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Omnipotence in a Physical World

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Omnipotence in a Physical World

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Abstract

The aim of this project is to answer the following question: “is omnipotence possible?” I am not concerned with questions addressing the existence of this being, but rather if a being can possess the property of omnipotence in a physically possible world. Aquinas was determined to understand God in a way that was compatible with the physics of his time. However, in this thesis I have shown that the conception of God which Aquinas defends in his *Summa Theologica* is not compatible with today’s fundamental physics. Once the incompatibility was made clear, I formulated a set of necessary conditions for omnipotence and set out to reconcile Aquinas’ understanding of an omnipotent being with fundamental physics. The rest of the paper works through ways a physical being could exist in a physically possible world such that they could possess the property of omnipotence. I concluded that it is possible for a physical entity to be omnipotent when we take the tentative hypothesis that the aforementioned conditions are jointly sufficient for omnipotence. The solution I prefer is one which suggests that if God is the aggregate of all the simples, They could be omnipotent. This thesis works through different kinds of possibilities, treats questions concerning how the physical world can manifest, and ultimately shifts the conversation about omnipotence from the realm of theology to that of metaphysics.

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Introduction

Does God exist? If They do are They omnipotent? These are questions that philosophers have grappled with for millennia. The majority of the existing work on the second question attempts to prove that God is or is not omnipotent. I do not intend to do the same. Arguing that God is omnipotent requires the assumption that God exists and can have properties. I am not interested in making assumptions about the existence of any being or drawing conclusions about this being's properties. Rather, this thesis will investigate a more refined question: is omnipotence possible?¹ Scholars before me have failed to consider the possibility of omnipotence absent of assumptions about what God is like, such as "God is something that exists," "God is something that is powerful," "God is something that has always existed." I will show that a non-physical, omnipotent God cannot possibly exist in a physically possible world because the claims stating that God is a non-physical being and that God is omnipotent are inconsistent with the Law of Conservation of Energy. Thus it could not be that a being was non-physical and omnipotent in a world that is physically possible. However, I will work with contemporary metaphysics to formulate an account of an omnipotent being—I will refer to it as "God"—that is consistent with fundamental physics. And if successful, I will conclude that the omnipotent God characterized in my account could possibly exist in a physically possible world, i.e. a world in which the Law of Conservation of Energy holds.

I have no interest in making assertions about whether this being actually does exist. I simply want to investigate if it is possible, and what a being must be like in order to be omnipotent. People throughout history have had different ideas about what omnipotence

¹ There is an important distinction to be made. Any conclusions made today will not require that an atheist hold that God exists or that an omnipotent being exists. Rather, that a being possessing the property of omnipotence is not necessarily false.

requires. For instance, Descartes argued that an omnipotent being was capable of doing literally anything, even the things that we would consider logically impossible. Flint and Freddoso's account of omnipotence suggests that "an agent is omnipotent just when [They] can actualize any state of affairs that is possible for someone to actualize, except for certain 'counterfactuals of freedom,' their consequences, and certain states of affairs that are 'accidentally impossible' because of the past" (Flint & Freddoso 1983). Saint Thomas Aquinas, however, defines omnipotence such that the scope of omnipotence is restricted to being able to only bring about what is logically and metaphysically possible (Aquinas, 1981 p.138). Descartes understood the property of omnipotence to entail that one who possessed it could bring about any conceivable thing, even logical contradictions (Joshua Hoffman, Gary Rosenkrantz, 2002). This suggested that an omnipotent being could bring it about that at time t in location l, it could be both raining and not raining. Aquinas thought differently than Descartes, saying that an omnipotent being can only bring about that which is logically and conceptually possible. Although many disagree about what the property of omnipotence actually involves, in this thesis I will be using Aquinas' understanding of what an omnipotent being can do. Aquinas' defense and account of omnipotence can be found in his *Summa Theologica*, a theological text which defends the fundamental tenets of Christianity. I have chosen to use this text not only because of its reputation in the Catholic Church, but also because it is Aquinas' project I am working on—to make a conception of God that is compatible with physics. Professor Bernard McGinn from the University of Chicago Divinity School suggests that, "No single theological work in the history of Catholicism has had the impact of the *Summa*" (Our Sunday Visitor, 2016). The *Summa Theologica* was so successful and well regarded that Pope John XXII actually asserted it as grounds for Aquinas becoming

a saint (Our Sunday Visitor, 2016). We must reject any preconceived notions of an omnipotent being bringing about things that are logically or metaphysically impossible and confine our understanding of omnipotence to be the ability to bring about states of affairs which are logically and metaphysically possible. This is how Aquinas defines it, and this is the account that the Catholic Church has accepted. So, I will use this account as well.

Chapter 1: The Problem

Aquinas thinks that God possesses the properties of non-physicality and omnipotence. He suggests that to be non-physical is to be without matter or anything physical, and to be omnipotent is to be able to bring about any state of affairs. Aquinas was determined to make this conception of God consistent with fundamental physics. In Aquinas' *Summa Theologica* and *Summa Contra Getiles* he successfully formulated arguments for Christian ideologies that were consistent with the physics of his time. And when an idea could not be made consistent, he would acknowledge it. However, physics has advanced such that arguments that were consistent with physics then are now inconsistent with what we know to be true about the actual world. Unfortunately, Aquinas' conception of God is inconsistent with fundamental physics. That is, a being cannot possibly exist without energy and be able to bring about any possible state of affairs in a world in which energy is conserved. In other words, it cannot be true that God is non-physical, God is omnipotent, and energy is conserved. So, Thomists must either abandon Aquinas' commitment to understanding God in a way that is consistent with science or modify their conception of God. But, Aquinas would neither be satisfied with rejecting modern physics in order to vindicate his conception of God, nor with denying omnipotence. This pushes me to ask the following: if the traditional conception of an omnipotent being is impossible to fulfill, is there an alternative way God

could be which allows for Them to possess the property of omnipotence in a physically possible world?² After discussing the inconsistency, I will consider different ways a being could possibly be to investigate the possibility of omnipotence. That is, I will revisit Aquinas project of thinking about God in a way that is compatible with physics and see if the property of omnipotence can be possessed in a physically possible world.

The following pages will do two things. In the first section, I will offer a thorough account of the inconsistent claims in order to illuminate why we must reject the traditional conception of an omnipotent being if we want a conception of God that is compatible with physics.³

- (a) Energy is always perfectly conserved in a closed physical system.
- (b) God can bring about any possible state of affairs.
- (c) God is non-physical.

In the second section, I will work through various formulations of ways in which a physical being could be in order to determine if omnipotence can be made consistent with the Law of Conservation of Energy, thereby determining whether omnipotence is possible.

Section 1: The Inconsistency

Section 1.1: Energy is Always Perfectly Conserved in a Closed Physical System

I will outline claims (a)-(c) in order to not only make the inconsistency apparent, but also to make a number of concepts clear. The first assertion I would like to unpack is (a), that energy is always perfectly conserved in a closed physical system. In this thesis I am

² In this case a physically possible world is any in which all the fundamental Laws of physics hold.

³ I recognize that my thesis is a conditional and thus its validity is jeopardized if the Law of Conservation of Energy were disproven. But, considering the Law has been accepted since the mid-1800s, I will surely accept being one of the many who have their theses spoiled by a refutation of the Law of Conservation of Energy.

assuming the Law of Conservation of Energy to be true, not concluding that it is.⁴ The Law of Conservation of Energy may turn out to be false, and Aquinas would not have an inconsistency on his hands. However, the scientific community takes it as fact, so I will do the same. The Law of Conservation of Energy necessitates that in any closed physical system quantities of energy are always perfectly conserved. In other words, when energy is transformed, the particulars in the system must expend or gain quantities of energy such that the net energy gained by and lost from the system is zero.

Now, there are religious people who suggest that this physical Law holds in all cases except for divine intervention. I have nothing against holding this belief; however, the aim of this project is to conclude whether omnipotence can be compatible with the fundamental Law of physics which states that energy is always perfectly conserved. Of course, one can reject the formulation of the Law of Conservation of Energy that physicists determined to be true in order to make omnipotence consistent with some reformulation. This would certainly make it seem that divine intervention could transcend physical Law, but this is actually not the case. However, as I have said, I am considering the possibility of an omnipotent being that is compatible with physicists' understanding of the world. To adjust this understanding of how energy is conserved in a physically possible world would be to reject the Law of Conservation of Energy and to forfeit the project.

Section 1.2: God Can Bring About Any Possible State of Affairs

Let me spend some time making it very clear what kinds of things are not possible states of affairs. If we are confident about what kinds of things an omnipotent being need not

⁴ If unsatisfied with my positing the Law of Conservation of Energy, see Fine, 2002 in Gendler 2001.

bring about, then we will have an easier time formulating ways a physical being could be such that they could bring about any state of affairs.

Critiques of omnipotence often object to omnipotence on the grounds that they can think of a state of affairs that God cannot bring about. An example of such an argument classically goes like this: if God is omnipotent then They must be able to do anything. Here's something that God cannot do. God cannot make a stone that is too heavy for Them to lift and also lift that stone. God must either fail to lift the stone or fail to make a stone too heavy to lift. Therefore, God cannot bring about any state of affairs! (Savage, 1967). Aquinas' response would be simple, "you must have misheard me, I was not suggesting that God can bring about any state of affairs, I said that God can bring about any possible states of affairs and that is not a possible state of affairs." Ian Rumfitt, author of *The Boundary Stones of Thought: An Essay in the Philosophy of Logic*, refers to these as "impossible states of affairs" (Rumfitt, 2015).

I am not satisfied with the term "impossible state of affairs." I will explain why and offer an alternative term in its place. For every state of affairs, there is a corresponding proposition that is possibly true. In cases when the state of affairs obtains, that proposition is true. For instance, the proposition, "I am an atheist" is true because I *am* an atheist. In other words, it is because the state of affairs that I *am* an atheist obtains that the proposition "I am an atheist" is true. Consider the necessarily false proposition, "I am 22 years old and I am not 22 years old." Recall that for every state of affairs, there must be a proposition which can be made true. However, there is no state of affairs which can make the proposition "I am 22 years old and I am not 22 years old" true because this proposition is necessarily false. So, this cannot be a state of affairs because states of affairs must be able to make a proposition true.

Take any *impossible state of affairs*, there is no corresponding proposition that it can make true, as the corresponding proposition would be necessarily false. And a corresponding possibly true proposition is necessary for being a state of affairs. What Rumfitt calls an “impossible state of affairs” cannot make their corresponding proposition true. Thus, “impossible states of affairs” are simply not states of affairs at all. They should not be members of the set of states of affairs because they cannot make a proposition true—because the propositions are necessarily false—and thus are necessarily unactualizable, or to use consistent language, unbring-aboutable.⁵ Let’s call them “pseudo-states of affairs.” This term is simply a placeholder for states of affairs that cannot be brought about in the actual world, but is a term that we need to use in order to talk about possible worlds.

There are a number of ways one could think about pseudo-states of affairs. I will address two. There is much debate in contemporary metaphysics about how possibilities ought to be categorized. This is something Ripken treats in *Naming and Necessity* and Fine addresses in *The Varieties of Necessity*. For the sake of this thesis, I want to address two kinds of impossibilities: metaphysical and logical. It is impossibilities of these kinds that Aquinas considers pseudo-states of affairs, and in turn are things that an omnipotent being cannot bring about.

Talking about different kinds of possibilities can get confusing, so I have provided a chart to make the conversation a little simpler. Figure 1 depicts the subsets of possible states of affairs. When we talk about pseudo-states of affairs we are talking about things that fall

⁵ I realize that this language is strange, but the nature of the subject requires that we treat contradictions and so it is very important to me that we get clear on the language. I will be forced to speak in ways that entail contradictions, but instead of compromising the treatment by avoiding statements that entail contradictions, I will simply be diligent in speaking about these things in a way that is easy to understand. This is why I have decided to use the term “pseudo-state of affairs.”

outside of any one of these concentric circles. For instance Aquinas says that a man also being a donkey is not a possible state of affairs (Aquinas, 1981 p.138). This is not a logical contradiction, but it is metaphysically impossible. So a man who is also a donkey would fall within the outermost ring, and thus outside of the metaphysically and physically possible worlds. Because bringing about a man who is also a donkey is neither physically possible nor metaphysically possible, we will call it a “pseudo-state of affairs.” As I discuss the distinction between possible states of affairs and pseudo-states of affairs this chart will serve as a helpful guide. To be clear, I am investigating whether there can exist a physically possible God, so one who is thereby metaphysically and logically possible, who can do all the possible things. An omnipotent being need not be able to bring about things that are logically impossible, metaphysically impossible, or physically impossible, as omnipotence is the ability to bring about all the possible states of affairs—the states of affairs within the innermost circle. Being clear on this will help refine our understanding of the set of states of affairs an omnipotent being must be able to bring about and in turn will also help to make the necessary conditions for omnipotence salient.

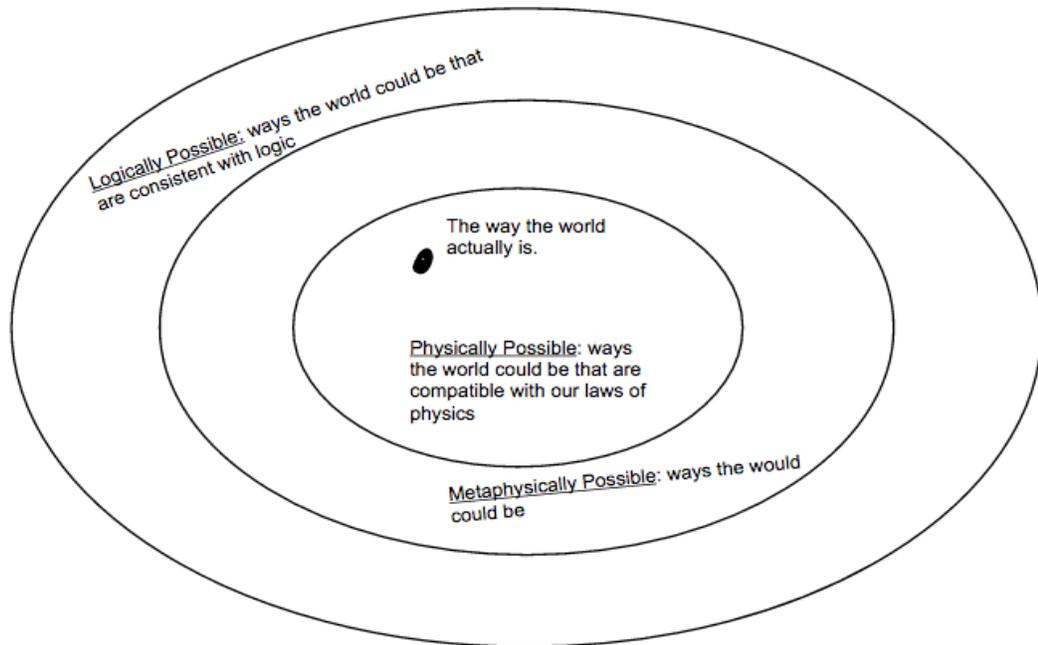


fig. 1

Logically impossible propositions are those that have the form $p \wedge \sim p$. There are a number of pseudo-states of affairs which would violate Aristotle's Law of Noncontradiction if brought about. If bringing some state of affairs about entails that some state of affairs obtains and does not obtain, then the pseudo-state of affairs which entailed the contradiction cannot be brought about. An example should make this clearer. One who can bring about all—but only—the possible states of affairs cannot bring about the state of affairs that I do and do not study philosophy at Dickinson College. That state of affairs is logically impossible. For similar reasons, an omnipotent being cannot change the past. That is, after a state of affairs has occurred an omnipotent being cannot bring it about that that state of affairs did not occur. For example, before I was born, it was possible that I would be born in 1995, and it was possible that I would not be born in 1995. (It was not possible that I both would and wouldn't be born in 1995, though). In 1995, one of those states of affairs came to be, namely, I was born. That state of affairs obtained. Seconds later, it *was* the case that that state of affairs

obtained, and ever since it has been the case that that state of affairs did obtain. Now suppose that in 2017, one were to attempt to bring it about that I was not born in 1995, and imagine they're successful. In that case, the state of affairs that I was not born in 1995 also obtained...in 1995. But it cannot because this is a contradiction. Once I was born in 1995, our world became such that the state of affairs of my having been born in 1995 obtained. After that, altering the past would make it the case that I was born in 1995 and not born in 1995. We know that even omnipotence does not allow one to bring about contradictions. Now we see that changing the past is metaphysically impossible. So, a being who is capable of bringing about all the possible states of affairs need not be able to affect the past nor bring about any other pseudo-state of affairs which entailed $p \wedge \sim p$.

However, because bringing about all the possible states of affairs is sufficient for being omnipotent, being unable to bring about pseudo-state of affairs that entail logical contradictions does not jeopardize possessing the property of omnipotence. But, a pseudo-state of affairs which entails a contradiction is not the only type of pseudo-state of affairs. Bringing about metaphysical impossibilities is another type of a pseudo-state of affairs.

There is a subset of the set of impossibilities that are impossible by virtue of being metaphysically impossible. We previously discussed logical impossibilities, but I now want to consider metaphysical impossibilities as a second kind of pseudo-state of affairs which an omnipotent being could not bring about. I will provide an example for clarity. The pseudo-state of affairs that obtains when Tony is a tiger and a reptile is not logically impossible; but, this is still a pseudo-state of affairs. An omnipotent being would not need to be able to bring about the pseudo-state of affairs that Tony is a tiger and is a reptile, because being a tiger and reptile is metaphysically impossible. The statement, for which T stands for the property of

being a tiger and R stands for the property of being a reptile, and t stands for Tony, $(Tt \wedge Rt)$ is not and does not entail a logical contradiction. However, despite not entailing a logical contradiction, bringing about the pseudo-state of affairs that Tony is a tiger and is a reptile still falls outside of the scope of divine action. For, given what it is to be a tiger and what it is to be a reptile, it is metaphysically impossible for Tony to be both.

In Fine's *Essence and Modality*, he characterizes metaphysical necessities as "those that are rooted in the identity of 'things.'" (Gendler, 2002, p. 258). Metaphysical impossibilities are those that may not be considered contradictions logically, but are conceptually impossible. For example, an omnipotent being could not bring about the pseudo-state of affairs that Nixon was not human. If you are familiar with Kripke's *Naming and Necessity*, you will recognize this example as Kripke's. He suggests that it is impossible that Nixon was an inanimate object, as this would entail negating an essential property of Nixon's in the possible worlds in which Nixon exists (Kripke, 1980, p. 46). And this, as we saw with Tony the tiger, is metaphysically impossible. Aquinas addresses this kind of impossibility in Volume I of his *Summa Theologica*. He suggests that God cannot bring about pseudo-states of affairs which obtain when a man is also a donkey, as it constitutes an incompatible subject and predicate (Aquinas, 1981 p.138). A post-Kripkean will recognize that while the subject and predicate are incompatible, the impossibility that Aquinas is addressing is a metaphysical one.

At this point, it should be clear what kinds of pseudo-states of affairs an omnipotent being cannot bring about. I have spent this time outlining the scope of omnipotence because it will help us see what kind of a being God would not need to be. For instance, I will not need to spend time questioning whether it is possible for any type of physical being to change

the past because as we know this falls outside of the scope of omnipotence. An omnipotent being need not be capable of bringing about pseudo-states of affairs that are logically or metaphysically impossible. However, for every state of affairs that is logically or metaphysically possible, God would need a way to bring it about. The possibility of omnipotence as the power to bring about any possible state of affairs is what I am investigating in this paper.

Section 1.3: God is Non-physical

The third claim, (c), and the second property this thesis will address is non-physicality. Aquinas formulates three arguments which conclude that God is non-physical in Volume I of *Summa Theologica*. The first follows from his concept of a first mover, the others from potentiality and nobility. However, I will only be discussing the first mover argument, as it would have been considered successful by his scientific contemporaries.

The concept of a first mover is derived from the idea that everything has a cause. Aquinas reformulates Aristotle's Unmoved Mover which suggests that there must have been one unmoved mover, otherwise there would be an infinite chain of causes. Aquinas uses this to argue for God's non-physicality by positing the idea that if something is physical, then it must have had a cause. So if all physical things are moved, or have causes, and God was not moved or caused, God must not be physical (Aquinas, 1981).

Section 1.4: Formulating the Inconsistency

The inconsistency is as follows: when any state of affairs is brought about, energy is transformed. Because energy is conserved, it must be that the net quantity of energy expended and energy gained is zero when a new state of affairs is brought about. Recall that bringing about states of affairs requires that energy is transformed and that when energy is

transformed, the participants must lose or gain some quantity of energy such that it is perfectly conserved in the system. So, if a physical being were to bring about a new state of affairs, it must be that they expended or gained energy such that the net sum of energy in the system remains zero, i.e., such that energy is not gained or lost from the system. If a being participated in a transformation of energy and they did not gain or lose energy, then energy would have not been conserved. For example, picking up my pen requires that I expend energy, but my pen now has more potential energy. We know that when energy is lost, it must be gained, so the fact that the pen gained energy makes perfect sense. But if a being is non-physical, they would have no energy to lose—if they did, they would be physical. Similarly, if they gained energy in a transformation of energy they become at least partly physical. So, unlike the physical interactor, a non-physical entity could not lose or gain energy because losing or gaining energy requires that they were physical before the transformation or became partly physical during the transformation. Now, imagine that a non-physical being were to bring about a state of affairs in a physical system. It would have to be that energy was not perfectly conserved because the non-physical being who participated in the transformation could not gain or expend energy as the Law requires. This, of course, is counter to the Law of Conservation of Energy. Thus, energy would not be conserved if a non-physical being were to bring about any state of affairs in a physical system. We know that energy is always perfectly conserved because of the Law of Conservation of Energy. So, if there were to be a case in which a non-physical being were to bring about a state of affairs in a physically possible world, energy would be both always perfectly conserved and not always perfectly conserved. This suggests that a physical being transforming energy is not a state of affairs but rather a pseudo-state of affairs because it

entails the contradiction that energy is always perfectly conserved and energy is not always perfectly conserved.

Under Aquinas' account of omnipotence, a being who is omnipotent can only bring about states of affairs. And the reductio ad absurdum argument shows that a non-physical being transforming energy entails a contradiction in a physically possible world, and thus is not a state of affairs. This is problematic because transforming energy is necessary for bringing about states of affairs, and being able to bring about any state of affairs is necessary for omnipotence on Aquinas' account. So, if it were true that God was non-physical, it would be impossible for Them to transform energy and thereby be impossible to bring about any states of affairs in a physically possible world. So, it appears that a non-physical being cannot be omnipotent in a physically possible world. Aquinas considered God to be omnipotent in the actual world. But I have just shown that, if energy is perfectly conserved at all times in a physically possible world, a non-physical being cannot bring about states of affairs in a physically possible world. And if a being cannot bring about states of affairs in worlds in which energy is conserved, it seems that a non-physical being could not be omnipotent, at least in the actual world and any others where the Law of Conservation of Energy holds.

Perhaps you are thinking that this non-physical, omnipotent God is simply exercising Their omnipotence in a world in which energy is not conserved. Sure, maybe They are, but that is certainly not the conclusion Aquinas was attempting to draw, as it is contrary to Christian dogma which suggest that there is a God bringing about states of affairs in the actual world, and in the actual world, energy is conserved. What does this inconsistency suggest for Aquinas' conception of God? It suggests that if God were to exist, logically They could be non-physical or omnipotent, but not both.

As an atheist, I would be quite content leaving the inconsistency as is, and just saying that the Abrahamic conception of God is fallacious, and doing away with any notions of an omnipotent being. This, however, is not the project. Because we are assuming that the Law of Conservation of Energy is true and that this thesis is investigating the possibility of the property of omnipotence, I will be rejecting that God is non-physical and considering ways a physical God could be in order to determine if a being can possess the property of omnipotence in a physically possible world.

Section 2: Methods

Now that I have addressed the problem and my goal, I would like to discuss the method I will apply to drawing my conclusion. First, I will lay out necessary conditions for the possibility of omnipotence. Theodore Sider noted that, “many metametaphysicists are pessimistic about finding truth in metaphysics” (Sider, 2005, p. 242). But it is because metaphysics functions within the realm of possibility rather than actuality that I think it such a perfect vehicle for questions about the possible nature of an omnipotent being. I am not interested in finding any truths about what is actual; I am simply concerned with determining if omnipotence is possible or impossible. And this is a question for metaphysics. In order to draw the conclusion of whether an omnipotent being is possible, and secondarily what this being would have to be like to be omnipotent, I will consider three necessary conditions for omnipotence and what it takes to satisfy each. I will work through various theories in metaphysics to see if there exists one which can best satisfy the conditions. If successful, we should have at least one possible way a being could exist that would make bringing about any state of affairs possible. There will likely be more than one way to satisfy each condition—

even if they are atypical. In this case, we can select the conception of a physical, omnipotent being that is most sympathetic to one's own understanding of the world.

We cannot begin this treatment until we are clear on what is required for bringing about any state of affairs. I am suggesting that there are at least three necessary conditions for omnipotence. There may turn out to be more necessary conditions, but for the purpose of this thesis I would like us to hold a tentative hypothesis: that the conditions are jointly sufficient. If it turns out that there are additional necessary conditions, then this thesis will not have shown that omnipotence is possible. But I am content with this scenario for two reasons. If alternative necessary conditions come to the surface, then I have already done a lot of the footwork by showing that it is possible to satisfy conditions i-iii. Secondly, my showing that a being can satisfy the aforementioned conditions shifts the conversation about omnipotence from strictly science vs. faith to metaphysics, and that is important. I will treat the following three conditions: a physical being would need to be able to:

- (i): participate in any number of transformations of energy at a single moment.
- (ii): interact with any number of physical particulars at one time.
- (iii): transform any quantity of energy.

Section 2.1: Condition (i)

Condition one suggests that if one cannot participate in any number of transformations of energy at one time, then one cannot be omnipotent. I have said that energy must be transformed when states of affairs are brought about. But to bring about any state of affairs requires that one can bring about different states of affairs in different locations at a single time. And participating in any number of transformations of energy at one time is necessary for this. So, to be omnipotent one must satisfy condition (i). I am suggesting that

this being needs to be able to bring about multiple states of affairs, ultimately requiring that they can transform energy with multiple particulars, in different locations, at the same time.

Section 2.2: Condition (ii)

The second condition for omnipotence is being able to interact with all the physical particulars at a single time.⁶ I have considered this a necessary condition because there cannot be physical particulars that an omnipotent being cannot affect. An omnipotent being must be able to bring about every possible state of affairs. So for every particular x that exists, an omnipotent being must be able to bring about state of affairs of which x is a part. In other words, an omnipotent being must be able to make it true that they interact with any existing particular. I have given myself a little room to work by choosing to use the word “interact”. When I use “interact,” such as in the case g can “interact” with p , I am really saying that g can bring about states of affairs involving p . So from here on, when I say “interacting with,” take it to be shorthand for “being able to bring about states of affairs that involve.”

Section 2.3: Condition (iii)

The third necessary condition for omnipotence is being able to transform any quantity of energy. At each moment, there is a total amount of energy. An omnipotent being must be able to transform any and thus potentially all of that energy between Time 1 and Time 2. The quantity of energy in this transformation must still be conserved. As participating in transformations of energy in which energy is not conserved is not within the scope of

⁶ Recall that bringing about a pseudo-state of affairs that alters the past is not something that an omnipotent being needs to be able to bring about. So when I say that an omnipotent being would need to be able to interact with all the physical particulars at any time, I do not mean to say that this being would need to interact with particulars that do not exist at the moment of interaction.

omnipotence. But, this being must be able to transform any amount energy in the system from one form of energy to another in order to be able to bring about all the possible states of affairs.

There are a number of interesting logical relations between these three conditions. I have chosen to divide them up into three separate conditions because it will allow for a clearer discussion. Until now I have been discussing the inconsistency between Aquinas' conception of God and the Law of Conservation of Energy. But the discussion will now transition to an investigation of whether a physical being could satisfy all the three conditions. Aquinas was dedicated to making tenets of his religion compatible with physics. So for the rest of this paper I will return to this project and consider whether a physical thing can be omnipotent and not violate the Law of Conservation of Energy. So let's think of the next chapter a my attempt to update Aquinas' account of an omnipotent being such that it can be consistent with physics. Aquinas' goal is clear—to conceive of God in a way that is consistent with physics and to admit when it cannot be done.⁷ I have shown that Aquinas' failed to meet his goal—the Law of Conservation of Energy precludes a non-physical being from possessing the property of omnipotence. And now I will attempt to develop a way that a physical God could exist such that omnipotence is consistent with fundamental physics. That is, I will consider different ways a physical entity could be that would enable them to participate in any number of transformations of energy at one time, interact with all existing particulars, and transform any amount of energy.

⁷ God being a Trinity is an example of this

Chapter 2: Satisfying the Conditions

Section 1: Satisfying Condition (i)

I would first like to show that participating in multiple transformations of energy at one time is something that physical particulars do quite frequently. If possible, I ask that you tap your foot. Now, while tapping your foot, if possible, clap your hands. You are now visibly participating in multiple transformations of energy at the same time. Located in the region of your feet, you are transforming energy from kinetic to potential and vice versa over and over again. At the same time, you are participating in a similar event wherever your hands are located. So, it is certainly possible that a being can participate in multiple transformations of energy at one time, but let's see if we can conceive of a way a being could participate in not just multiple transformations of energy, but in any number of transformations at one moment.

Recall that God has to possess energy, or be physical, in order to bring about states of affairs, as being non-physical entails an inconsistency. This is because one can transform energy if and only if they possess energy. This suggests that every physical particular is then always in a state in which it can transform energy. Actualizing this potential to transform energy, however, requires that it interact with some other particular. This suggests that an omnipotent being must be able to interact with all the physical particulars at once. Otherwise there would be possible transformations of energy that our being could not participate in. An example will make this idea clearer.

Imagine that the desk I am sitting at plus one foot in all directions is the totality of this world. It is just like the actual world, except the only members of this world are my desk, all the things on it, and myself. My coffee, pen, notebook, soup bowl, self, computer,

keyboard, glasses, and every other physical thing in this domain all have some quantity of potential energy. Participating in any number of transformations of energy at one time would require that I can interact with all of the physical particulars in my desk world at the same time. Imagine that I could interact with all the physical particulars in the desk world except for my pen. In this case, because my pen necessarily has some quantity of energy, by virtue of being a physical thing, it has the potential to participate in a transformation of energy. If I cannot interact with it, I cannot transform this potential energy. Thus there would be a case in which energy could be transformed, but I cannot bring it about that the energy is transformed. This would certainly entail that I could not be omnipotent in the desk world, as there would be pen related states of affairs, such as heating up the ink or moving the pen that I could not bring about. Again, I could not bring about pen related states of affairs because I cannot interact with the pen and in turn cannot participate in a transformation of energy with said pen. This suggests that if a being were to be omnipotent in a world in which Laws of Conservation of Energy hold, it must be able to interact with all the physical particulars at one time or else satisfying condition (i) would be impossible. For, if a being could not interact with all the physical particulars, it could not participate in all the transformations of energy, and thus would not be able to bring about any possible state of affairs.

Simply put, looking out into the world we can see that there are things participating in multiple transformations of energy at one time. If an omnipotent being is one of them, I do not know. But, omnipotence requires more than being able to participate in multiple transformations; an omnipotent being would need to be able to participate at one time with all the transformations possible. And as I have shown, if a being cannot interact with all of physical particulars, then satisfying condition (i) is impossible. Though satisfying condition

(ii) is necessary, it is not sufficient for condition (i). So now let's turn to condition (ii) to see if it can be satisfied before further discussing whether a physical being can satisfy condition (i).

Section 2: Satisfying Condition (ii)

In this section, I will be investigating ways of existing that would make it possible for a being to interact with all the physical particulars at one time. I will consider multiple ways one can exist in space—specifically—being singularly located, partially multi-located, and wholly multi-located. The central theme of this section is how a physical being might relate to all the physical particulars. I will consider ways a being might exist such that all the physical particulars are in its locality and how a being might be such that it was possible for it to interact with particulars if there were particulars outside of its locality.

Section 2.1: Physical Particulars outside Locality

All physical beings have locality, so if God were a physical being, They too would have a locality. “Locality” is a term that I will use to discuss God’s ability to interact with physical particulars. I will use the term “locality” to refer to the domain of physical particulars with which one can directly interact at one time by virtue of the particulars being within its immediate surroundings.⁸ When a particular exists outside of one’s immediate surroundings, and thus outside of its locality, direct interaction is not possible. A being can only interact with particulars outside of its locality indirectly through action at a distance or other indirect means. For every physical thing it is either the case that all the particulars are in its locality, or there are particulars inside and outside their locality. If God were physical and there were particulars outside of God’s locality, God would need a way of interacting

⁸ As I said in chapter 1 section 2.2, I am taking interaction with X to be equivalent to being able to bring about states of affairs involving X.

with the particulars outside of Their locality in order to be sufficient for omnipotence. Put more simply, God would need a means of interacting with particulars from a far. I will first consider action at a distance as a possible means for which God could interact with particulars outside of Their locality.

Section 2.1, (a): Action at a Distance

One way a being could potentially interact with particulars outside of its locality is through action at a distance or “Spooky Action,” as Einstein called it. Action at a distance is the observable event when one object affects another without traversing the space between them (Gene, 2011). Physicist Brian Gene from Columbia University describes action at a distance as the possibility that, “something that happens over here can be entwined with something that happens over there even if nothing travels from here to there—and even if there isn't enough time for anything, even light, to travel between the events” (Gene, 2011). This event makes it possible for a particular to bring about states of affairs beyond its locality. There are different ways a particular can act at a distance. There are some that are theoretical, such as quantum entanglement, and there are some which are observable. I will consider the observable: electromagnetic and gravitational action at a distance. An example of electromagnetic action at a distance manifesting in our physical world is the event that follows placing a negatively charged magnet next to a positively charged magnet. When the magnets move towards each other without being mechanically acted upon, they are said to be acting at a distance because the magnets are influencing the state of affairs of the other magnet without directly interacting with it. While it seems promising that physics has proven that particulars can affect one another from a distance, there is a limitation that prevents electromagnetic action at a distance from being the theory that makes interacting with all

existing particulars at one time possible for a physical being that does not have the entire universe as its locality.

As we see in the magnet example, it was not the particulars themselves that brought about the state of affairs which obtained when the two magnets touched. This interaction only occurs because these particulars have the characteristics of negative and positive charge. Imagine that the positively charged magnet is traded for another negatively charged magnet. In this case there would be two negatively charged magnets resting in the same positions as the two previous magnets, but unable to use action at a distance to interact. This suggests that action at a distance can only occur between certain particulars—particulars with the *right* properties—not all particulars. The same negatively charged magnet was able to act at distance in the first scenario, but not in the second because the conjunction of qualities did not enable it to. What this suggests is that not all conditions allow for particulars to act at distance. So, a type of action at a distance that is condition dependent would not be sufficient for interacting with any number of particulars at one time. But there is an alternative way particulars can act at a distance in a physically possible world that is not dependent upon conditions: gravity. Let's consider if gravity can be sufficient for interacting with any number of particulars at one time. If not, we ought not consider action at a distance a possible way a particular could interact with all the particulars outside of its locality.

Gravity is a force which requires that all physical particulars interact with each other. Here's why, Newton's Law of Universal Gravitation states that every pair of particulars “attract one another with a force that is proportional to the product of their masses and inversely proportional to the square of the distance between them” (“Section 3: Newton's Law of Universal Gravitation”). This may appear to be sufficient for condition (ii),

interacting with any number of particulars at one time, but if we look at what Newton's Law requires that the interaction occurs in a determined fashion. Even if gravity does enable some particular to indirectly interact with any particular, the Inverse Square Law determines the nature of this interaction. Remember, we are considering if action at a distance would enable a being to bring about any possible state of affairs. A particular interacting with particulars outside of its locality via gravity will only be able to interact with that set of particulars in a way determined by the Inverse Square Law. This certainly will not turn out to be sufficient for omnipotence, so let's consider an alternative theory.

So we've considered the two known, non-theoretical types of action at a distance. Neither would enable a being to bring about any possible state of affairs. So we ought to consider alternative ways a singularly located being might exist such that it could interact with any number of particulars at one time. I will next consider teleportation to see if it can make it possible for a physical being to bring about any possible state of affairs.

Section 2.1, (b): Teleportation

Teleportation certainly seems like a peculiar means for a physical thing interacting with all the physical particulars. Sure it's a little weird, but this is metaphysics.⁹ If teleportation were possible, it would seem like a viable means for a singularly located being that does not hold all of the particulars in its locality to be able to interact with all the physical particulars. Even if God's locality were small, if God could teleport They could move around so quickly that it would almost be as if everything were in its locality—perhaps They would be able to satisfy condition (ii).

⁹ There are accredited physics papers that suppose teleportation is actual. Given this, it's my responsibility to at least consider it as possible.

There is an unfortunate problem with this potential solution, however. It is not possible for a singularly located being to relocate to any number of locations at one time. If a being were singularly located, it could not be the case that this being was in multiple locations at one time, as then this being would not be singularly located. If a being were to relocate without time passing, it would be such that this being was in multiple locations at a time. So, if this being were to teleport, time would have to pass between arrivals at each location, even if an infinitesimal amount. If time must pass between relocations, then teleportation is not sufficient for interacting with all the physical particulars. If God's only means for interacting with physical particulars outside of Their locality were teleportation, then this being would be unable to interact with physical particulars inside and outside of its locality at the same instant.¹⁰ So, if any particular were outside of Their locality, the being would need some way of interacting with those things.

Teleportation can change one's locality, but it does not enable interacting with particulars inside and outside of one's locality at the same time. So if a being did not have all the particulars in its locality, teleportation would not be sufficient for condition (ii). If God could teleport, it may be possible for Them to interact with particulars outside Their locality at Time 1 by relocating to include those very particulars in Their locality at Time 2. But, this does eliminate the problem of it always being the case that at least one particular would be outside of God's locality at a time. Thus it could not be possible for a being to use teleportation to interact with all the particulars at one time. And in turn, we should not consider teleportation as a possible means for a physical being's satisfying condition (ii).

¹⁰ By virtue of locality referring to all the things a physical being can directly interact with, a physical being can interact with everything within its locality.

Though teleportation may not be a potential means for satisfying condition (ii), if teleportation is physically possible, and does not entail a contradiction, it would be something an omnipotent being must be able to do. Whether teleportation is possible, I am not sure. But if teleportation is impossible, then it is something that neither we nor an omnipotent being should worry about. But, possible or not, teleportation cannot satisfy condition (ii), and so we should shift our focus toward considering an alternative theory.

All physical particulars have locality, even if one's locality only consists of the space in which it rests. How many particulars fall within a particular's locality is totally dependent on how that particular exists in the world. But, for a being to satisfy condition (ii) it would need to be that either every particular was within their locality or that the being was able to instantly interact with the particulars outside their locality by some means. In this section I have considered two possible ways a singularly located being that is neither all the particulars nor holds all the particulars in its locality might satisfy (ii): action at a distance and teleportation. After thorough consideration, we know that action at a distance and teleportation are not sufficient for satisfying condition (ii). So, unless other means are found, we can consider it impossible for a being to interact with all physical particulars when there are particulars outside of its locality. In order to find a way for God to satisfy condition (ii), we ought to consider ways a being could be such that all the particulars are in its locality at all times. I will now work through different theories to assess if this is possible.

Section 2.2: All the Physical Particulars within Locality

Section 2.2, (a): Singularly Located

In this section, I will be examining ways a being could exist such that all physical particulars were in its locality in order to determine if a physical being can interact with all

the physical particulars at one time. I will first treat the more traditional conception of a physical God. More specifically, a God that is singularly regioned and is not all the particulars, but exists among the particulars. Christianity asserts, and Aquinas defends, that the Christian God once manifested physically in the actual world. This account depicts the physical God as a human. I am not interested in following in these footsteps, I simply want to consider if it is possible for a non-scattered, singularly regioned being—such as a human—to hold all particulars in its locality, while remaining distinct from other particulars.¹¹ Whether this singular being is a human, a giraffe, or the Sun and whether said being actually exists or does not exist are not questions that concern me. I only want to determine if a non-scattered, singularly regioned being could possibly interact with all the particulars. But, first, I will say a few words about how I will use the term “region” in order to make its distinction from and relation to locality clear.

As I said before, “locality” refers to the domain of physical particulars with which a being can directly interact at the same time. This is different from a particular’s region. The term “region” refers to the space which that thing takes up. These regions can have location and are dynamic. If one thinks that all that exist are simples, then all the particulars’ regions would be very small. If one thinks a particular can be multi-located or scattered, then a particular’s region can be in multiple locations. The point is that regions are simply the physical space which a particular occupies. And to be singularly regioned is to simply exist in only one region opposed to being in multiple regions. The two terms are related, however.

¹¹ Remaining distinct from other particulars is important, as if it is such that God is not distinct from any particular, it is also the case that there are no particulars which are not God. While this is a potential way a being could hold all particulars in its locality, I am not treating it at this time. So, if we cannot conceive of a God for which holding all particulars in its locality while remaining distinct from existing particulars is possible, then the traditional conception of a non-scattered, singularly located, physical God fails and we will then turn to theories which consider God as all of the particulars.

If X takes up any amount of physical space, it has a region, call it “region X.” By virtue of being physical, X has a locality which includes the particulars in region X (which is simply that thing) and any particulars with which X can directly interact. My hair is an example of a particular that exists within my spatiotemporal region that is also in my locality. The shoe I am wearing is an example of something that is in my locality, but is not in my region, as my shoe is not part of me. I know that particulars need not be within my region to be part of my locality because I am equally able to interact with the shoe I am wearing as I am with my hair. This suggests that there are particulars that I can interact with that are outside of my region, but within my locality. So, the term “region” refers to the physical space a particular takes up, and “locality” refers to the domain of particulars with which one can interact.

It takes little argumentation to claim that there are things outside of my locality; it is just a fact that there are things that I cannot directly interact with right now. Luckily there appears to be a simple solution that can correct this problem for our omnipotent being. My body’s region is too small to interact with all the particulars, but perhaps it is possible for a being’s spatiotemporal region to be large enough such that everything is in its locality. Let’s run a quick thought experiment to see if this is a possible way a non-scattered, singularly regioned being could hold all particulars in its locality while remaining distinct from other particulars.

We’ve already ruled out a human sized, non-scattered, singularly located being as being sufficient for omnipotence, but what about something bigger? I’ve heard that everything is bigger in Texas, perhaps the state of Texas has an expansive enough locality to interact with all particulars. Well, it seems ridiculous to suggest that Texas can interact with Pavlov, a crater located on the far side of the Moon, directly, so let’s rule Texas out on the

grounds of absurdity. As I showed in section 2.1 (a), these two interact indirectly because of gravity. However, as we saw, gravity is not sufficient for a particular interacting with any number of particulars because in a physically possible world, gravity is always causing all physical particulars to interact. Because this indirect interaction between physical particulars in a physically possible world is always occurring in a determined fashion, it would not be a possible means by which a particular could interact with any number of particulars to bring about any possible state of affairs. But what if God were the Milky Way? If this were the case, Texas and Pavlov would be within God's locality. Unfortunately, there are likely more than 100 billion galaxies all with millions of other particulars outside of the Milky Way's locality, so that can't be it (Howell, 2014). If we continue with this reasoning we will soon have a being that is one of three things. For the set P which is the set of all the physical particulars that exist at Time 1, either this singularly regioned being would be so expansive that A) every particular in set P was in its region and thereby its locality, B) some but not all members of set P are in its region and some but not all particulars are in its locality, or C) some but not all members of set P are in its region and all member of set P are in its locality. If A) then this being fails to be distinct from other physical particulars which was one of the restraints of this potential solution—I will consider the possibility that all the physical particulars are in God's region later on. If B) not all particulars are in its locality which is necessary for satisfying condition (ii) because neither teleportation nor action at a distance can satisfy (ii). If C) then at Time 1 a singularly regioned being could interact with any number of particulars at one time. However, if physical particulars distinct from God were to come into existence after Time 1, these particulars could exist outside of God's locality. But perhaps God can expand or perhaps no new physical particulars come into existence. For

these reasons I think we should at least hold on to the idea that a physical being with a singular region can satisfy condition (ii) and if no better solutions come to the surface we return to the possibility of C).

Section 2.2, (b): Multi-located: Partially and Wholly

For those interested in God coexisting with non-God particulars, I will consider the idea that God is a scattered object. The concept of a scattered object comes from Richard Cartwright (1975), but can also be seen later in David Lewis' mereology. Lewis' understanding is slightly generous, as it suggests any particular made of two or more simples can be considered a scattered object (Nolan, 2005, p. 34). On this view, all the objects, such as chairs and water bottles, that we come into contact with are all scattered objects. Instead of drawing from Lewis, I would like to consider Cartwright as I think he does a better job of capturing the uniqueness of scattered objects by offering a stricter definition. Cartwright thinks of scattered objects in a slightly different way. He suggests that scattered objects are particulars that are partially located in multiple locations.¹² In other words, part of a single thing could be found at location X and Y. I will provide an example offered by Professor Jeff Engelhardt of Dickinson College to solidify this concept.

Hawaii is recognized as a single physical thing otherwise known as a particular. There is a single particular that is referred to as "Hawaii," yet it also is a set of physical particulars--the individual 27 islands, referred to as Maui, Kauai, Oahu, Molokai, and 23 other names. If this is the case then, Hawaii exists at locations a, b, c, d ... x, and y at Time T.¹³ I want to push this idea further. Hawaii not only exists at multiple regions with non-Hawaii regions separating the Hawaii regions from each other, but Hawaii is bringing about

¹² This is unlike a chair which is located in a single region C and unlike a mystical Socrates who is wholly multi located in Region S and Region P.

¹³ These variables represent the various places the islands of Hawaii can be found.

different states of affairs at all its different regions. It can be true that Hawaii is shaking from an earthquake in region x at Time T and volcanically erupting in region y at Time T. If it is true that Hawaii brings about different states of affairs in multiple regions at time T then I do not see why God could not do the same, in a similar way.

Now, imagine if we were to restrict the domain of physical particulars in our physically possible world to just those in our solar system. It would seem that the Sun would be able to satisfy condition (ii). We are in a solar system not a lunar system after all. Now let's expand the domain, perhaps some black hole is bringing about all the states of affairs in our solar system or even in the whole actual world. Maybe this black hole has a counterpart in the possible world L which functions around a lunar system and in this world all the particulars are within the black hole's locality as well. There could be an indefinite number of these counter parts interacting with any number of physical particulars in all the different physically possible worlds. Let's posit that God is a set of the possible black holes.

This definitely seems like a scattered-object that is able to interact with all the particulars. But I'm not so sure that this being could interact with any less than all the particulars at one time. We are considering God as the set of possible black holes because of the possibility that all the particulars revolve around some black hole in each world. This relationship may be due to gravitational pull or some other physical. What is causing this interaction is not important, but what is significant is that the interaction with each particular is not brought about by the black hole but made the case by some preexisting physical law. The point is that these interactions are not unique to each particular, but is universal by the nature of the relationship—whatever it may be. This is problematic because a physical being who can interact with any number of particulars must be able to interact with all and fewer

than all the particulars, but this is not possible if the relationship between the black hole and the particulars is universal. For instance, it does not seem possible for this being to interact with particulars, x and y, but not interact with particular q at Time t. If this is not possible, then a physical God that is the set of corresponding black holes could not interact with any number of the particulars.

Let's consider if having multiple regions by virtue of being multi-located is a way a physical being might satisfy condition (ii). Unlike scattered objects, the theory of multi-location suggests that a being can be wholly in more than one place at once (Sider, 2005, p. 16). For example, if Hawaii were multi-located, it would be possible that Hawaii was both entirely in the Pacific Ocean and entirely in the Indian Ocean at the same time. We know this to be not be the case; however, if another being were able to multi-locate perhaps it could satisfy condition (ii). Multi-location can be a difficult thing to swallow because it just sounds wrong. Could it really be the case that Maya Angelou was at the White House on January 20, 1993, reading "On the Pulse of Morning" for the inauguration of President Bill Clinton and also the case that Maya Angelou was at her home in North Carolina on the same day at the same time as she was reciting a poem in D.C.? Multi-location even suggests that she could have been multiple other places at that same time as well. This may sound absurd at this point, but let's look at a more plausible example of multi-location provided by Sider in his discussion of the duplication problem.

Imagine a woman, Mrs. Jones, with stage 3 brain cancer. During an examination, the doctor informs Mrs. Jones of a possible treatment. The doctor tells her that this would be her only hope at recovery, but mentions that there is only a 10% chance of it working. He then says, because there is only a 10% chance of success that he would like to divide Mrs. Jones'

body in two halves, operate on both halves in order to increase the chances of success, and then fit a prosthetic half of a body to whichever side of Mrs. Jones's body that survives. She agrees and they go ahead with the surgery. Despite the odds, both surgeries are a success. The doctor continues with the procedure and provides both healthy halves of Mrs. Jones' body a prosthetic half. If one is inclined to think that half a one's body is sufficient for personal identity then it appears that Mrs. Jones is now multi-located (Sider, 2005, p. 17).

In this story multi-location seems possible because what one might call the *essence* of Mrs. Jones appears to be in two regions. Maybe we want to think that this is how God exists. Maybe God is a single being whose *essence*, whatever the *essence* of God would be, can be found in multiple regions. As there is one Mrs. Jones in two regions—I'm considering the possibility of multi-location generously—there would be one God in multiple locations. Perhaps this way of existing could make it possible for God to interact with all the particulars. I do not see why a multi-located being could not interact with any number of particulars, so let's consider if a multi-located being could participate in any number of transformations of energy at one time, condition (i).

A multi-located being which was able to interact with any number of particles at one time could also satisfy condition (i). Not any multi-located being would be able to participate in any number of transformations of energy. But it at least seems to be possible—if multi-location is possible—that in each region a being existed it would be able to participate in some number of transformations of energy, and between all the regions in which this being existed, it would be able to participate in any number transformations of energy at one time. Of the many regions in which this being existed, it may be possible that the being participated in so many transformations of energy from one region at one time that all of its

energy was expended and it ceased to exist in that region. But, it may very well be that this being would be able continue on participating in any number of transformations of energy because it exists in additional regions. Perhaps this being can propagate in order to expand the number of regions it exists in and transforms energy from. Considering all these possible means of participating in any number of transformations of energy, it certainly seems possible that a multi-located being could satisfy condition (i). I will consider a few more ways a physical thing might be such that they could satisfy condition (ii) before considering if a multi-located being could also satisfy (iii).

Up until now I have been considering ways God could exist such that particulars distinct from God could exist, but still be within God's locality. I now want to consider the possibility that a physical being that is all of the particulars possesses the property of omnipotence. While this goes further against the traditional Christian conception of how a physical God could exist in a physically possible world, we should at least consider it to be a possible way a physical being might satisfy (ii). I will consider three different theories of that assert that God is all of the particulars, starting with Spinoza.

It would be irresponsible to write a thesis on metaphysics that discusses pantheistic ideologies and not make mention of Spinoza. Spinoza's metaphysics hinge on the world's substance, attributes, and modes. For those unfamiliar with Spinoza, he considered substances to be the things for which existence was independent of everything. From this he deduced that there was only one substance: God. This single substance, however, can assume different modes (Nadler, 2001). The language that is often used to describe Spinoza's modes includes qualities or properties. But that is simply to say, how we experience the substance, whether as a chair form or a table form, is some mode of God. Beyond this, Spinoza's

metaphysics can get rather convoluted, particularly when considering mereology. So, let's hold onto the concept of modes discussed by Spinoza and consider them in the context of mereological nihilism.

In Sider's paper *Temporal Parts* he describes mereological nihilism to be the theory which suggests that only simples exist (Blackwell, 2008).¹⁴ The argument for nihilism from reductionism suggests that we move around the actual world and perceive it to be full of objects that we can interact with: dogs, books, reading glasses. But all of these things also have parts: tails, pages, lenses. And these parts all have parts: fur, fiber, bits of sand. The mereological nihilist will say that if one were to continue to theoretically divide things into parts, they would eventually find themselves thinking about simples. Simples are the smallest possible things, they have no proper parts, they are indivisible, and they make up everything (Sider, 2005, p. 145). Merricks offers a more formal argument for the non-existence of composites in his book *Objects and Persons*. The argument first asks you to take a trip to Gallerie dell'Accademia and visit Michelangelo's *David*. Merricks then challenges you to annihilate one atom and asses if you are still looking at *David*. If yes, annihilate another, and another. He suggests that if we continue this process at some point one might have to confess that they no longer are looking at *David*. He then asserts that if *David* did exist at the beginning then annihilating a mere atom was the difference between *David* existing and not existing. He goes on to say that, "thus we should conclude that David does not exist at the start of the Game. For the result that a single annihilation could make 'all the difference' in David's existence is unacceptable" (Merricks, 2001, p. 32).¹⁵

¹⁴ Simples are things which do not have smaller parts.

¹⁵ For the full *reductio* see (Merricks, 2001)

A mereological nihilist does not think that things like dogs, books, or reading glasses exist but rather are modes—to use Spinoza’s language—of simples. In other words, objects that we perceive in the world are just simples organized in the form of that object. For example, instead of saying “you are sitting in a chair,” the mereological nihilist will say something like the following, “simples arranged you-sittingwise, are next to simples arranged chairwise.” There is no chair, as there is no you to sit in said chair. There is simply a collection of simples that appear make up the form of a chair, but are more so just organized chairwise. This would be true of dogs, books, and reading glasses as well. None of these things actually exist, but are just dynamic arrangements of all the simples. Let’s posit that God is the aggregate of all these simples.

If all that exists are simples and God is all of the simples, then everything will be within Their region and thereby Their locality. Of course this does not mean that God can interact with animals, trees, or other composites because these things do not exist. However, this is not a problem; for, if God were all the mereological simples They would certainly be able to bring about states of affairs which hold when the simples are organized treewise or bookwise. But if God were all simples, all things would be within Their locality; and thus, it would be possible for God to satisfy condition (ii). Recall that in Section 1.1 of this chapter, I suggested that condition (ii), being able to interact with any number of physical particulars is necessary for condition, (i), being able to participate in any number of transformations of energy. Condition (ii) is necessary for condition (i) because there are transformations of energy which cannot take place without interaction. So because God existing as the aggregate of all the simples can satisfy condition (ii), we can now consider whether God being the aggregate of all the simples is sufficient for condition (i).

As I have said before, all physical particulars have the potential to transform energy at any time because, by virtue of being physical, they can potentially gain or expend energy—which is just to transform energy. Because all physical particulars can transform energy when interacted with, if God were all the simples They would not only be all the physical particulars, but also able to interact with any physical particular at any time. As the aggregate of all the simples, all physical particulars would be within God’s locality. This suggests that if God were all the simples God would be able to transform the potential energy in any number of physical particulars at one moment and thereby satisfy condition (i). But before considering if condition (iii) can be satisfied as well, let’s consider one last theory, just in case one finds themselves opposed to mereological nihilism.

The alternative to mereological nihilism that I would like to look at is one that considers God to be all the simples, but that also holds the position that composites exist. This satisfies condition (ii) by way of the same deduction as mereological nihilism. If God were all the simples and composites existed, then all the simples and composites that existed would be in God’s locality. If this were the case, God would be able to interact with all existing particulars whether they were simples or composites. But if there were simples and composites either God would be the aggregate of all the simples and the composites of the simples. Or, God would be all the simples and not the composites.

In Sider’s words, cohabitation “says that the same region of space can be inhabited by more than one object” at the same time (Sider, 2005, p. 148). If one were to think that God was the aggregate of all the simples but not the composites of the simples, then they would have to embrace cohabitation because there would parts that were God and a non-God whole in the same region. Questions about cohabitation frequently arise in response to the Puzzle of

the Statue and Clay.¹⁶ An example of cohabitation in the context of the statue of clay puzzle is the claim made by constitution theorists that suggests both the clay and the statue are located in the same region (Sider, 2005, p. 137). Constitution theorists suggest that simples and composites can exist in the same region. So, if God were all the simples but not the composites, then it would be that something that is God and something that is not God were in the same region. In the case of God as all the simples, a chair would exist in the same region as the chairs parts—God. Prima facie, this may not seem all too problematic, but this certainly raises red flags in my head. Sider offers an anecdote which illuminates the absurdity of cohabitation.

A woman once decided her house needed a change, so she painted every part of it bright orange. But even though all its parts changed color, the house itself did not change color at all; it stayed the same (Sider, 2005, p. 149).

He explains why we intuitively deem this story absurd. He says it is because the story “supposes that the house is something over and above its parts” (Sider, 2005, p. 149). Sider’s anecdote details that what we perceive as a singular whole cannot be distinct from its parts. Perhaps the collection of parts can be viewed as better or different, but it is essentially just a collection of its parts that presents as a singular whole.

Let’s push this anecdote a little further. It seems to me that calling the collection of wood a house also asserts that something is over and above its parts. Is a house not simply a collection of wood organized housewise?¹⁷ I am inclined to say yes. One would not suggest that an unorganized collection of wood is a house. Nor would one think it possible for an

¹⁶ See Sider’s *Temporal Parts* for a formulation of the puzzle (Loux, 2006).

¹⁷ If my argument for mereological nihilism is successful, there would be no wood as there would be no houses, rather but simples organized woodwise. But I will talk about wood as if it were a building block of a composite for the sake of the example.

unorganized collection of wood to be in the same region as a house. So, I do not see why we should think it possible for an organized collection of wood to be in the same region as a house simply because it is organized housewise. A composite cannot be over and above its parts, that is, a collection of wood cannot be something other than a collection of wood. I would like to suggest that it is because the concept of a wooden house does not intrinsically contradict the wood-ness of its parts that it seems to make sense when we call a collection of wood that is organized housewise a house. For, it would sound absurd to say that a tin can or a computer was a composite of wood parts. But these two examples are committing the same error! They both suggest that the whole is something other than its parts. While the tin can example illuminates the absurdity of cohabitation, cases like the wooden house are what make it seem possible. I am not willing to say that a house is something other than a collection of wood, and likewise, I am resistant to saying that any composite is more than a collection of parts of God.

Recall the disjunction that arises when we think that composites exist and God to be all the simples. It must be that either God is the simples and the composites of the simples or God would be the simples and not the composites. Because cohabitation fails, and in turn the potential for God to be the simples but not the composites, we are forced to assert that if God is all the simples and composites exist that God is both the simples and the composites. Make note that this is not a typical account of cohabitation and constitution, as regularly rejecting cohabitation is used as a move towards rejecting constitution. I am proposing that in the case of God possibly being the simples and the composites that there may be grounds for

mediation if one is convinced that composites exist. I certainly am skeptical, but this debate is not the focus of the thesis.¹⁸

It seems that if God were the aggregate of all the simples—whether it is such that composites exist or do not exist—that this being could satisfy conditions (ii) and (i) by way of the same deduction I offered earlier.¹⁹ So, I will now consider whether God could satisfy condition (iii) if They were the aggregate of all the simples. I will refer to this potential solution as “mereological nihilism,” but you can think of God as the simples and the composites if you are attached to the existence of composites. This is not my preference, but again, this is not something I wish to discuss in this thesis.

Section 3: Satisfying Condition (iii)

The final condition for omnipotence that I will treat in this thesis is (iii): being able to transform any amount of energy. This means that a being must be able to transform any and thus potentially all the energy in the worlds in which the Law of Conservation of Energy holds. We can see by looking out into our world that the amount of energy a particular can transform depends on a number of factors. How much potential energy something has depends on its mass and height; how much kinetic energy a particular has depends on its mass and volume (“Work, Energy, and Power”). So, what a particular is made out of, how much of that substance there is, and what position it is in are all things that affect how much energy a physical thing can transform. Let’s consider this in the context of whether it is possible for a being to transform any amount of energy if God were the aggregate of all the simples.

¹⁸ Though, we disagree on how to resolve the problem, Sider offers a thorough account of the problem of constitution itself and some possible solutions. If you care to read more about this problem see Sider’s *Temporal Parts* (Loux, 2006).

¹⁹ See Chapter 2 Section 1.1 for this deduction.

Section 3.1: All the Simples

At each moment there is some quantity of energy. There is no way to determine the quantity, but physicists suggest that it is finite.²⁰ I have shown explained that the quantity of energy one thing possesses at each moment is dependent upon how that thing exists physically. So it follows that the percentage of the total sum of energy at each moment that one particular possesses is dependent upon how that thing exists in space and how much energy there is at each moment. If it were the case that simples were the only physical things that existed, 100% of the energy in the universe would be divided amongst the simples in one form or another. If God were all simples, then God would have 100% of the energy. If a being had all the energy, there would be no energy that existed independent of that being. This means that if it is possible for all of the energy to transform, it would mean that God can transform any amount of energy. Physicists certainly think it is possible to transform all the energy. Many have named a moment when this possibly occurred as the Big Bang (Liddle, 2015, p. 114). Of course at this point we do not know if the theory of the Big Bang is true or false, but we can say with reasonable certainty that it is at least possible to transform all the energy.

Physicists have also concluded that another Big Bang like event will occur, and thus suggest that it is possible for all the energy in the universe to be transformed again (Liddle, 2015, p. 106). We can conclude from this that if God were all the simples, They would be able to transform all the energy in the system. And thus, we have shown that it is possible not only for a physical being to satisfy (iii), but also (i) and (ii).

²⁰ This is not to say that the total quantity of energy remains constant, but that at each moment there is some quantity that represents the total amount of energy.

Section 3.2: Multi-located

We previously determined that a wholly multi-located being could satisfy conditions (ii) and (i), so let's see if it too could possibly transform all the energy. Sure, I do not see why a multi-located being could not transform all the energy. Perhaps God is wholly in different regions and from these They can transform all the energy. It does not seem to me that a multi-located being would necessarily fail to satisfy condition (iii). So we ought to at least consider it a possibility that God could satisfy the outlined necessary conditions for omnipotence as a multi-located being. There is one way this solution could fail: a physical thing being multi-located could very well be impossible. This is not something I wish to explore in this thesis, but if one thinks physical things can be multi-located, then this may be another way God could be that would make omnipotence possible.

Conclusion

In this thesis we have worked through the important question of whether one can be omnipotent in a physically possible world. The actual world is a physically possible world and so this question may complicate how a theist thinks about God's relationship to the actual world. Past discussions have centered around the existence and non-existence of an omnipotent being. This thesis took neither side of that discussion, but followed Aquinas in asking whether an omnipotent being is possible in a physical world. Asking this question today starts a new discussion about the nature of omnipotence—not about its existence but about its possibility given contemporary laws of physics. The problem that I have attempted to resolve is the inconsistency between the assertions that God is non-physical, God can bring about any possible state of affairs, and that energy is always perfectly conserved in a closed system within a physically possible world.

To resolve this inconsistency I have suggested that we reject that God is non-physical and consider the possibility of a physical God being omnipotent in a physically possible world. I offered a set of necessary conditions of omnipotence and set out to determine whether a physical being can satisfy them. Through process of elimination we found a physical being could participate in any number of transformations at one time, interact with any number of particulars at one time, and transform any quantity of energy if They were all the simples or multi located.

There is a lot of work that can be done from here. Thinking about God in this way has created space for a lot of fun objections to and arguments for God's existence. For instance if one holds a cluster concept theory of names which boils down to the idea that every designating expression 'X,' has a set of unique or perhaps *essential* properties and for 'X' to exist it must be that 'X' possesses the majority of these properties (Kripke, 1980, p. 64). So, if the name "God" refers to a being that is non-physical and omnipotent, a cluster concept theorist of names might be forced to reject that "God" exists. I've shown that in a physically possible world God cannot be both non-physical and omnipotent, so we know God cannot satisfy at least one property that is considered essential to Their existence. Under certain cluster concept theories of names this would certainly suggest that God does not exist.

Finally there is a lot of good philosophy to do in response to my project. As I've said, I only worked through three necessary conditions in this thesis. I've suggested we hold the tentative hypothesis that these are jointly sufficient. But maybe another's philosophical investigation will find that these conditions are not jointly sufficient. If this is the case, this thesis will have already done a lot of the groundwork for their project as well as moved the conversation about God's omnipotence into the realm of metaphysics. Instead of discussing

whether God is or is not omnipotent, we can now consider and talk about the possibility of this property independent of the assumption that God exists.

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