specific nature (for it is the individual man who belongs to the species *man*, not his soul) then the inference requires that the First Cause have a complete specific nature. Actually, as we will show, the First Cause does not belong to any species, and it is not literally speaking a substance, for it falls outside every genus. However it is still true that an immaterial substance that is by necessity separate from all matter must be outside space. For matter is the ultimate principle of spatial location and extension. (This may, indeed, be used as a definition of matter.) A form has spatial location, if at all, only by its association with matter. For this argument we require, then, a proof that the First Cause is necessarily separate from all matter. This is shown, indeed, by the fact that the First Cause is necessarily outside time, and thus outside space; for that which is outside space and time cannot be a form in matter. But in this proof the aspatiality of the First Cause is shown before its separateness from matter, so it would be clumsy to use it to deduce the aspatiality from the separateness and thus reach the same conclusion in one argument twice over.

Although the First Cause is outside space and time, its effects are not. Indeed, its effects are present everywhere, since it is the ultimate actualizing principle of all contingent things. We have not shown these facts in this treatise, but have presumed them in the prior cosmological argument. In a sense the First Cause is present everywhere, not as existing in space but as having effects which exist in space. And this is the doctrine of divine omnipresence.

Now we have characterized the First Cause simply as being a self-existent first efficient cause. Therefore, if such a cause exists, then it has the highest degree of perfection compatible with being a self-existent first efficient cause. But clearly there is no incompatibility between being self-existent and a first efficient cause and having even the highest degree of perfection possible for any substance. Consequently we may conclude that the First Cause has this degree of perfection; which is to say, the First Cause is absolutely perfect.

Against this it might be said, however, that there seems to be no impossibility in the First Cause having some lesser degree of perfection, and so for all we know it has that lesser degree. To answer this objection, let us first review the course of our reasoning. From the self-existence of the First Cause we have deduced its absolute simplicity, and from its simplicity we have deduced that its degree of perfection is invariable, and from this together with the compatibility of being First Cause and self-existent and the highest perfection, we have inferred that the First Cause has the highest perfection. Since we have deduced simplicity and the consequent invariability from self-existence only, we may infer that *if* self-existence is compatible with maximal perfection, then there is actually a self-existent and maximally perfect being. Now the adversary does not deny that self-existence is compatible with maximal perfection; he only maintains that apparently self-existence is also compatible with less-than-maximal perfection. So

even if we provisionally grant him that lesser degrees of perfection are compatible with self-existence, we will not be forced to admit that for all we know there is no maximally perfect self-existent being. Rather we shall have to say that there may, for all we know, be *many* self-existent beings, each with a different degree of perfection. Indeed, for *every* degree of perfection possible in a self-existent being, it is certain that there is a self-existent being which necessarily has that degree of perfection. Since maximal perfection is evidently one of these possible degrees, there is a maximally perfect self-existent being. Thus our conclusion that there is an absolutely perfect self-existent being is not impaired. But we wish to show also that there is exactly one such being, that it is the only self-existent being, and that it is the First Cause.

As a preliminary point, let us note that there cannot be two self-existent things with the same manner of existence—that is, two self-existent things that are exactly alike intrinsically. Among material things this is possible, for two things with the same manner of existence—perfect duplicates of each other—can nonetheless be individuated by matter, which contracts its existence into a particular place and time. (For where the matter of the substance is, there is its existence.) Again, perfect duplication may be possible even among immaterial things if they are ordered in time. For it might be that an immaterial thing is created at a certain time and later annihilated, and then a second thing that is the duplicate of the first is created and annihilated. But we have shown that the self-existent is immaterial and outside time and space. And there seems to be no way for there to be perfect duplicates that are not distinguished either by matter or by spatial or temporal relations. So if anything individuates self-existent beings, it will be their manner of existence. Moreover, since the self-existent is simple, its manner of existence is essential to it. (Since the existence is the essence.) Therefore there cannot be two self-existent things with accidentally different manners of existence.

But can we rule out several self-existent beings with different essential manners of existence? If there are such things, they must belong to different species, since things in the same species have the same essence. Moreover they all belong to one genus, self-existence. We must therefore consider whether this is possible: that there are several different species of self-existent things in the one genus of the self-existent. And to help us in this consideration, let us consider specific differentiation in the material substances with which we are familiar. For instance, man as a rational animal agrees with horses in animality and differs from them in rationality. Rationality is what in man is added to animality to render him a rational animal. As there may be other rational animals, however, this does not suffice to specify man completely. But the pattern is that to genus *G* we add specifying differences  $D_1, D_2, \dots$  until we have the infima species, that is the smallest natural kind to which the substance belongs. (Further individuation comes from matter and accidents, not specific differences.)

Now first we must consider whether this composition of genus and differences is real or merely logical. It seems natural to say that the essence in the first place makes a substance belong to the infima species, and secondarily, by abstraction, to the various larger genera in which it belongs. So the phrase “rational animal”, unlike the phrase “winged animal” or “white man”, signifies no composition in the substance, but one simple form considered at two levels of abstraction, the rational animal and the animal.

A thing that is composite and yet indivisible seems absurd. So if the essence itself were composite, it would be corruptible, as its different parts might be separated. But obviously it is absurd to think of separating a man's animality from his rationality so as to have animality or rationality by itself as a form. Neither is it possible that rationality be replaced by something else, since specific differences are essential to whatever has them. (I am assuming for the sake of illustration that rationality is a specific difference, but for present purposes nothing hangs on this choice of example.) So the composition of genus and difference is not real, but only logical. This is clearly shown by the example of a particular hue or shade of color in relation to less specific colors. For they all belong to the genus *color*, and next to some species like *red*, *blue* and the like, and next to yet narrower species like *scarlet*, *azure*, and the like, and so on until the particular shade is reached. Yet in the object itself is only that particular shade, not a form of color and then another of blue and then another of azure, for instance. (Nothing can have a blue color that isn't any particular shade of blue.) Rather that one shade is the basis for that thing's being azure, blue, and colored, these properties (in the logical sense of the word) being abstracted from the specific shade. So the essence itself is simple rather than composite, primarily of the infima species, and of the genres only secondarily, by abstraction. And if there are several species of self-existent beings, then this holds for their essences also.

Nonetheless, both the similarities and the differences between different species in a genus are real, in the sense of being objective. The differences are not merely mental distinctions, like that between Mark Twain and Samuel Clemens, nor are the similarities merely from subjective association or metaphors, like that between fire and anger or between the Moonlight Sonata and moonlight. Horses and humans, for instance, are objectively similar in some ways (as animals), and different in others (as two species of animals). It is precisely this which might tempt one to divide and subdivide the essence-in-re, giving it one part for the genus and another for each specific difference. The differences and similarities are in the potentials possessed by the relevant things. Humans, on account of their humanity, have potentials (capacities or potentialities) that horses lack. When a human being comes into existence, the form of humanity actualizes in a particular bit of matter certain distinctively human capacities, such as the capacity to speak or laugh at jokes. (I do not mean, of course, that a human embryo has these *abilities*. I just mean that the human embryo can develop into something with those abilities, whereas a horse-embryo cannot. And I mean "distinctively" relative to horses and such, for I don't wish to rule out, for instance, extraterrestrial animals that can speak or laugh.) In the coming-to-be of a horse, on the other hand, distinctively equine capacities are realized, such as having four legs of a characteristic shape and size and a certain accompanying gait. The same bit of matter can equally well constitute a human embryo or a horse embryo; both human and equine potentialities are latent in it, but these potentialities are actualized by the substantial form (whether of a horse or of a man) which is the essence of whatever substance is created from that bit of matter. This is a first actualization only; a second actualization occurs when the embryo develops into the adult with the relevant powers, and yet a third actualization occurs when the relevant power (ability) is used—when, say, a man speaks or a horse runs. These acts,

however, are accidental forms, whereas the first actualization is the essence or substantial form itself. For the first actualization of any substance is its actualization *as substance*, prior to which it does not exist. (I mean that it does not exist at all, not merely that it does not exist in some respect—as an adult, for instance, or as someone with his own personality.) Everything, therefore, which is actualized in that first actualization is actualized by the substantial form. And this includes the potentials actualized by each accidental form. Some of these potentials may go unrealized for a time, while others are realized by individuating accidents (shape and size, for instance) from the moment the substance begins to exist. But all of them are subsequent to the first actualization of the substance as substance, because this first actualization is what primarily brings the substance into existence and (thereby) makes every other actualization possible.

It follows from this that specific differences within a genus are possible only among things which can have accidents. For a specific difference just amounts to having certain distinctive accidental potentials particular to the relevant species. (By an accidental potential, I mean a potentiality to gain or lose some accident. The potential itself may be essential, not accidental, as it will be if it is occasioned by the essence as a specific difference.) If a thing cannot have any such potentials, then it cannot have the specific difference in question. If it cannot have any accidents, then it cannot have any accidental potential. Therefore, if a thing cannot have any accidents, it cannot possess any specific differences. Consequently, there cannot be several different species of things within a single genus unless each of those things can receive accidents. Now we have already shown that a self-existent thing cannot have accidents. Therefore there cannot be several species of self-existent things within a single genus. But if there were several self-existent things, they would all belong in the genus of the self-existent. Therefore there cannot be several species of self-existent things, period.

Another argument to the same effect is based on classification. When we classify things into different species, we do so at first based on the outward appearance. This is a sound procedure because the appearance is restricted in some measure by the species of the thing. It is not, indeed, the case that any particular appearance is dictated by the species, for this would ignore the individuating accidents. Nonetheless, the species does restrict the *kind* of accidents a thing can have. A man and a horse cannot be perfect duplicates, even in regard to accidental attributes. Provided, then, that the outward appearance correctly indicates the accidents of the thing in question, we can reliably classify the thing according to the appearance. Of course, deception and error on this point is possible; my point is that when there is no such error or deception about the accidents, the species can be determined from them. If on the other hand we have two things with no accidents, it is impossible to assign them to different species. And this is not impossible because of any lack of knowledge; for if we know all that there is to know about what accidents a thing has, there can be nothing lacking to discover the species. Of course, since an absolutely simple being is immaterial and exists outside time or space, it cannot be directly perceived by the senses. It can be known, if at all, only by some other means. Nonetheless, the point holds: *if* one knows everything about a thing's accidents, then nothing is lacking in one's knowledge to fix the species. In the

case of a self-existent being, there is nothing to know on this score. And so there is no such distinction of species.

By these arguments we see, then, that there cannot be several species of self-existent things. In the foregoing, we have assumed that the self-existent is a genus. If this is true, then our conclusion is gained, that there is but one self-existent being. For we have systematically eliminated every individuating distinction within a genus: first accidental distinctions due to matter and accidents, then essential distinctions due to specific differences within a genus. In fact, our conclusion is gained as long as there is some genus to which the self-existent belongs. This assumption follows from the assumption that the self-existent belongs in some ontological category, since each category is a genus. Now it is easy to see that *if* the self-existent belongs in any category at all, it belongs in the category of substance. Certainly it does not belong in the category of matter, for it is immaterial. Neither does it belong in the category or categories of form (I mean forms that are not themselves substances). It cannot be an accident, first of all, since it exists through itself, and it cannot be an essence of some substance distinct from itself, since this requires some material principle (some kind of matter) to distinguish the substance from the essence. But as matter itself is contingent, so are all essences in matter, even if they can exist apart from matter. For if there had been no matter, neither would there have been any essences of material things, since those things would not have existed. Since every form is either essential or accidental, this shows that the self-existent cannot belong in the categories of form. Matter and form exhaust the categories outside of substance. Therefore if the self-existent belongs in any category, it is in the category of substance.

But since, in the self-existent, there is nothing but that self-existent thing (for it is simple), there are none of the distinctions present in a substance, even between the substance and its very being. Therefore, if we admit the self-existent into the category of substance, then several categorical distinctions collapse. For since the *esse* of a substance is an event rather than a substance, this collapses the distinction of substance and event. And since the essence of a substance is form rather than substance, this collapses the distinction of substance and form. And further, since the essence is contrasted with the *esse* as a nature or attribute contrasted with an event, this collapses the distinction of attribute and event. I say “collapse”, rather than “overlap”, because two categories cannot overlap; for a category is a genus of widest possible scope, and one genus cannot overlap another even within a larger genus. (The whole point of genus and species, after all, is to classify things into different kinds.) Much less then can there be overlap between two genres when neither is included in any genus, and so there is no genus common to them both. Obviously, however, events and attributes and substances are not all in the same category. Obviously a man’s humanity and his life are things in different categories from the man himself. Therefore we cannot admit the self-existent even into the category of substance, though it resembles substances in existing in its own right, that is, in the fullest and primary sense of existence. (According to the analogy of being, wherein whatever is not a substance exists in a sense secondary to the sense in which substances exist, and not in their own right but through substances.)

It follows, then, that the self-existent is outside every genus, even the genus of substance. It is so unique that it is not any kind of thing at all—not even the self-existent kind, for according to our reasoning “self-existent” does not express a kind of thing. (Though it expresses a property, in the logical sense—namely, self-existence.) But while it does not belong even to substance, it seems to have the greatest affinity with substance, because it exists in its own right as substances do. Indeed, the only distinction is that substances are composite at least in regard to essence and existence, whereas the self-existent is not. So we see that our assumption that the First Cause is a substance, though wrong, was not entirely wrong. We should have said, rather, that the First Cause exists in its own right, just as substances do. At that time, however, it might have seemed frivolous or even unintelligible to distinguish this notion from substance. Now we see why the distinction is needed. Accordingly, our inaccurate assumption can now be fixed. If we do fix it, we find that all our arguments go through just as before, now with literal truth.

After much labor, then, by the grace and loving-kindness of the Lord, Whom we are trying to approach as well as the weakness of our natural reason permits, we have reached the conclusion that there cannot be several self-existent things. This being so, the objection of the many self-existent beings is solved. We can now identify the First Cause with *the* self-existent being. Furthermore, by our original premise that maximal perfection is compatible with self-existence, we reach the conclusion that the First Cause has maximal perfection.

However, the adversary can reformulate his objection to meet our new conclusion. For he may ask why we may not as well suppose that less-than-maximal perfection is compatible with self-existence. Though he can no longer produce the specter of many self-existent beings in actuality, he can produce the specter of many epistemic possibilities for a self-existent being, one for every degree of perfection that is epistemically possible to be realized in such a being.

To defeat this objection, we shall show that the First Cause has maximal perfection in a more direct way. To this end, we may note first that maximal perfection is the highest degree of perfection possible for anything. Therefore, if the First Cause does not have maximal perfection, then it is possible that something else has a higher degree of perfection than that (actually) possessed by the First Cause. Since the First Cause’s perfection is essential to it, moreover, it follows that it is possible that something exceeds the perfection of the First Cause. Since (as we have shown) there neither is nor can possibly be anything that exists necessarily other than the First Cause, it follows that it is possible that some contingent thing exceeds the perfection of the First Cause. However, it is a necessary truth (as shown by cosmological reasoning) that contingent beings derive their actuality ultimately from the First Cause. There cannot then be a greater perfection in any contingent thing than in the First Cause, since the effect cannot be more actual than the cause. This contradicts the assumption that the First Cause does not have maximal perfection, so that assumption is false. Another argument to the same effect is this. A thing that is not at all imperfect has greater perfection than a thing which is somewhat imperfect. Suppose then that some contingent thing exceeds the perfection of the First Cause. If so, it must be a contingent substance, for things in other

categories do not even exist in the fullest sense, and cannot compare in actuality to things that exist in the fullest sense. Now every contingent substance has some accidental potential; for if not, the substance must be absolutely simple, which is true only of the First Cause (for as we have shown, there cannot be two or more absolutely simple things). But in anything with accidental potential, not every accident can be realized at once; some accidental potential must be realized and some left unrealized. Thus for instance a piece of matter that has the potential to assume many different shapes cannot assume more than one such shape simultaneously—it cannot be, for instance, at once a cube and a sphere. Now insofar as some potential of a thing is left undeveloped, that thing is to that extent not actualized, and so imperfect. Therefore every contingent substance is somewhat imperfect. But the First Cause has the highest perfection of which it is capable and lacks all undeveloped passive potential, as we have shown, and is thus not at all imperfect. So the First Cause has a greater perfection than this contingent substance which was supposed to have a greater perfection than the First Cause, which is impossible. So the First Cause has a perfection which no contingent thing can excel; indeed, our arguments show that the First Cause has a perfection *greater* than what any contingent thing can attain. And this means that the First Cause has the highest degree of perfection possible for anything, that is, maximal perfection. We may notice that this line of argument made essential use of the uniqueness result and other results already established, so that our prior reasoning has been useful for this last proof. And to this end I proposed these objections and solved them in this manner.

We have at last attained the fruit of our labors: we have proved in detail that the self-existent First Cause is maximally perfect. If these arguments have been in any way defective or badly expressed, it is the author's deficiency; whatever truth and potency is in them comes down to that author from the Lord above, who is that First Cause whereof we have treated, for as we know, whatever is actual or perfect in things comes ultimately from that source alone. To Him, the Almighty God, may there be all glory and honor, now and forever. Amen.

## A Classical Model of the Blessed Trinity

This model is “classical” in the sense that it employs classical logic *and* classical semantics. It may be formalized as a (consistent) first-order theory in classical FOL with identity, straight up, with no hedging. Yet, I think it adequately captures both the oneness of the Lord and the “threeness” of His persons.

## The Local Model of the Blessed Trinity

The basic idea of this model may be roughly stated thus: the three divine Persons are *loci* of the divine Being. God exists in three *loci*, or “places”. The Father is the first locus of the divine existence; the Son is the second locus, begotten from the first, and the Holy Spirit is the third locus, proceeding from the first two. It is, however, doctrinally problematic to take this initial description in an ontologically serious way, for we want to say that the Father *is* God, not just “The Father is a locus of God”. We will see below how to dispense with any ontological commitment to the “*loci*”. Our way of doing so will be like a relational way of dispensing with places or times, but much easier since we have but three “places” with which to dispense.

More exactly, then, we posit that God does not, in general, exemplify properties or stand in relations absolutely or *simpliciter*, but only relatively or *secundum quid*. There are three ways in which God can exemplify a property: as Father, as Son, and as Holy Spirit. (For relations, things become more complicated, as we shall see.) We will indicate the three manners of exemplification with numerical subscripts on the predicate, typically on the copula (corresponding to the first, second, and third Persons of the Blessed Trinity). This is formally analogous to the way a three-dimensionalist thinks about exemplification of properties and relations by persisting things. Suppose that *being fat* and *being thin* are intrinsic and incompatible properties of a thing, and that I was thin ten years ago and am fat today. On the three-dimensionalist view, there is just one thing (me) that has, as a whole (not just in part), both of the properties *being fat* and *being thin*. However, I do not have those properties absolutely, or *simpliciter*, but only relative to times. There are, thus, different ways in which I can have the properties *being fat* and *being thin*—as of ten years ago, as of today, and as of innumerable other times. Equivalently, there are innumerable many different times *at which* I can have properties like this. In general, a persisting thing does not have properties or stand in relations absolutely, but only relative to times. The three-dimensionalist may insist that this does not mean *being fat* and *being thin* are *not* intrinsic properties; it’s just that properties, whether intrinsic or relational, can be had in numerous different “time-indexed” ways. However, the three-dimensionalist can admit a distinction between *absolutely* intrinsic properties—those intrinsic properties that are had by a thing either in *all* the “time-indexed” ways in which it can have a property, or (what comes to the same thing) are not had in a time-indexed way at all, but had absolutely or tenselessly—and *relatively* intrinsic properties, meaning those intrinsic properties that are had by a thing only in *some* (but not all) “time-indexed” ways.

So it is for us, except that where the three-dimensionalist relativizes to *times*, we relativize, roughly speaking, to the three divine Persons. But only roughly speaking: since there are only three Persons, we can dispense with talk of relativizing *to* the Persons, as if they were really distinct from the divine Being (as a time is distinct from its occupants), and treat the relativization with subscripts corresponding to the Persons or with adverbial phrases. (Including adverbial quantifiers.) Or we can retain the loci as entities while carefully distinguishing them from the divine Persons, even though each one, in a way, “corresponds” with a divine Person.

We now come to the matter of relations, where combinatorial complications abound. A relation is directional. The order in which it relates things that stand in the relation is the order of the objects in the relevant finite sequence. When there are different manners of exemplification, however, each object, in a given order, can stand in the relation (in that order) in any one of the manners of exemplification. (The manners of exemplification apply to *each term* of the relation in respect of the relation, not merely to the relevant sequence in respect of the relation.) Suppose, for the simplest (nontrivial) case, that there are two manners of exemplification, call them ways 1 and 2. Then, for a dyadic relation *R*, there are four ways in which  $\langle a, b \rangle$  can exemplify *R*: with *a* standing in way 1 and *b* in way 1, with *a* standing in way 2 and *b* in way 1, with *a* standing in 1 and *b* in 2, and with *a* standing in 2 and *b* in 2. Thus, for example, suppose that *a* is me and *b* is my friend Tim, suppose the relation is *being to the left of*, and suppose that the two manners of exemplification are past (way 1) and present (way 2). (Corresponding to the past and present tenses.) Then we have:

Saikat in the past was to the left of Tim in the past.

(I.e. Saikat was once to the left of Tim.)

Saikat at present is to the left of Tim in the past.

(I.e. Saikat is now to the left of where Tim once *was*.)

Saikat in the past was to the left of Tim at present.

(I.e. Saikat was once to the left of where Tim now *is*.)

Saikat at present is to the left of Tim at present.

(I.e. Saikat is now to the left of Tim.)

In general, for an *n*-ary relation, if there are *m* modes of exemplification per object, the number of ways in which a given *n*-tuple can exemplify is  $m^n$ . (When *n* = 1, as expected, there are *m* ways.) It follows on the local model that there are *nine* ways in which God can (reflexively) exemplify a dyadic relation, twenty-seven ways for a triadic relation, and so on. Fortunately, I don’t think we will have to deal with any higher arities than three. The nine ways for a dyadic relation *R* are:

God <sub>1</sub>R<sub>1</sub> God | God <sub>1</sub>R<sub>2</sub> God | God <sub>1</sub>R<sub>3</sub> God

God <sub>2</sub>R<sub>1</sub> God | God <sub>2</sub>R<sub>2</sub> God | God <sub>2</sub>R<sub>3</sub> God

God <sub>3</sub>R<sub>1</sub> God | God <sub>3</sub>R<sub>2</sub> God | God <sub>3</sub>R<sub>3</sub> God

It may be helpful to understand the subscripts by replacing them with the corresponding adverbial phrases. For example, “God  $_1R_1$  God ” can be restated as “God as Father stands in R to God as Father”, “God  $_1R_2$  God ” can be restated as “God as Father stands in R to God as Son”, and so on.

We take the term “the Father” or “God the Father” as meaning “God as Father”. Thus the qualification “as Father” is adverbial, like “at present” in “Saikat at present”. There is only one God, as there is only one Saikat. (Forgive me, Lord, for this comparison, if it smacks of presumption, for I in no way intend to liken myself to You, but I intend it only for clarity, seeing that our feeble minds are better suited to understand the unity of Your creatures, such as myself, than understanding Your divine unity.) Nonetheless, as we may speak of Saikat at different times or places, so we may speak of the Lord as different Persons.

It is now straightforward to see how there are three divine persons, distinct from one another. The same-person relation is formally analogous to a relation of simultaneity. Saikat at present is simultaneous with Saikat at present, but not with Saikat as of yesterday. Likewise, God the Father is the same person as God the Father, but not the same person as God the Son or God the Holy Spirit. Remember, the same-person relation can be had in nine different ways. If we interpret “R” in the above schema as standing for this relation, we readily see that only the statements on the diagonal from the upper left to the lower right are true—God the Father is the same person as God the Father, and so on. The other statements are all false, even though God the Father is God, as is God the Son, and there is only one God, so that God the Father = God the Son. (Just as Saikat at present = Saikat yesterday.) Another example: a coin viewed from an angle seems elliptical, but viewed from right above appears circular. Then, even though there is one coin (the coin viewed from an angle = the coin viewed from right above), the relation *appearing the same as* obtains only between the coin viewed from a given perspective and the coin viewed from *that* perspective. The coin viewed from an angle does *not* appear the same as the coin viewed from right above. The Athanasian Creed says:

Alia est enim persona Patris alia Filii, alia Spiritus Sancti: Sed Patris, et Filii, et Spiritus Sancti una est divinitas, aequalis gloria, coeterna maiestas.

“For the person of the Father is another, another of the Son, another of the Holy Spirit:

But the divinity of the Father, and of the Son, and of the Holy Spirit is one, the glory equal, the majesty co-eternal.”

We now interpret this as follows. On the one hand, God the Father is not the same person as God the Son or God the Holy Spirit, and likewise for the other two Persons. On the other hand, God the Father = God the Son = God the Holy Spirit = God = the Lord. Thus, as the Creed says,

Ita Deus Pater, Deus Filius, Deus Spiritus Sanctus. Et tamen non tres dii, sed unus est Deus.

“So the Father [is] God, the Son [is] God, the Holy Spirit [is] God. And yet [there are] not three gods, but God is one.”

Can we directly paraphrase the claim “There are three divine Persons”? Yes. The paraphrase is: “God is the same person as something thrice” (namely, once as Father, once as Son, and once as Holy Spirit). We can abbreviate this as “God is a Person thrice”, which better shows the resemblance to “God is three Persons”, which is a restatement of “There are three divine Persons”. How about “There are three divine Persons, but only one God”? That becomes “There is only one God, but God is a Person thrice”. Here, note that we use adverbial quantifiers. We could also quantify over the subscripts, if we wanted to put the point that way. However, in that case we would want either to distinguish between, for example, the Father (God the Father) and the Father-locus, or interpret the quantifiers as substitutional. At best we could say that the Father-locus *corresponds* to the term “the Father”, not that the Father *is* the Father-locus, for a locus of the divine Being *isn't* the divine Being, which the Father *is*. Better, however, to do without the loci (as entities, as opposed to “logical constructions”) altogether. We do this either with adverbial quantifiers (as above) or substitutional quantifiers. (In that case we cannot put the theory into FOL, straight up, but we can do it in second-order logic enriched with predicate functors.)

The divine Persons are distinguished by their *relations of origin*. The Father is unoriginated, while the Son is begotten from the Father, and the Holy Spirit proceeds from the Father and the Son. As the Creed says:

Pater a nullo est factus: nec creatus, nec genitus.

“The Father has been made by no-one: neither created, nor begotten.”

Filius a Patre solo est: non factus, nec creatus, sed genitus.

“The Son is from the Father alone: not made, nor created, but begotten.”

How is it that, even though God the Father = God the Son, the Son is begotten but the Father is not? The answer is that God is begotten *as Son*, but not *as Father*. *Being begotten* is a property that God has as one Person, but not as either of the others. It is no more problematic than the way in which I am *at present* fat, though I was (let us suppose) not fat *ten years ago*. I have the property *being fat* at present, but not ten years ago. Just as three-dimensionalism can consistently account for this even supposing that the very same thing, in its entirety, has the two incompatible properties, so can the local model of the Blessed Trinity. In subscripts: though God is<sub>2</sub> begotten, God is<sub>1</sub> not begotten.

Likewise, God proceeds not as Father or Son, but as Holy Spirit. To say that the Son is begotten from the Father is to say that the relation “being begotten from” obtains between God as Son and God as Father (in that order). For procession (or rather, spiration--procession being its converse), unfortunately, we seem to have a triadic relation (not to be confused with the one-placed property of *proceeding*, which God has as Holy Spirit, and in no other way), obtaining from the Father and Son to the Spirit. I

am not certain if the order of Father and Son in the procession matter. If it doesn't, then there are two ways (symmetrically) in which spiration obtains in God, from the Father and Son to the Spirit, and twenty-five ways in which it does *not* obtain. This is like the Greek doctrine of the Trinitarian “arrow”—the Spirit proceeds from the Father through the Son (though on this doctrine perhaps the order *does* matter, and only one of the twenty-seven ways obtains). As the Creed says:

Spiritus Sanctus a Patre et Filio: non factus, nec creatus, nec genitus, sed procedens.

“The Holy Spirit is from the Father and the Son: not made, nor created, nor begotten, but proceeding.”

The Eastern Orthodox doctrine of procession from the Father alone would make procession a dyadic relation, obtaining from the Father to the Spirit. The Orthodox doctrine is heretical, but one can see some of its appeal on this model—it is, after all, a little simpler.

Another, simpler possibility is that a dyadic relation of procession (or rather, spiration) obtains from the Father to the Spirit and *also* from the Son to the Spirit. And this is more like the Latin doctrine of the four relations: paternity, spiration, filiation, and procession. We may take it as given that the relations of origin are incompatible with their converses, so that the Person who originates by one of these relations cannot be originated by that relation, and a Person who is originated by one of these relations cannot originate by that relation. Also, the relations are “irreflexive”, meaning that they cannot obtain in the same Person, that is, that God as a given Person cannot stand in that relation as that very Person. Also, paternity, by definition, is the relation whereby the Father originates the Son, and spiration, by definition, is the relation by which the Holy Spirit is originated. This constrains the available combinations. Thus:

Paternity → P Spiration → S

<del>1 P 1</del>	<b>1 P 2</b>	<del>1 P 3</del>	<del>1 S 1</del>	<del>1 S 2</del>	<b>1 S 3</b>
2 P 1	2 P 2	2 P 3	2 S 1	2 S 2	<b>2 S 3</b>
3 P 1	3 P 2	3 P 3	3 S 1	3 S 2	3 S 3

(The table for the converse relations can be “read off” from this one trivially.)

The applications are as follows. First, the upper-left to lower-right diagonal is excluded by the “irreflexive” character of these relations. Secondly, given 1 P 2, which is true by definition, and the converse-incompatibility requirement, 2 P 1, 3 P 1 and 2 P 3 are ruled out. But the definition of paternity also implies that *only* the Son is originated by it, so all other P 3 entries are ruled out. Finally, the definition implies that *only* the Father originates by paternity, so 3 P 2 is ruled out.

A further requirement is stated by the Creed:

Qualis Pater, talis Filius, talis Spiritus Sanctus.

“Of such a kind as the Father, of such a kind [is] the Son, of such a kind [is] the Holy Spirit.”

(I.e. What the Father is, the Son is, the Holy Spirit is.)

This has been interpreted to mean, in the Latin Church, not only that all absolute properties (properties that God has *simpliciter* or absolutely) are shared by all three Persons—this much is trivial on our model—but that all properties that God has *relatively* are shared insofar as possible given the above constraints. That is why the Spirit proceeds both from the Father and the Son.

In exhibiting formal analogies between the divine manners of exemplification and places, times, visual perspectives, etc., I mean only to make clear, without excessive jargon or formalism, how this model formally regiments the statements of the Creed in a logically consistent fashion. I do not mean to suggest that these manners of exemplification are otherwise at all *like* places, times, etc. That is, I am not suggesting that what it is for God to have a property as Father, say, is anything at all like what it is for me to have a property at present. Indeed, I am suggesting nothing that would help us to grasp what it is for God to be begotten as Son but not as Father, for instance. Seeing merely that there is a logically consistent way to regiment these statements, of the same form as the method used by a three-dimensionalist (for instance), is not seeing what they *mean*, in the sense of grasping either the property of *being begotten* or the manner in which God the Son (but not God the Father) has it. And these things are not to be grasped through comparison to being at a place or time or being viewed from a perspective or anything of the kind. Anything of that sort would undoubtedly get the Trinity wrong. While I call them “loci”, these manners of exemplification deserve that name, insofar as they do, only because of the formal analogy between them and places and times. But they are *not* places or times, and indeed, apart from divine revelation we have no conceptual access to them. Our situation with respect to them is comparable to a blind person who does not know what the difference is between seeing something from an angle and seeing it from right above, but can still understand how the different statements about a coin’s appearance are consistent by reflecting that there is *some* distinction in the manner in which coins appear to people who *can* see that is marked by phrases like “viewed from an angle” and “viewed from right above”. The *nature* of the distinction may remain quite mysterious to him, even as he understands that there is no logical inconsistency. And thus, too, the *nature* of the divine “loci” remains mysterious to us even as we see that there is no logical inconsistency. This mystery has a name: “the mystery of the Blessed Trinity”.

A blind person might hope to advance in understanding of the difference between a coin viewed at an angle and a coin viewed from right above by extrapolating from perspectives accessible to him—for instance, by appeal to different tactile perspectives. Though he cannot *see* from different angles, he can *touch* at different angles; having a direct grasp of tactile space, he can extrapolate that perhaps visual space is isomorphic to tactile space, or at least analogous to it, so that the difference between viewing from an angle and viewing from above is akin to the difference between feeling from an angle and feeling from above. We, in groping to understand the Blessed Trinity, may avail ourselves of a similar strategy. We know that material (as opposed to formal) analogies to different visual perspectives and the like are entirely out, for any such merely extrinsic distinction would collapse the present view into the heresy of

modalism. There cannot be much of a material analogy to space and time either, since God exists outside space-time. However, we know that God is personal, that is, a being equipped with mind and will, like us. Or rather, our minds and wills are a pale imitation, or image, of the infinite-simple mind/will of the Lord. Consequently, we may hope for understanding of the Trinity by extrapolating, as best we feebly can, from our own direct knowledge of mind and will, following the views of St. Thomas (cf. *Summa Contra Gentiles*, Book IV). Now St. Thomas held that God understands every truth and loves everything good. Since God is the supreme Truth and Good, the type and standard of all finite truth and goodness, it follows that God primarily and supremely understands and loves God. The divine understanding (*intellectus*) is an act of God's infinite mind or intellect. It is by this act that God understands, just as in us understanding is by the mental act (or concept, or idea) formed by the mind of whatever we understand. This idea or act of understanding is a mental representation, of some sort, of the thing understood. It mediates our understanding and enables the mind to "reach out" to the thing in question. A particular instance is self-understanding. We each understand ourselves to some extent, and to this end have some sort of self-concept or idea of oneself. Now our self-understanding is extremely limited and imperfect; there is much about ourselves that we do not understand. Our self-concept, therefore, is an imperfect representation of the person it represents. God's self-understanding, on the other hand, is perfect, and therefore His self-concept is a perfect representation of God. But the only perfect representation of a thing is that which resembles it exactly, and the only thing that perfectly resembles God is God; so God's act of self-understanding is God Himself. God's self-understanding differs from ours, then, in that, while a man's idea of himself is a mental act (or mental state) quite different from the man himself, God's self-concept is God. And yet God's act of self-understanding cannot quite be the same as God, it would seem, since God is the one *who understands*, that is, the *agent*, while His self-concept is an *act*, that is, the *understanding* itself. Since the act is produced *by* the agent, while the agent produces the act, if we were to identify the agent purely and simply with the act, we should have the result that God produces Himself, which is impossible since what produces is prior to the product, and nothing is prior to itself. Or, to put it another way, God's act of understanding is *produced by*, but does not itself produce, God (who understands), while God, who understands, produces His act of understanding, but is not produced by it.

Herein, in stating our puzzle, we have also obtained its solution. The puzzle arises because there is a property—call it *being produced*—that is possessed by the act of understanding, but not by the agent who understands, and another corresponding property—call it *producing*—that the agent has, but not the act. Obviously these properties are co-relative, and serve to relate as well as distinguish agent and act. But there is nothing else to distinguish them *except* this relation. The solution, then, is that the distinction between agent and act is merely relative, not absolute. That is, one and the same being (God) exists in (at least) two different ways, and has properties relative to (at least) each of these two ways. We may naturally term these ways according to how we discovered them: God may have a property either *as agent* (who understands) or *as act* (of understanding). As agent-who-understands, He understands, that is,

produces His self-understanding, while, as act-of-understanding, He is that by which the agent understands, and He is produced by the agent. As agent-who-understands, He is prior to His self-understanding, while, as act-of-understanding, He is posterior to the agent-who-understands. In both ways, God is a person; since He is a person (being equipped with mind and will) *qua* agent, and everything but the relation of opposition between agent and act is shared between them, He must be a person *qua* act, too. Thus we have at least two divine Persons. It is obvious, moreover, who these persons are, for “producing” (understanding) is nothing but *generation*, the one who produces (understands) is the Father, that is, God as Father, and the one who is produced (the act of understanding) is the Son, that is, God as Son. As the Creed puts it (again):

Filius a Patre solo est: non factus, nec creatus, sed genitus.

“The Son is from the Father alone: not made, nor created, but begotten.”

The “non factus, nec creatus” signify that the Son is not a creature, as Arius heretically taught, but has the very same mind, will, and nature as the Father. Otherwise, God’s self-understanding would be imperfect. Thus the second Person comes about by God’s self-understanding. Now, God not only supremely understands Himself, as pure Truth, He supremely loves Himself, as pure Good. To understand this, we should reflect that in us, love of a thing is mediated by our understanding of it. To love something, we must understand it to some degree, must have some concept or idea of it. And we love it, not necessarily as it is, but as we understand it to be. (And therefore, if we are deceived about a thing’s nature, we may love it mistakenly, thinking it to have good qualities it in fact lacks.) Of course, in our case, love for a thing is not love for our idea of it, even if we love it *according* to our idea of it. When a man loves a woman, he loves *her*, not his idea of her, even though he loves her *according* to his idea of her. But it is the woman he is interested in, not his mental representation *of* her; he would not, for instance, rest content with having the idea without having the woman. (The contrary may happen, to be sure, in which one becomes so enamored of a mental ideal that one prizes it above the real thing, but I am not concerned at present with this pathology.) The reason that our love for a thing is not love for our idea of it is that the thing and its idea are distinct and quite different; one is a *thing*, while the other is a mere mental representation, after all. But what if thing and idea were identical? Then, of necessity, love for the thing would be love for its idea. This is the case with God, for God is identical with His self-representation. Consequently, God’s self-love is directed equally at God as represented and God as representation. Indeed, since God represented (the Father) and God as representation (the Son) share the same will, it follows that they both love by the very same love, that is, by the very same act of will. For the opposition between Father and Son, which distinguishes them, lies in the divine mind, not in the divine will, and whatever is free from this opposition is common to the two Persons. However, just as there is, in the divine mind, an opposition between the agent-who-understands and the act-of-understanding, so here there is a precisely analogous opposition between lover and loving (act-of-love). The question then is: is the divine Love something distinct from God? Certainly this is true in creatures; a man’s love for a woman is not a man, it is a mental act (or state) of that man, of his will. But if this were so for God, there

would be something in God besides God--namely, God's Love. This contravenes the clear teaching of Scripture (and the divine simplicity):

"He who does not love does not know God; for God is love." [1 John 4:8]

"God is love, and he who abides in love abides in God, and God abides in him." [1 John 4:16]

Obviously, if God is love, then the divine Love can be nothing but God. Yet the divine Love cannot be quite the same as God, for lover and love differ as agent and act, just as in the case of the intellect. The solution is precisely parallel to the solution for the divine intellect, namely, that God exists here in two different ways: first as Lover, then as Love, which *proceeds from* the Lover (to the Beloved, which is in this case God, again). Since Lover and Beloved are one and the same, we may say that the divine Love proceeds from the Lover-Beloved. God's existence as Lover-Beloved is common to the Father and the Son, for the reasons already given. God's existence as Love, on the other hand, is something distinct from the Lover, and this Love we call the Holy Spirit. Now, the Lover-Beloved is the Father and the Son, that is, God both as Father and as Son is both Lover and Beloved. Consequently, the Holy Spirit is distinct from the Father and the Son, hence a third divine Person, proceeding from the Father and the Son.

To sum up, the three divine ways of existing are individuated by the two relations of origin—the intellectual relation of producing or conceiving, and the volitional relation of “giving forth” (spiration). The Father is God as both conceiving and spirating, but not conceived or proceeding, while the Son is God as conceived and spirating, but not conceiving or proceeding, while the Holy Spirit is God as proceeding, but not conceiving or spirating. The divine Persons are the divine being in these three respects. Thus, following St. Thomas, we have somewhat fleshed out our formal logical skeleton with an interpretation of these relations, by extrapolation from our psychology to the divine psychology.

From the standpoint of classical theism, the matter may be put thus, without even considering the matter of primary divine self-regard:

(1) God is absolutely simple, so the divine Understanding and Love are identical to the divine Understander and Lover. (Appendix A contains an account of simplicity as an essential property.)

(2) But the Understander is prior to the Understanding, and the Lover is prior to the Love, since the Understanding is produced by the Understander, and the Love proceeds from the Lover.

(3) If (2), then God's existence as Understander is distinct from His existence as Understanding, and likewise God's existence as Lover is distinct from His existence as Love.

(4) But the Understander is not prior to the Lover, nor the Lover to the Understander, so God's existences as Lover and Understander are one and the same.

(5) Likewise, the Lover is not prior to the Understanding, nor the Understanding to the Lover, so God's existences as Lover and Understanding are one and the same.

(6) So there are three existences: God as Lover/Understander, God as Lover/Understanding, and God as Love. Among these, God as Lover/Understanding is produced (as Understanding) by God as Lover/Understander, while God as Love proceeds from both God as Lover/Understander and God as Lover/Understanding.

(7) Scripture and Tradition identify the Lover/Understander with the Father, the Lover/Understanding with the Son, and the Love with the Spirit. It will be seen that if we make the appropriate substitutions, we get the very statements of the Athanasian Creed, rightly construed.

## Appendix A: Simplicity as an Essential Property

Here is a more detailed account of my thoughts on why simplicity is an essential property of whatever has it. It is not a systematic exposition, just thoughts written down as they occur to me in working out the implications of certain assumptions.

To see why, we will assume the following principle, which I take as a true by definition:

(1)  $(S)(x)(x = \text{Mereo}(S) \text{ iff } (y)(y \in S \text{ iff } \text{PPartof}(y, x)))$

Here Mereo is a function which maps a set into the mereological sum of its elements,  $x$  and  $y$  are individual variables,  $S$  ranges over sets, and PPartof is the (proper) parthood relation. So (1) simply says that a thing is the mereological sum of the elements of a set just in case all and only the elements of the set are proper parts of that thing. (It is assumed here that Mereo is defined for the set in question; this is ensured by picking the domain of quantification properly.) Now take the case where  $S$  is a singleton set, say  $S = \{y\}$ . Suppose Mereo( $S$ ) exists, and call it  $x$ . Well, by (1) it follows that  $y$  is the sole proper part of  $x$ . Since  $y$  is a proper part of  $x$ ,  $x$  and  $y$  are distinct; and yet, since  $y$  is the only proper part of  $x$ , there is nothing more to  $x$  than  $y$ . This does not seem to be a possible situation, since there seems to be nothing to distinguish two things which by definition are distinct. So let's assume that such a situation isn't possible, that is, that Mereo( $S$ ) doesn't exist if  $S$  is a singleton set. In other words,

(2)  $(S)(\text{if } (\exists!y)(y \in S) \text{ then } (x) \sim (x = \text{Mereo}(S)))$

Finally, we assume that anything with proper parts (not just a proper part) is the mereological sum of them:

(3)  $(x)((\exists 2y)(\text{PPartof}(y, x)) \& (y)(\text{PPartof}(y, x) \text{ iff } y \in S)) \text{ implies } x = \text{Mereo}(S)$

(Here I have coined the quantifier  $\exists 2$ , meaning "there are at least two \_\_\_ such that . . .", or "there is more than one \_\_\_ such that . . ."; a technical definition of this quantifier is straightforward, but seems unnecessary here.)

What this says is just that if  $x$  has proper parts, and the set of all such proper parts is  $S$  (where  $S$  is a constant naming some set), then  $x$  is the mereological sum of the elements of  $S$ . We can obviously just stipulate that  $S$  will name the set of proper parts of  $x$ , by assigning it that value. The only real assumption here is that Mereo( $S$ ) exists. Given this supposition, we can deduce (3) from (1). To wit: suppose that  $x$  has proper parts, and let  $S$  name the set of all such parts. By instantiating  $S$  to  $S$  in (1), we get

(x)(x = Mereo (S) iff (y)(y ∈ S iff PPartof (y , x)))

By assumption, S is the set of all proper parts of x, so the right side of the biconditional is satisfied. Therefore, so is the left. Conditionalization on the hypotheses then yields (3). (Technically, I should instantiate the above through some arbitrary individual constant, but I trust I can be excused for not going through this rigmarole.)

Now, from our assumptions we immediately realize that (3) can be changed to a biconditional. For if x is the mereological sum of the elements of some set, then Mereo is defined for that set, and so, by (2), it follows that x has more than one proper part, which is the only substantive hypothesis on the left side of (3). So,

(4) (x)((∃2y)(PPartof (y, x)) & (y)(PPartof (y, x) iff y ∈ S)) iff x = Mereo (S))

We can obviously generalize on S to get a stronger version of (1) from (4):

(5) (S)(x)((∃2y)(PPartof (y, x)) & (y)(PPartof (y, x) iff y ∈ S)) iff x = Mereo (S))

And in fact, (5) is redundant, since the sole point of the hypothesis (∃2y)(PPartof (y, x)) - roughly, “x has proper parts”, is to ensure that Mereo (S) will exist. But in any case where (5) is meaningful (i.e. has a truth-value), Mereo (S) does exist, since otherwise the right-hand side of the biconditional has no truth-value. Here is a technical solution. Let MeReo be the function which maps a set S to Mereo (S) if Mereo (S) exists, and otherwise maps it to the empty set. Since x is an individual variable, it is always false that x = ∅. Moreover, MeReo, unlike Mereo, is defined whether or not S has a mereological sum. Then, we can recast (5) with MeReo:

(6) (S)(x)((∃2y)(PPartof (y, x)) & (y)(PPartof (y, x) iff y ∈ S)) iff x = MeReo (S))

A rough English translation of (6) is “An individual is the mereological sum of the set of its proper parts just in case it has proper parts.” More precisely, x is the mereological sum of the elements of S just in case a) S contains all and only the proper parts of x and b) x has proper parts. Now, it might be objected that a set containing x as well as its proper parts also composes x. This depends on one’s characterization of “mereological sum”. I haven’t studied mereology and can’t say what the standard definition of this term is. Anyway, I think the simplest possible definition is one where we just form the mereological sum from the set of proper parts. This means that the mereological sum is not exactly like the logical sum (union) of sets. For the union of all proper subsets of a set is the set, and so is the union of the set plus its proper subsets. In my view, however, mereological sums are new object, not just collections of parts; so the notion of summing the whole with its proper parts is grotesque, if not nonsensical. Summing, in this view, corresponds to going from the set to the object that the elements of the set make up.

We can also recast (3) without the invented quantifier using MeReo:

(3’) (x)((∃y)(PPartof (y, x)) & (y)(PPartof (y, x) iff y ∈ S)) implies x = MeReo (S))

For, in the case where x has zero proper parts—i.e., where x is simple, the antecedent is not satisfied. In the case where x has exactly one proper part, (3’) entails that x is the empty set, since, by (2), Mereo (S) does not exist. But of course, this is impossible, so

(3') entails that x cannot have just one proper part. So, in fact, (3') has the same truth-conditions as (3). Obviously, we can recast (6) in the same way also, but I will not do so here.

At any rate, let us assume that something which is the mereological sum of a set of parts is necessarily so; that is, that being a mereological sum of a set of parts is an essential property of any individual which has that property. (This is the same as saying that the property being composite is de re necessary, i.e. essential, to whatever has that property.) I am certainly not implying that a thing cannot change parts, or lose/gain them. But if it has (proper) parts, then it cannot not have proper parts. In other words,

(7)  $(x)((\exists S)(x = \text{MeReo}(S)) \text{ implies } L(\exists S)(x = \text{MeReo}(S)))$

(Here L is the modal operator for necessity.)

Statement (7) translates as "Any individual which is the mereological sum of some set is necessarily the mereological sum of some set." Now, from (3'), (6) and (7) it follows that simplicity is essential to whatever has it. For suppose not. Then it is possible for a simple individual to not be simple. In other words, there is an x which is simple (has no proper parts), such that possibly x is not simple (has at least one proper part). So there is a possible world in which x exists and is not simple. By (3') x cannot have just one proper part. So, it has more than one, so that by (6),  $x = \text{MeReo}(S)$  for some S. So then, there is a possible world in which  $x = \text{MeReo}(S)$  for some S. Now, in that world, the antecedent of (7) is true for x and S. So the consequent of (7) follows. But since necessary truths do not change from world to world, the consequent of (7) is true of x in the actual world. Therefore,  $x = \text{MeReo}(S)$  for some S. This implies, via (6), that x has proper parts - which contradicts the assumption that x is simple. Therefore there is nothing which is simple and possibly not simple.

## **Appendix B: Athanasian Creed (Symbolon Quicumque)**

"One of the symbols of the Faith approved by the Church and given a place in her liturgy, [the Athanasian Creed] is a short, clear exposition of the doctrines of the Trinity and the Incarnation, with a passing reference to several other dogmas . . .

Whether the Creed can be ascribed to St. Athanasius or not, and most probably it cannot, it undoubtedly owes its existence to Athanasian influences, for the expressions and doctrinal coloring exhibit too marked a correspondence, in subject-matter and in phraseology, with the literature of the latter half of the fourth century and especially with the writings of the saint, to be merely accidental. These internal evidences seem to justify the conclusion that it grew out of several provincial synods, chiefly that of Alexandria, held about the year 361, and presided over by St. Athanasius. It should be said, however, that these arguments have failed to shake the conviction of some Catholic authors, who refuse to give it an earlier origin than the fifth century . . .

Just as the Creed states in a very plain and precise way what the Catholic Faith is concerning the important doctrines of the Trinity and the Incarnation, so it asserts with equal plainness and precision what will happen to those who do not faithfully and

steadfastly believe in these revealed truths. They are but the creedal equivalent of Our Lord's words: 'He that believeth not shall be condemned', and apply, as is evident, only to the culpable and willful rejection of Christ's words and teachings."

--1913 Catholic Encyclopedia, "The Athanasian Creed"

### **Text and Translation**

(The translation is my own; I have made it as strict and literal as I could.)

Quicumque vult salvus esse, ante omnia opus est, ut teneat catholicam fidem: Quam nisi quisque integram inviolatamque servaverit, absque dubio in aeternum peribit.

Whoever wishes to be saved, before all things it is necessary\* that he hold the catholic faith: Which [faith] unless each one will have preserved whole and inviolate, without doubt he will perish eternally.\*\*

Fides autem catholica haec est: ut unum Deum in Trinitate, et Trinitatem in unitate veneremur, neque confundentes personas, neque substantiam separantes.

Moreover, this is the Catholic faith: that we worship one God in Trinity, and Trinity in unity, neither confounding the persons, nor separating the substance.

Alia est enim persona Patris alia Filii, alia Spiritus Sancti: Sed Patris, et Filii, et Spiritus Sancti una est divinitas, aequalis gloria, coeterna maiestas.

For the person of the Father is another, another of the Son, another of the Holy Spirit:

But the divinity of the Father, and of the Son, and of the Holy Spirit is one, the glory equal, the majesty co-eternal.

Qualis Pater, talis Filius, talis Spiritus Sanctus.

Of such a kind as the Father, of such a kind [is] the Son, of such a kind [is] the Holy Spirit.

(That is, what the Father is, the Son is, the Holy Spirit is.)

Increatus Pater, increatus Filius, increatus Spiritus Sanctus. Immensus Pater, immensus Filius, immensus Spiritus Sanctus. Aeternus Pater, aeternus Filius, aeternus Spiritus Sanctus.

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\* "opus est"—idiom, "there is need" or "it is necessary".

\* \* "eternally"—"in aeternum"—lit. "in eternity".

The Father [is] uncreated, the Son [is] uncreated, the Holy Spirit [is] uncreated. The Father [is] infinite, the Son [is] infinite, the Holy Spirit [is] infinite. The Father [is] eternal, the Son [is] eternal, the Holy Spirit [is] eternal.

Et tamen non tres aeterni, sed unus aeternus. Sicut non tres increati, nec tres immensi, sed unus increatus, et unus immensus.

And yet [there are] not three eternal, but one eternal. Just as [there are] not three uncreated, nor three infinite, but one uncreated, and one infinite.

Similiter omnipotens Pater, omnipotens Filius, omnipotens Spiritus Sanctus. Et tamen non tres omnipotentes, sed unus omnipotens.

Similarly the Father [is] omnipotent, the Son [is] omnipotent, the Holy Spirit [is] omnipotent. And yet [there are] not three omnipotents, but one omnipotent.

Ita Deus Pater, Deus Filius, Deus Spiritus Sanctus. Et tamen non tres dii, sed unus est Deus.

So the Father [is] God, the Son [is] God, the Holy Spirit [is] God. And yet [there are] not three gods, but God is one.

Ita Dominus Pater, Dominus Filius, Dominus Spiritus Sanctus. Et tamen non tres Domini, sed unus est Dominus.

So the Father [is] Lord, the Son [is] Lord, the Holy Spirit [is] Lord. And yet [there are] not three Lords, but the Lord is one.

Quia, sicut singillatim unamquamque personam Deum ac Dominum confiteri christiana veritate compelimur: Ita tres Deos aut Dominos dicere catholica religione prohibemur.

Because, just as we are compelled by Christian truth to acknowledge each person singly [as] God and Lord: So we are forbidden by the catholic religion to say [there are] three Gods or Lords.

Pater a nullo est factus: nec creatus, nec genitus.

The Father has been made by no-one: neither created, nor begotten.

Filius a Patre solo est: non factus, nec creatus, sed genitus.

The Son is from the Father alone: not made, nor created, but begotten.

Spiritus Sanctus a Patre et Filio: non factus, nec creatus, nec genitus, sed procedens.

The Holy Spirit is from the Father and the Son: not made, nor created, nor begotten, but proceeding.

Unus ergo Pater, non tres Patres: unus Filius, non tres Filii: unus Spiritus Sanctus, non tres Spiritus Sancti.

Therefore [there is] one Father, not three Fathers: one Son, not three Sons: one Holy Spirit, not three Holy Spirits.

Et in hac Trinitate nihil prius aut posterius, nihil maius aut minus: sed totae tres personae coaeternae sibi sunt et coaequales.

And in this Trinity nothing [is] before or after, nothing [is] greater or less: but the whole three persons are co-eternal and co-equal to themselves.

Ita ut per omnia, sicut iam supra dictum est, et unitas in Trinitate, et Trinitas in unitate veneranda sit.

So that through all things, just as has already been said above, we must worship unity in Trinity and Trinity in unity.

Qui vult ergo salvus esse, ita de Trinitate sentiat.

Therefore [he] who wishes to be saved, let him think thus about the Trinity.

[The remainder of the Creed concerns the Incarnation, and so I have left it out.]

## Okham's Razor and the Presumption of Atheism

The following principles are often found plausible:

- (1) Not to rule out a possibility without evidence.
- (2) To take the burden of proof to be on the side of any positive claim, not its negation.

As stated, these principles are vague and informal, and it is in that vague and informal shape that they exercise their hold upon us. In particular, these principles, or something like them, are often invoked in discussions of theism; it is sometimes held that, in virtue of these principles, there is some sort of presumption in favor of atheism. (Here "atheism" will mean doubt, denial, or rejection of the claim that God exists. This means that one can be neither a theist nor an atheist. A mere lack of belief that God exists does not qualify one as an atheist; at the very least, one must have given consideration to the claim and failed to believe it. Thus, for instance, an infant who has no concept of God is neither a theist nor an atheist. He is simply an infant.)

What sort of presumption could there be? At one extreme, some hold that one ought to assume that God does not exist until and unless evidence to this effect is forthcoming. On what basis could such an assumption be justified? Perhaps on something like the following: by a *positive existential claim*, let us understand a statement which is such that, if we believe it, something new will be added to our personal ontology—the set of things which we believe to exist. And some will argue as follows regarding claims of this sort. Obviously, an infinite number of such claims can be made. Certainly we cannot assume that these claims are *true* unless otherwise proven, for then we should be forced to believe in an infinity of things which we have absolutely no reason to believe in. So we ought to hold these claims false unless otherwise proven. But this argument is (obviously) fallacious. For we need not hold *any* belief regarding positive existential claims *a priori*; in the absence of evidence, we might simply lack any belief one way or the other. Now it is sometimes urged that this is not conformable with our usual doxastic practices. We do not, for instance, merely lack belief in the existence of mythical creatures, fictional characters, and the like. Rather, we firmly hold that there are no such things. Is this not a case of assuming that positive existential claims are false until otherwise shown?

I am afraid not. It is clear, for instance, that we have excellent reasons to believe that there are no such things as leprechauns. According to the myths, these creatures are native inhabitants of certain parts of the surface of the Earth. The parts in question have been thoroughly explored, and no trace of a leprechaun has yet been discovered. Moreover, the creatures in question are reputed to have powers which it is physically impossible that any creature should have—the power, for instance, of miraculously granting wishes. Now there is an enormous body of evidence for the claims of physical science; so that when some claim that there exist creatures capable of violating physical laws, they make a claim which has a great deal of evidence to contradict it. And of course, we are perfectly justified in denying a claim—in holding it false—when we have good evidence against it. Similar remarks apply to fictional characters. It is not that we don't believe in Sherlock Holmes simply because we have no evidence that he

existed. Rather, we have excellent evidence for the claim that he *did not* exist. In the first place, and not to put too fine a point on it, the source from which we learn of Mr. Holmes' exploits—Mr. Arthur Conan Doyle—assures us of it. He does so implicitly by publishing his stories as works of fiction, and explicitly by saying that Holmes is a mere figment of his imagination (actually, Doyle does not quite say this, since it is obvious, but his statements about Mr. Holmes clearly presuppose that he is a fictional character.) Secondly there is the fact, which could be readily discovered by investigation, that no detective named Holmes ever lodged in any Baker Street in London, or did any of the things which Holmes is supposed to have done; had there been an actual person who did any of those things, records of the fact would undoubtedly exist outside of the Sherlock Holmes stories.

So it is not clear that *any* of our negative existential beliefs—beliefs to the effect that such-and-such a kind of thing does *not* exist—are based on simple lack of evidence. It is much more plausible to suppose that they are based on “evidence of absence” than absence of evidence. But perhaps we *should* hold negative existential beliefs simply because there is no evidence against them. At least, some people seem to think so. One argument which they sometimes give for this claim tries to show that this is somehow mandated by Ockham's razor. Now there is considerable dispute as to the status of Ockham's razor. Is it an abductive principle, a (normative) principle of epistemic justification, or one that warrants certain beliefs? The last of these claims is extremely implausible. How can I *know* that things of such-and-such a sort *don't* exist, merely because the simplest account of the facts does not require me to assume that there are such things? Is the world obligated to conform to the simplest account of the facts? Do I have any reason to believe so? I think not. At any rate, no one has ever presented good reasons for believing as much. But perhaps it can be urged that I am, at any rate, *justified* in believing the simplest account of the facts available to me, whether or not my belief is a form of knowledge. What justifies me? Perhaps more complex accounts are unjustified because they assume more than is necessary to “save the appearances”. I am justified, then, in believing the simplest account, because I am not justified in believing any other. But this raises the question: why is an account of the facts unjustified just in virtue of being complex? Simplicity is certainly a desirable quality in a theory, but it is not the *only* desirable quality. One also wants, for instance, coherence, plausibility, explanatory power, predictive ability, and so forth. The simplest way of accounting for the appearances is to treat all appearances as brute facts. But such an account is unacceptable because it lacks the other marks of a good theory. (It will not do to say that such an account is no account at all. Theories do take *some* facts as brute. To take all of them as such is simply an extreme in one direction; some philosophers—Leibniz, for instance, seem to have gone to the other extreme. One might say that such a theory is seriously lacking, but not that it is not a theory at all.) This shows that mere simplicity does not guarantee adequacy; likewise, mere complexity does not entail inadequacy. But perhaps Ockham's razor can be accommodated with a *ceteris paribus* clause. That is, the simplest theory is best, *all other things being equal*. That is, if  $P_1 \dots P_n$ ,  $S$  (for simplicity) are the desirable characteristics of a theory, then, if the  $P_i$ 's are held constant, the best theory is the one which maximizes  $S$ .

Let us tentatively agree that Ockham's razor, in this diluted form, is a principle of epistemic justification. How might an argument for atheism based on the razor go? Well, it would pretty much have to claim that atheistic theories do as much justice to the facts as theistic theories, with the difference that atheistic theories don't assume that there is a God, nor that there is anything more than what theistic theories presuppose, and therefore are simpler—in the sense of having a smaller ontology—than theistic theories. Now, in the first place, these premises are dubious at best. Even the most ardent atheist must admit to a fairly large number of facts which any atheistic theory must take as brute: such facts, for instance, as there being a world, the world's being orderly, the world's being apt for the development of life, and especially intelligent life, and there being such things as consciousness, subjectivity, and morality. A theistic theory, on the other hand, takes none of these facts as brute. All of these are accounted for in terms of the actions of an intelligent and moral Creator. The existence of the Creator, as a fact, is not brute either, at least not absolutely so. Although it is a brute fact to us (barring some successful version of an ontological argument), it is not a brute fact in itself. God, at any rate, understands the necessity of his existence and essence. Now, one mark of simplicity in a theory is the reliance on fewer brute facts and basic principles (this is not ontological simplicity, in Ockham's sense of assuming the fewest entities). Again, the fewer the brute facts involved in a theory, the greater its explanatory/predictive power. Is it really clear, then, that the atheist can provide a simpler explanation of the facts, an explanation which assumes less than what the theist assumes? Again, there seem to be facts about human beings that no atheistic account can do real justice to. For instance, there is the fact that people have religious experiences; that human beings have unlimited wants and that human reasoning is in large measure reliable—at least to the extent that is necessary for science to be possible. There is the fact that human beings experience themselves as radically inadequate; that we yearn for a kind of perfection that seems beyond us. Likewise, we experience the world as radically flawed, and wonder why it should be so. We have a pervasive tendency to think that there is a purpose to our existence, that we are not pointless or accidental. We also believe that there is a proper way for human beings to act, and ways which are not proper—that selfishness or cruelty or dishonesty, for instance, are in a fundamental way inappropriate for us. We are ambivalent about the notion of a deity or higher power. On one level it appeals to us deeply, but it also repels us. We are capable of great things, and of the most vile and despicable acts, and, what is more puzzling, we are capable of *knowing* what ought to be done without doing it. These facts, and many others, serve to point out what a strange sort of animal *Homo sapiens* is. Surely, any adequate account of the world must give us an explanation of these facts. But I do not see how the atheist can do so. Freud attempted to explain religious behavior as a form of projection of a father figure, a means of wish-fulfillment, and so on. But this "explanation" is no better than Aristotle's explanation for the motion of heavenly bodies. They move in circles, Aristotle said, because it is the nature of a celestial body to do so. Which, of course, is no explanation at all, but merely a way of restating the facts. If you wish to explain why human beings find religion appealing, you will not do so by saying that it is human nature to find religion appealing—for that is the fact which you are trying to explain. If you say, for instance, that people find religion appealing

because the idea of a father figure continually watching over one is comforting, then all you are saying is that religion is appealing because it is appealing. The question is, why should there be a species on this earth that is comforted by the thought that a being like God is watching over them? What accounts for the fact that they find this thought appealing? What accounts for their pervasive belief that God, or something rather like God, is responsible for bringing it about that they and all that they observe exist? Despite the best efforts of many atheistic thinkers, I do not think this problem has ever been adequately addressed. The theist, on the other hand, can explain these things quite easily. If he is a Christian, he can explain all of the facts just mentioned quite straightforwardly. So it is not clear that atheistic theories can do as good a job of addressing the facts as theistic theories.

But let us suppose, for argument's sake, that these difficulties can all be resolved. Does it follow that theism ought to be rejected? It seems to me that this follows only if one regards God as a sort of theoretical posit—rather as electrons are regarded by physicists. God is something *hypothesized*, on this view, or *inferred*. The hypothesis of God, if it is to be adopted, is to be adopted because it is a good hypothesis (leaving unaddressed, for the moment, the question of what criteria to use in evaluating hypotheses). Again, God's existence is to be *inferred* from certain other, more evident or basic facts, rather as the presence of gamma radiation is inferred from the behavior of a Geiger counter. But it is very doubtful—indeed, I should say patently false—that God is a hypothesis, a theoretical posit, an inferred entity, or anything of the sort. Theists do not typically *infer* the existence of God at all; no more than we *infer*, say, that there are such things as material objects, or that there has been a past, or that there are people in the world besides ourselves. (Obviously, I am making a point which Plantinga is fond of making; but I don't claim that my point is original, merely that it is relevant.) Generally, theism is, for most theists, a *basic* belief. It is not based on any other beliefs at all; whatever the grounds for theism may be, they do not consist of *propositional* evidence. Some theists, who have had religious experiences of the appropriate sort, can claim, I think quite correctly, that their belief is grounded in a kind of perceptual *experience*, just as the belief in material objects is grounded in sense-perception. Only in the theist's case, the experience is not that of sense-perception, but a perception of God, or of God's presence in the world (or both). Others can claim, with perfectly adequate justification, that their belief is grounded by *faith*, or trust, in certain external authorities—that of a religious institution, or of religious teachers who have had experiences of the right sort, or of a book or other permanent record, written by people of the right sort, or perhaps simply of a widely accepted cultural tradition, or some combination of these. Essentially, this amounts to saying that one's belief is grounded in trust in others, who have had a more direct contact with God. Now there is no doubt that the overwhelming majority of our beliefs are based on trust in others. We believe what we are told by our teachers and elders, by recognized experts, by authoritative institutions, and by books and publications which we consider reliable. Since most of our beliefs cannot be obtained first-hand, this reliance on others is essential if we are to have any knowledge worth speaking of; indeed, the experience of others is epistemically more valuable to us

than our own experience. In this respect, theistic beliefs are quite ordinary; they are grounded in the same way that any basic beliefs are grounded.

But even if it is legitimate for someone to regard God as a theoretical posit, and if this someone believes that atheistic theories do equal justice to the facts, must he therefore deny that there is a God? I think not. For the claim that God exists is no mere claim about what happens to be the case. If true, it is *necessarily* true. If false, it is necessarily false. For the notion of God is the notion of a necessary being; and existence-claims for necessary beings (characteristic of mathematics) are either necessarily true or necessarily false. To assume that God does not exist, then, is to assume that it is *impossible* for God to exist—that He would not exist no matter what. And no such conclusion can be supported merely from the contingent facts at hand. Whatever justification an empirical theory has, it is derived from the contingent facts which ground it. No such facts can establish necessary truths, or necessary falsehoods. And therefore, Ockham's razor cannot properly be used to eliminate God from one's ontology (in the sense of holding that no such being exists). To put it another way, that the facts can be adequately accounted for without supposing that something exists at best justifies one in assuming that no such thing *does* exist, not that no such thing *could* exist. But the nonexistence of a necessary being entails its impossibility; since no contingent evidence could entail the *impossibility* of something, no such evidence can justify the conclusion that God does not exist. Hence Ockham's razor, at least, cannot support any presumption of atheism.