

CREDIBLE CATHOLIC Little Book - Volume 1

EVIDENCE OF THE EXISTENCE AND NATURE OF GOD

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Credible Catholic Little Book Volume One

Evidence of the Existence and Nature of God

From: Evidence of God from Contemporary Science & Philosophy

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This Volume supports The Catechism of the Catholic Church, Part One—The Profession of Faith

NOTE: All teachings in the Credible Catholic materials conform to the Catechism of the Catholic Church (CCC) and help to explain the information found therein. Father Spitzer has also included materials intended to respond to current secular myths advocating atheism, agnosticism, and materialism. You will find credible documented evidence for God, our soul, and the resurrection of our Lord, Jesus Christ to bolster your faith.

Part One from the CCC is titled, *THE PROFESSION OF FAITH*. The first 5 Volumes in the Credible Catholic Big Books and Credible Catholic Little Books fall into Part One. Part Two of the CCC is titled, *THE CELEBRATION OF THE CHRISTIAN MYSTERY*. This is covered in volumes 6 through 12. Part Three of the CCC is *LIFE IN CHRIST* and information related to this topic will be found in volumes 13 through 17. Credible Catholic Big and Little Books volumes 18 through 20 will cover Part Four of the CCC. *CHRISTIAN PRAYER*.

We all need to be Credible Catholics. St. Augustine said in his work, *The Literal Meaning of Genesis*,

"Usually, even a non-Christian knows something about the earth, the heavens and other elements... Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; ...If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven..."

It is therefore incumbent upon us to use contemporary academically credible evidence to support Christian faith.

Please note: The following Table of Contents correlates with that of "The Big Book" (the much larger Compendium). If readers want fuller explanations, footnotes, original sources, and complete arguments, they need only click on that particular link (below), and they will be taken to it in "The Big Book."

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Evidence of the Existence and Nature of God

"I believe in God, the Father the Almighty, Creator of Heaven and Earth, and in Jesus Christ His only Son our Lord, who was conceived by the Holy Spirit..."

The whole enterprise of the Catholic Church—the sacraments and feast days; the gospels and commandments; the doctrines and councils; the cathedrals and convents; the hospitals and orphanages; the two thousand year history of martyrs and missionaries and cardinals and teachers and pilgrimages and processions—all begins with four words. "I believe in God.

Do you believe God exists?

Why would someone believe that God exists? There's a widespread sense today that people in older times were honestly pretty gullible. They believed in God in the same way they believed in dragons and ghosts—because the world was an overwhelming and mysterious place that they couldn't explain. But things are different now. With the advent progress in of science, and progress, we have indexed and conquered nature—it seems we no longer need myths and religions to make sense of the world. Do people still believe in God? Sure, but it seems like it is only as a personal and, emotional choice that we cannot base on hard evidence. We don't expect them to provide hard evidence. In fact, Indeed, many of us think we think of "faith" precisely as the ability to believe something without any evidence. But are all these contentions really true?

In the Catholic tradition, however, this is not how faith works. Faith is not opposed to reason; on the contrary, faith builds on reason and is based on reason. There are several areas of study that converge to present a rational case for believing in the existence of God. We will look at three of these now: scientific evidence, philosophical evidence, and what we call the "transcendental attributes" of God. (A fourth area—personal and medical testimony of "near death experiences"— will be discussed in the next volume.)

Chapter One:

The Scientific Evidence of an Intelligent Creator

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There is a common misperception that science and faith are opposed, but contemporary science actually provides many kinds of evidence for the existence of God. There is also a wide tradition of openness to faith within the scientific community. According to the 2009 Pew Survey of the American Association for the Advancement of Science, 51% of scientists declared that they believed in some form of deity (e.g., God), and of the remaining number, more are agnostic than atheist. Among the theists are several of the great trailblazers of modern science.

Here are a few examples:

Albert Einstein 1879–1955

(Theoretical Physicist: The Father of General Theory of Relativity)

"Certain it is that a conviction, akin to religious feeling, of the rationality and intelligibility of the world lies behind all scientific work of a higher order... This firm belief, a belief bound up with a deep feeling, *in a superior mind* that reveals itself in the world of experience, represents my conception of God."

Sir Arthur Eddington 1882-1944

(Astrophysicist: Verified the Expansion of the Universe)

"We all know that there are regions of the human spirit untrammeled by the world of physics. In the mystic sense of the creation around us, in the expression of art, in a yearning towards God, the soul grows upward and finds the fulfillment of something implanted in its nature. The sanction for this development is within us, a striving born with our consciousness or an Inner Light proceeding from a greater power than ours. Science can scarcely question this sanction, for the pursuit of science springs from a striving which the mind is impelled to follow, a questioning that will not be suppressed. Whether in the intellectual pursuits of science or in the mystical pursuits of the spirit, the light beckons ahead and the purpose surging in our nature responds."

Max Planck 1858-1947

(Physicist: The Originator of Quantum Physics)

"Religion is the link that binds man to God—resulting from the respectful humility before a supernatural power, to which all human life is subject and which controls our weal and woe."

I. The Big Bang

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Scientific evidence for God's existence generally relates to God's role as a Creator of the Universe, the one who first set everything in motion. But for much of human history, there was no scientific evidence as to whether the Universe had a beginning at all.

That all changed in 1927, when Fr. Georges Lemaître, Ph.D., a theoretical physicist and priest, developed the Big Bang theory. The theory explained something curious that astronomers had noticed about galaxies moving through space—the further away a galaxy was, the faster it was moving away from us.

Lemaître theorized that galaxies were not moving through a fixed empty space, but rather that the space between the galaxies was itself stretching and growing. Think of a polka-dot balloon being inflated—as the balloon grows, the space between the dots grows as well, so the dots become further apart. More distant dots will move further away at a faster rate, just like the distant galaxies were observed to do.

This was a ground-breaking theory—it replaced the static universe of earlier theory with a universe that was expanding outward from a specific point in the past. (Thinkers from Aristotle to Aquinas to Newton to Einstein had all assumed that there was no way of knowing through science whether the universe had a beginning.) Later calculations would work backwards to peg this origin at 13.8 billion years ago (+/- 100 Million years).

Moreover, the equations for the Big Bang theory also gave Einstein the missing puzzle piece about the shape of the Universe to complete his contemporary General Theory of Relativity calculations. Einstein was able to remove a constant he had added to compensate for the universe being eternally static into the past.

The theory was so revolutionary that Einstein was skeptical at first, but several forms of evidence would soon support Lemaître's conclusion. The first confirmation came from

astronomer Edwin Hubble at Mt. Wilson Observatory in 1933. The scientific principle he used was called "red shift": as distant galaxies move away faster, the wavelengths of light are stretched out (from our perspective on earth), making the light "shift" towards the red end of the spectrum. Other evidence can be found in the cosmic microwave background radiation (the remnant of the Big Bang). It is uniformly distributed —a special form of radiation that is evenly distributed through the entire universe and has been dated to be 13.8 billion years old. It is the aftershock of the birth of the universe.

So, if the observable universe began with a Big Bang, does this necessarily point to a creator? Or is there something else in reality, something outside the observable universe that could have started it? There are some unconfirmed hypotheses that might allow the universe to have existed before the Big Bang, meaning that the Big Bang was not the beginning:

- **1. The multiverse hypothesis**—there is a giant inflating universe that can produce a multiplicity of bubble universes indefinitely into the future. Our universe is just one of many such bubble universes.
- **2.** The bouncing universe hypothesis—the universe is in a constant cycle of expanding from a Big Bang, and then contracting in a "big crunch," and then bouncing and re-expanding repeatedly. The expansion from the Big Bang until today is theorized to be one such cycle—the latest in a long series.
- **3.** The pre-Big Bang eternally static hypothesis—quantum gravity allows for the possibility of a pre-Big Bang era in which the universe was perfectly stable for a long period of time prior to the Big Bang.
- **4. The higher dimensional space universe hypothesis**—string theory (particularly M Theory) allows for the possibility of universes to exist in higher dimensional space (consisting of, say, eleven dimensions), permitting unusual complex expanding and bouncing universes.

This leads us to our next proof -- which says that for any of these hypotheses, we can still work backwards to some finite point in the past where the universe(s) began.

II. The Borde-Vilenkin-Guth Proof

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This proof was devised by three very famous physicists in 2003, and remains as valid today as then – Dr. Arvin Borde (Kavli Institute at the University of California, Santa Barbara), Dr. Alexander Vilenkin (Director of the Institute of Cosmology at Tufts University in Boston), and Dr. Alan Guth (Chair of Physics and Cosmology at Massachusetts Institute of Technology who is the father of contemporary inflationary theory).

The Borde-Vilenkin-Guth proof involves a lot of complex steps that are discussed in the Big Book, but its conclusion is notably simple with its single criterion:

- Any universe with an expansion rate greater than zero must have a beginning, meaning it could not have existed eternally into the past.

What makes this a significant development after the Big Bang theory is that the proof requires only one condition ("expansion rate greater than zero") so it can be applied to all hypothetical multiverses, all hypothetical higher-dimensional string universes, and all bouncing universes. This means that all of these configurations – every hypothetical multiverse, string universe, and bouncing universe – $must\ have\ a\ beginning\ -\ no\ exceptions$.

There is one other option – the pre-Big Bang eternally static hypothesis. This hypothesis has been shown to be contradictory and at variance with quantum theory (by Alexander Vilenkin), and so it is not valid either.

Therefore, every non-contradictory hypothetical configuration for a pre-Big Bang universe, multiverse, or string universe **must have a beginning**. Currently, the best scientific evidence we have requires that physical reality have a beginning – whether it be just our universe, a multiverse, a string universe, or a bouncing universe.

III. Evidence from Entropy

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Another very basic principle that points to a beginning for our universe(s) is entropy. Entropy is the principle that systems always move from order to disorder. Things left on their own never become more organized—you need to bring in energy from outside the system to add order again. Physical systems run down (get used up) and reach a state

of equilibrium (disorder) which cannot do any work. This process is irreversible, which is why there is no such thing as a perpetual motion machine—entropy dictates that the machine would inevitably stop running and need more fuel to start up again.

What does this mean for the beginning of our universe? Let's break it down into five steps:

- 1. If our universe (or a hypothetical multiverse) had existed for an infinite amount of time, it would have used up all of its order necessary to do work.
- 2. But the fact is, our universe is doing work plenty of work to this very day,
- 3. Therefore, it could not have lost all of its order needed to do work.
- 4. Therefore, our universe could not have existed for an infinite amount of time (but only a **finite** amount of time).
- 5. Since our universe existed only for a finite amount of time, it must have had a **beginning**.

As with the BVG proof, entropy is such a basic, universal law of physics that we can apply it to any physical system, including those hypothesized outside our observable universe. This means (as we saw above with respect to the BVG proof) that those systems – whether they be multiverses, string universes in higher dimensional space, or bouncing universes – must all have a **beginning**.

This means we have two distinct sets of evidence that show that physical reality (our universe, any hypothetical multiverse, string universe, or bouncing universe) must have a beginning.

IV. Something, Nothing, and Creation

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The evidence we've looked at above strongly points to a beginning of physical reality (whether it be just our universe, a multiverse, a bouncing universe, or a string universe in higher dimensional space). The beginning of physical reality (in physics) is a point before which physical reality did not exist – it was simply nothing. Therefore, the beginning marks the point at which physical reality came into existence – the point at which it moved from nothing to something.

So, if the universe wasn't always there, then how did it come into existence? How can something come from nothing? The short answer is that it cannot because only nothing can come from nothing. (This is one of the most basic principles of metaphysics dating from the time of the ancient Greeks.)

Think about it. What can nothing do? Obviously it can only do nothing, because it is nothing – it does not exist. Now if it is nothing, and can only do nothing, then it can*not* move itself from nothing to something. It is stuck in nothingness.

Therefore, something else must cause physical reality to move from nothing to something, and that something else must transcend (be beyond) physical reality (whether it be just our universe, a multiverse, a bouncing universe, or a string universe). We call that "something else" which is beyond physical reality and caused physical reality to move from nothing to something, "a Creator" or "**God**."

Any scientific attempt to explain how the universe might have brought itself into being from nothing typically winds up sneaking "something" into the "nothing" it starts with. For instance, Stephen Hawking once posited that the universe could have spontaneously created itself from nothing because of the existence of the law of gravity. But the law of gravity is something! Clearly, "nothing" doesn't really mean "nothing" in his scenario.

Let's summarize the evidence and conclusions we have explained:

- 1. There is a high likelihood of a beginning of physical reality (prior to which physical reality was literally nothing), as the evidence of the Big Bang, Entropy, etc. indicate.
- 2. From nothing, only nothing comes.
- 3. Therefore, it is highly likely that the universe came from something which is not physical reality (i.e. beyond physical reality). This is commonly referred to as a "transcendent cause of physical reality" or "a Creator" or "God."

Even Hawking himself has elsewhere obliquely acknowledged this need for a creator. As he put it:

If we discover a complete theory [of the universe], it would be the ultimate triumph of human reason—for then we should know the mind of God... Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? (Brief History of Time)

V. Fine-Tuning

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Not only does the existence of the universe seem to require a Creator, but the structure of the universe that we have, with all the conditions fine-tuned to favor life, also seems to require the intelligence of an intentional creator and could not be attributed to random luck. Reviewing all of these factors that make life possible (many of which are so perfectly calibrated that a shift of less than a millionth of 1% would catastrophically reshape our world) is a fascinating study that spans many diverse scientific fields. We can only summarize a few of these factors here and invite you to explore further in the full text (the Big Book).

Let's take one example. The Oxford physicist Roger Penrose once calculated the odds against low entropy occurring in our universe by pure chance. Remember high entropy means that there is little order in the universe with which to do work. Therefore low entropy (which allows work) is necessary for life to develop and evolve. So what did Penrose calculate? The odds against low entropy (needed for life) are 10¹²³ to one! This number is so large that if written out in ordinary notation, our solar system would not be able to hold it, if every zero were 10 point type! It is the same odds as a monkey typing the entire works of Shakespeare by random tapping of the keys in a single try – in other words, virtually **impossible**. This means that one of the basic conditions necessary for any life form to develop (low entropy) is virtually impossible by pure chance, suggesting that a super intelligence has infused this condition in our universe at the Big Bang. Even Penrose called this super intelligence, "the Creator."

The Gravitational Constant

The Gravitational Constant determines how strongly physical bodies in the universe are attracted to each other through gravity. It's a crucial factor in making sure we are a good fit with our planet—too little gravitational attraction and we'd all float away, too much and we'd be crushed. But the universe's situation is even more fragile than that—if the Gravitational Constant was slightly different, the Big Bang would have been so explosive that galaxies would likely never have formed at all – indeed, everything would have been completely consumed in explosions – prohibiting life. Alternatively, a slight change in the other direction of the constant would have meant the entire universe collapsing into a black hole from which it never would have emerged – again prohibiting life. How slight of

The Strong Nuclear Force

The Strong Nuclear Force is what makes all the elements on our Periodic Table possible, becauseit binds protons together in the nucleus of an atom. If the Strong Nuclear Force constant were just 2% stronger, there would be no hydrogen in the universe, meaning that no stars would burn, there would be no water, and hence, no life. On the other hand, if the Strong Nuclear Force constant were just 2% weaker, there would be nothing but hydrogen in the universe, wiping out all the other elements on the Periodic Table, such as carbon and nitrogen, which are equally necessary for life.

If you are interested in these other highly improbable fine-tuning requirements for life, please go to the Big Book.

The odds of all of these highly improbable fine-tuning requirements (necessary for life) occurring by pure chance are about the same as a monkey typing the entire corpus of all English literature by random tapping of the keys in a single try – again virtually impossible.

This leaves us with only two realistic alternatives:

- 1. A multiverse with trillions upon trillions upon trillions... of bubble universes to explain only one universe hospitable to life our own, or
- 2. A highly intelligent creative force that selects the conditions for entropy and sets the values of our universal constants at the Big Bang that is, God.

The multiverse option creates its own set of issues:

- The Multiverse is a strictly theoretical construct—if it exists, it is unobservable and unverifiable by scientific methods, so it isn't a more plausible hypothesis, scientifically speaking, than an intelligent Creator who pre-exists the Big Bang (and who is thus similarly unobservable by scientific methods)
- In fact, positing untold trillions of universes is a much more complicated way to explain the design of just one universe, compared to the explanation of one intelligent creative mind. This goes against the principle of parsimony, popularly known as Ockham's Razor: "The explanation with the least number of assumptions, conditions, and requirements is to be preferred" (because nature favors elegance over needless complexity).
- Even as a developing theory, the Multiverse itself increasingly seems to require its own set of fine-tuning conditions, in which case it would have the same need for a creative intelligence as our observable Universe. All known multiverse hypotheses require significant fine-tuning to allow the development of bubble universes that do not interfere with one another (prohibiting life forms in them). This means that the multiverse requires an intelligent creator for its design just as much as our universe does to be hospitable to life.

Sir Fred Hoyle, one of the greatest nuclear physicists and cosmologists who ever lived, was a former atheist, but when he discovered the fine-tuning requirements for life in our universe, he changed his mind and became a theist with these words:

A common sense interpretation of the facts suggests that a superintellect has monkeyed with physics, as well as with chemistry and biology, and that there are no blind forces worth speaking about in nature. The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost beyond question.

VI. Conclusion

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The scientific evidence for an intelligent Creator falls into three groups:

- 1. Evidence from the expansion of the universe (The Big Bang and the BVG Proof) for a beginning of physical reality. This implies a creative force that transcends our physical reality.
- 2. The evidence from entropy for a beginning of our universe (and physical reality). This too implies a creative force that transcends our physical reality.
- 3. The fine-tuning of the initial conditions and constants of the universe at the Big Bang. This implies a super-natural intelligence in the formation of the universe.

All of these groups of evidence are independent of each other. But when they are combined, they become complementary because they corroborate each other while emphasizing different dimensions of the one transcendent intelligent Creator. They form an "informal inference"—a conclusion that becomes more solid through the accumulation of different kinds of evidence that converge on the same result – namely, that scientific evidence currently shows the high likelihood of a superintelligent, transcendent, cause of the whole of physical reality (our universe and any other hypothetical multiverse, bouncing universe, or string universe). We call this supernatural cause of physical reality, "a Creator" or "God."

We will now turn to another complementary field of evidence—the philosophical evidence for God's existence.

Chapter Two: Philosophical Evidence of God

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Philosophy is not the easiest topic to just dive into, so for this section we will try to look at two of the more accessible proofs, by Thomas Aquinas and Bernard Lonergan. Since this material is complex, not only can you look to the Big Book for a more in-depth treatment, you can also refer to Fr. Spitzer's book, "New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy" (Chapters 3 and 4).

I. Contemporary Thomistic Metaphysical Proof of God

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The proof shows that there must exist one and only one unrestricted uncaused reality which creates everything else—and this reality is referred to as "God." Using the steps of this proof, we can simply look at the world around us and conclude the existence of the Creator, but notice that this leaves out a lot of detail about who this Creator is—why he made us, whether he loves us or is indifferent, what his plan for us is. Such questions require revelation to answer, as we will see in volumes 3 and 4.

I.A The Basic Proof

Step 1: There must be at least one uncaused reality that exists through itself.

You and I don't cause our own existence. But *at least one* thing somewhere in reality must cause its own existence.

Why? Consider the following:

- 1. If everything in reality had to be caused by something else, then the whole of reality would have to be caused by something else outside of the whole of reality.
- 2. But if that something else is outside the *whole* of *reality*, then it would have to be *unreal* that is, nonexistent or nothing.
- 3. According to this hypothesis, the cause needed to make the whole of reality real would be *unreal*.
- 4. This would mean that the whole of reality would have to be unreal nonexistent nothing which is clearly not the case.
- 5. Therefore, there must be at least one reality that is not caused by something else. We call this reality an *uncaused* reality or a reality that exists through itself alone.

Step 2: An uncaused reality must be unrestricted.

We are each defined by our restrictions. A green 100-page book is distinct because it is green (not red or blue, etc.), is 100 pages (not 36 or 1250, etc.), is a book (not a kumquat or a human being), occupies the specific space of its particular atoms (not the space of the atoms of the blue book next to it, etc.) and the list goes on.

Thomas Aquinas distinguishes this "restricted way of existing" (or "essence"—) from "existence through itself." In other words, "existence through itself" does not include any defining restriction like "being an electron" or "being purple." Why? If the act of "existing through itself" was not distinct from any given restriction, then everything that exists would have to have that restriction—a world where everything is acting like an electron, for instance. But this cannot be the case, because it would prohibit the existence of all other kinds of realities that are incompatible with acting like an electron (such as acting like a proton or a positron). Remember — the hypothesis says that existence through itself is not distinct from acting like an electron. This would mean that every manifestation of existence would act like an electron which would prohibit everything incompatible with an electron (such as a proton) from existence.

Notice that this is not limited to acting like an electron, but applies to *every* restricted way of acting, because if existence through itself were not distinct from that restricted way of acting then everything incompatible with that one restricted way of acting would not be able to exist. We would have a world with only one kind of restricted reality, which is clearly not the case. For this reason, Aquinas stated that existence through itself would have to be distinct from *every* restricted way of acting. This would allow every kind of restricted reality to exist – electrons *and* protons, matter *and* antimatter, electromagnetic waves *and* electromagnetic particles, which is what we experience in reality. Aquinas then concludes that if existence through itself must be distinct from *every* restricted way of acting, then it must be *unrestricted*.

Step 3: Unrestricted "existence through itself" must be completely unique (one and only one)

Why can't there be more than one unrestricted reality? Basically, things are made distinct through restriction—to have two things, <u>one</u> must have something the <u>other one</u> does *not* (which implies that one of the hypothetical unrestricted realities is *restricted* – a contradiction).t. Let's spell it out:

1. If there is going to be a multiplicity of anything, there must be a difference between them. Imagine that you have two realities without any difference between them – no difference in power, activity, qualities, space-time point, etc.– no difference of any kind? Obviously, if there is no difference between them, they are the same – and if they are the same, then they are *one*.

- 2. Inasmuch as there must be some difference between two realities, one of them will have to have something, be something, be somewhere, or be in a different dimension that the other one is *not*. If one reality is not something or somewhere or does not have something that the other reality does not, then there is no difference between them in which case there is only one reality (as shown above).
- 3. Now we return to the particular hypothesis being considered, namely, that there can be two (or more) *unrestricted* realities. You probably can foresee the problem. Let us suppose we have two (or more) unrestricted realities, then as we said above, one of them will have to have something, be something, be somewhere, or be in a different dimension that the other unrestricted reality is not. But if that supposedly unrestricted reality is not something or somewhere, or in another dimension that the other one is, then it must be *restricted* in some way restricted in its powers or activities or spacetime point or dimension, etc. Now you probably see the problem our supposedly unrestricted reality must be restricted to make it different from the first unrestricted reality. But think about that. The second unrestricted reality must be restricted it is an obvious contradiction, and therefore, impossible.
- 4. Therefore every second (or third) hypothetical unrestricted reality must be a contradiction (a restricted, unrestricted reality), which is impossible. Therefore there can be *only one* unrestricted reality in the whole reality.

At this point, Aquinas combines the conclusions of the previous three steps:

- He has shown that there must be *at least* one uncaused reality (a reality existing through itself), otherwise there would be nothing in existence.
- He then shows that existence through itself must be unrestricted that is, it must be different from *every* restricted way of acting (such as an electron) otherwise the whole of reality would be that one restricted way of acting which would prohibit from existence all incompatible restricted ways of acting (such as a proton or a positron). Clearly not the case!
- He then shows that an unrestricted reality must be one and only one -- otherwise we hold to an obvious contradictory state of affairs a restricted unrestricted reality, which is impossible.

• Now he combines the conclusions. Since there must be at least one uncaused reality (a reality existing through itself), and since any reality that exists through itself must be unrestricted, and since every unrestricted reality must be one and only one, Aquinas concludes that there must be one and only one unrestricted reality existing through itself – that is, one and only one unrestricted uncaused reality. This is beginning to sound a lot like God.

Step 4: The One Unrestricted Uncaused Reality ("existence through itself") must be the Ultimate Cause (Creator) of all else that exists.

We just saw that there can only be one unrestricted, uncaused reality in the whole of reality. So, the rest of reality must be caused realities. But caused by what?

There's only one option—by the one unrestricted uncaused reality. Every caused reality must be caused by the one "existence through itself" or it would be literally nothing. Thus, the one "uncaused reality" is the creator of everything else that exists (all of which are "caused realities") including us.

Conclusion to the First Four Steps

There must exist a unique unrestricted, uncaused reality which is the Creator of all else that exists. This reality may be called "God," because it is consistent with the one God of Judeo- Christian revelation.

I.B Objections to the Thomistic Proof

There are two main objections raised to this proof, both of which are mentioned in the writings of Bertrand Russell:

- 1) "So What Caused God?"—i.e. first cause arguments mean "everything has a cause" which means God must have a cause, too.
- 2) "If there can be anything without a cause, it may just as well be the world as God."

However, Aquinas' argument for a first cause doesn't begin with the idea that "everything has a cause." He says precisely the opposite – namely, that everything in reality cannot be caused, otherwise the whole of reality would not exist (see step one). This means that there must be at least one reality that does *not* have a cause (an uncaused reality). For Aquinas, asking the question, "What caused God?" is the same as asking "What caused the

uncaused reality?" which is a contradictory question!

This brings us to the next objection—basically, if we don't think "everything has a cause", why not just say the universe is uncaused, then? Why does it have to be God? Well, this is where the rest of Thomas' argument about the uncaused cause comes in—once he establishes that there *is* at least one uncaused cause (in the first step), he then proves (in the second and third steps) that an uncaused reality must be absolutely unrestricted, and that an absolutely unrestricted reality must be completely unique. Therefore, he can prove (in the fourth step) that there cannot be any other uncaused realities besides the one unrestricted reality (termed "God" after the fourth step).

Thus, the metaphysical proof does not *assume* that God is the only uncaused reality—it proves that an uncaused reality must be unique because it must be unrestricted. Our universe, in contrast, is full of diverse material things, so it's hardly a candidate for being this one, unrestricted uncaused cause.

I.C The Simplicity, Transtemporality, and Intelligence of God

Thomas' argument can be followed further to reveal other attributes of God—His simplicity, His timelessness, His intelligence. To begin with, we know God must be simple because the alternative is being complex, and complexity comes from having parts. But think about it, if something has parts, then those parts must be more restricted than the whole. Thus parts always imply restrictions. Now let's go back to what we said in step two above, that an uncaused reality must be *unrestricted* – that is – that there can be no restrictions in it. You can probably now see the conclusion – that an uncaused reality cannot, therefore, have parts – if it did, then it would have restrictions (which step two has shown to be contrary to fact). Inasmuch as God is the One and only One unrestricted uncaused cause, then God cannot have parts – and if He does not have parts, He is not complex – and if He is not complex, then He is absolutely simple.

.The explanations for "transtemporality"/timelessness (because being in one point of time rather than another would be a restriction) and intelligence (because the unrestricted act of existence is perfectly "present" to itself and perfectly self-conscious) are more involved and require more steps to spell out. But you can read about these in more detail in the Big Book.

I.D A Response to Richard Dawkins

In addition to the two objections discussed in I.B. above, another more recent objection has been raised by Richard Dawkins. His core argument in The God Delusion may be summarized as follows:

- 1. A designer must always be more complex than what it designs.
- 2. Whatever is more complex is more improbable.

Therefore, a designer must be more improbable than what it designs.

His second premise is clear enough—the more complex a reality is, the more parts there are to order or organize, and order is less probable than disorder. (That's why your Christmas lights are always tangled when you dig them out of storage.)

But why does Dawkins posit that a designer must always be more complex than what it designs? As we discussed above, an uncaused reality would be unrestricted and thus necessarily simple (since complex things require parts, which require restrictions – see above Section I.C). A survey of his book indicates that Dawkins overlooks this metaphysical principle because he thinks of design only in material terms: i.e. a brain or computer, both of which require more parts to execute more advanced tasks.

But this materialistic view of reality cannot be applied to God (the one uncaused reality), because that reality cannot have restrictions, and therefore cannot have parts. The uncaused reality is unrestricted existence – that is – unrestricted power – and therefore it does not need complexity in order to think or do anything. The only time reality needs complexity to think or do something is if it has restricted parts. Then and only then do you need more parts (and more complexity to think or do more things). But God has no restrictions or parts – He is unrestricted power – the unrestricted power to think and the unrestricted power to act (do). Therefore it is meaningless to imply that He has complexity.

Now let's return to Dawkins' second premise – that a designer would have to be more complex that what it designs. Given the above proof of God (I.A) and God's simplicity (I.C), this first premise is false – and in fact, the opposite must be the case, because a designer (which is uncaused) must be absolutely simple, and therefore, simpler than anything it designs.

Ironically, this means that Dawkins' argument actually proves that God is the most probable reality of all. Let's return to it with the needed correction of the first premise:

- 1. The uncaused designer must be simpler (less complex) than anything it designs.
- 2. Whatever is more complex, is more improbable.

Therefore, the uncaused designer must be more probable than anything it designs.

II. A Lonerganian Proof of God

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As modern science has expanded beyond the older limits of materialism and cast a new light on the significance of consciousness, the contemporary philosopher Bernard Lonergan has developed a new proof for God's existence that focuses on the intelligibility of reality.

Here is his basic proof:

If all reality is completely intelligible, then God exists.

But all reality is completely intelligible.

Therefore, God exists

We can explain this proof in five steps.

Step One: All reality must have at least one uncaused reality that exists through itself.

This was already proved by St. Thomas Aquinas in step one of the proof above (Section I.A). Recall that if there is not at least one uncaused reality in the whole of reality, then all of reality would be nothing, which is clearly contrary to fact.

Step Two: Any uncaused reality must be a final and sufficient correct answer to all coherent questions making it completely intelligible (the complete set of correct answers to the complete set of questions)

Some readers may be wondering why Lonergan would spend so much time addressing why an uncaused reality must contain within itself the complete set of correct answers to the complete set of questions. As we shall see in step 5, this point is crucial for showing that an uncaused reality is not only an unrestricted *creator* of everything else (Aquinas' proof), but also an unrestricted act of thinking (intelligence or mind) Though this is implicit in Aquinas' proof, Lonergan makes it an explicit rationally proven conclusion. Now let's get to the proof.

An uncaused reality is the ultimate answer to the question, "Why?" Let's look at the reason for this. When we ask the question, "Why?" we want to know why reality is *this* way instead of some other equally possible way. So, for example, when I ask why did I only grow up to be 5'11", I recognize that I could have been shorter or taller than that, but there must be some *cause* to explain *why* this possibility is real, while the other ones are not. Whenever we ask the question, "Why?" we are asking about the cause that explains why one possibility became real while all the other equally possible options did not.

What Lonergan realized is that these questions about causation could only be *ultimately* answered by an *uncaused* reality. Recall that an uncaused reality must be the ultimate cause of the existence of all caused realities (see Aquinas' proof in Section I.A. above). Thus, only an uncaused reality doesn't require something else to explain "why" it exists. Since it exists through itself, it explains itself and its existence completely from within itself.

Anything which does *not* exist through itself (caused realities) are not completely explained in themselves. Thus the answer to the question about why they exist lies in other realities outside of themselves. If those other realities do not exist through themselves, then the answer to the question about why *they* exist would lie in still other realities beyond themselves. As you can see, this chain of questions and answers will not come to a complete answer (a complete explanation to the question "Why?") until we reach an answer that explains itself completely—that is, an uncaused reality.

Up to this point, Lonergan has not yet proven that there is only one uncaused reality. He has only shown that there must be *at least* one uncaused reality, and it must be the ultimate answer to the question, "Why this way rather than another?" At this juncture, Lonergan makes a second important discovery – namely, that *any* uncaused reality must

be able to provide an ultimate answer to the question, "Why?" for **all** possible realities. He noticed that any reality that exists through itself doesn't simply explain its own existence, but can explain the existence of *every* possible act of causation of which it is capable. Notice that any uncaused reality (which exists through itself), can cause absolutely anything which is not an intrinsic contradiction (e.g. a square-circle of the same area at the same place and time). If an uncaused reality can cause the existence of every possible reality, then it can explain the existence of every possible reality, and therefore it can be the ultimate answer to the question, "Why is it this way rather than another?" for every possible reality. Therefore an uncaused reality can be the ultimate and final answer to all possible questions of "Why this way rather than some other?"

Lonergan makes one final observation. In order to answer the question, "Why this way rather than some other?" we would need to know the answers to all other related questions, such as, "What is it?" "How does it work?" "Where is it?" "When did it occur?", etc. We cannot understand *why* a particular reality exists, (rather than equally possible other realities) without first understanding *what* that reality is and how it is distinct from other possible realities. We also have to know *when* and *where* that reality occurs, and *how* it functions in order to know why it occurred rather than something else. This point is important because it shows that the *answer* to the question "Why?" must include within itself the *answers* to the questions "What?" "How?" "Where?" "When?", etc.

Now let us return to an uncaused reality which we said had to contain the ultimate answer to every possible question "Why this way rather than some other?" Now we can see (in light of the above point) that an uncaused reality must also contain the answer to *all* possible questions—not just the question "Why?" but also the questions "What?" "How?" "Where?" "When?", etc. This means that any uncaused reality has to contain within itself the answers to all possible questions that can be asked of any caused reality as well as itself—and so we say that this reality is *perfectly intelligible*. It is the complete set of correct answers to the complete set of questions.

Step Three: An uncaused reality existing through itself must be unrestricted in intelligibility.

In this step we need only make the connection between an uncaused reality being *perfectly* intelligible and it being *unrestricted* in intelligibility. Recall from Step 2 above that any uncaused reality must be perfectly intelligible—that is, it must contain within

itself the complete set of correct answers to the complete set of questions. Now consider the following three step argument:

- 1. If an uncaused reality were to have *any* restriction in its intelligibility, then it would not contain the complete set of correct answers to the complete set of questions—there would be some questions that could not be answered by the intelligibility of that reality.
- 2. But as we saw in the previous step, an uncaused reality must contain within itself the complete set of correct answers to the complete set of questions—because it contains the ultimate answer to why it exists as well as the answers to why every possible reality could exist (which it is capable of causing). Furthermore, as we showed above, if it contains the ultimate answer to the question why for every possible reality, then it also contains the ultimate answer to the questions "What?" "How?" "When?" "Where?", etc. for every possible reality.
- 3. Therefore, there can be no restriction in the intelligibility of an uncaused reality—there can be no question to which it does not contain the correct answer. It must therefore be completely *unrestricted* in intelligibility.

Step Four: A reality which is unrestricted in intelligibility must be absolutely unique.

This step is similar to what we saw in Step 3 of Thomas' proof.

Recall from that step that in order to have two of anything, there must be a difference between them. If there were no difference—of power, activity, qualities, space-time point, dimension, etc.—then they would be absolutely the *same*, and therefore only *one*.

Now let us apply this principle to the hypothesis that there can be two (or more) realities that are unrestricted in intelligibility. If there are to be two of them, then there would have to be a difference between them, meaning that one of them would have to be intelligible in some way that the other one is *not*. This implies that one of them is restricted in its intelligibility—that it does not answer some questions that the other one does. Think about it—if both of them correctly answered all questions identically, then there would be no difference between them, meaning that they would be the same. Therefore, one of them will have to be restricted in intelligibility

Note, we cannot postulate two unrestrictedly intelligible realities in two different places or dimensions. If something is in a particular place or dimension, then it is restricted in space-time or dimensionality—meaning that its intelligibility does not extend to other space-time points or dimensions. Once again, the differentiating factor requires that one of the unrestrictedly intelligible realities be restricted.

This is an obvious contradiction, because it means that every second (third, or more) unrestrictedly intelligible reality would have to be restricted in its intelligibility—that is, be "a restricted unrestrictedly intelligible reality" which is impossible. Therefore, there can be only *one* unrestrictedly intelligible reality.

Step Five: The one uncaused reality is the ultimate cause of everything else in reality.

Recall from Step 1 of this proof that every caused reality must originate ultimately from an uncaused reality. Since there is only one uncaused reality (Step 4), then that one uncaused reality must be the ultimate origin of every cause reality. Recall also that the whole of reality, except for the one on caused reality, is composed of caused realities. Thus, the one uncaused reality is the cause of everything else in the whole of reality.

Now let us apply this to Lonergan's insights above. We saw there that an uncaused reality must be completely and unrestrictedly intelligible, and hence must be completely unique. Therefore this unique unrestrictedly intelligible reality must be not only the cause of all other realities, but must contain within itself the correct answers to all possible questions that can be asked about them *and* Itself. Thus, the one unrestrictedly intelligible reality is the ultimate cause of the existence and intelligibility of everything else in reality.

We now have only one question left to consider—"what is, more precisely, this unrestrictedly intelligible reality?"

Step Six: The one unrestrictedly intelligible uncaused reality is an "unrestricted act of thinking."

We now come to the culmination of Lonergan's argument, for he is not simply concerned to prove the one unrestricted uncaused reality which is the creator of all else that is (as in Aquinas' proof), but also that this uncaused reality is unrestricted intelligibility, and therefore an unrestricted act of consciousness or thinking (intelligence or mind).

After establishing that the one uncaused reality must also be unrestrictedly intelligible, Lonergan need only prove that an unrestricted intelligible reality is unrestricted mind. We give a detailed explanation of this in the Big Book, but the following is a brief summary. Lonergan begins by showing what unrestricted intelligibility is "not."

First, unrestricted intelligibility cannot be a physical reality or process, because they are limited in their intelligibility to particular places and times as well as to particular laws of physics. They cannot provide the answer to a question beyond what they do (according to specific laws of physics), where they are (in space), when they occur (in time), and what their conditions are. Thus they can hardly be considered an acceptable candidate for an unrestricted intelligible reality.

How about the whole universe of physical entities and processes? Such a universe is also restricted in its intelligibility because it too is restricted in its spatio-temporal totality, its universal physical laws and constants, and in the conditions for its existence. Since the whole universe cannot answer any questions beyond these intrinsic restrictions, it cannot be a candidate for *unrestricted* intelligibility.

How can we escape the limits of space-time and physical processes and laws? We can get a hint from human self-consciousness. In the next volume, we will be speaking about near death experiences and self-consciousness, and there we will see significant evidence for a transcendent soul capable of surviving bodily death. This means that consciousness can exist without a body, and indeed, when consciousness is disembodied, it can do far more than it can within the constraints of the body's physical processes. Furthermore, we will show that conceptual ideas (that relate ideas to one another through the heuristic structures of the major questions) transcend physical processes. So we might say that disembodied consciousness, intelligence, or mind is capable of grasping intelligibility beyond any space-time conditions and physical laws. So could such an act of consciousness, intelligence, or mind encompass unrestricted intelligibility?

Evidently if such an act of disembodied consciousness or mind were restricted, then it could not contain within itself unrestricted intelligibility. Therefore, the only candidate that can qualify for unrestricted intelligibility is *an act of disembodied consciousness or mind which is unrestricted*. For this reason, Lonergan asserts that the one uncaused reality must also be an unrestricted act of consciousness or mind—an unrestricted act of thinking.

Given the above reasoning, there must exist one and only one uncaused, unrestricted act of consciousness or thinking which is the ultimate cause of the existence and intelligibility of everything else there is. This is what we call "God."

Conclusion

Let's review. We began this proof with showing the necessity for at least one uncaused reality that exists through itself—without which nothing would exist. We then proceeded to show that such a reality would have to be unrestricted in its intelligibility. We then showed that an unrestrictedly intelligible reality could only be one—absolutely unique—and then showed that this one unrestrictedly intelligible uncaused reality would have to be the ultimate cause (Creator) of everything else in reality [Step 5]. We then asked what an unrestrictedly intelligible reality would be like, to which we responded that it could *not* be a physical reality, a physical reality, the whole universe, or a restricted act of consciousness or thinking. This left only one remaining option—an *unrestricted* act of consciousness, intelligence, or mind which is described above. These proven attributes—unique, unrestrictedly intelligible, uncaused reality existing through itself, which is the Creator of everything else in reality and an unrestricted act of consciousness, intelligence, or mind —may be referred to as "God."

These philosophical proofs tell us *what* God is—the Creator, the unique uncaused reality existing through itself, , unrestricted in intelligibility and in intelligence. ,.—but they are limited in *what* they can tell us about *who* God is. We could never discover the Father of the Prodigal Son just from thinking about caused vs. uncaused reality or observing the red shift of galaxies. God would need to reveal himself to us, and we will be looking at the question of revelation later on, in Volume 3. Meanwhile, there is more to unpack in what we can learn about God from proofs and reasoning.

Chapter Three:

The Transcendental Attributes of God— Truth, Love, Goodness, Beauty, and Being

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From the proofs of Aquinas and Lonergan, we have established that God is perfect being (the one unrestricted, uncaused reality existing through itself) and is perfect truth (an unrestricted act of consciousness, intelligence, or mind). These are transcendental attributes, i.e. in their highest form they transcend any limitations and are unrestricted acts of intelligence and thinking. We can extend this conclusion by recognizing an important insight from Plato—that restricted entities exclude one another.

Let's begin with this insight. Restricted entities exclude one another—proton behaviors exclude electron behaviors in the same respect at the same place and time, similarly, the restrictions of square exclude the restrictions of circle, the restrictions of wave behaviors exclude the restrictions of particle behaviors, and so on. Wherever there is restriction, there is also exclusion. However, the opposite is not the case—an unrestricted entity has no boundaries, limits, or behaviors that exclude anything. Therefore, we say that an unrestricted entity is purely *inclusive*—it can form a unity with anything.

The reverse is also true—not only is an unrestricted reality purely inclusive, but any purely inclusive attribute must likewise be unrestricted. Are there any purely inclusive attributes besides being and truth (as we saw above)? Plato thought there are 3 of them—perfect love, perfect goodness, and perfect beauty.

Before exploring these 3 transcendental attributes, we need to remind you of one important fact established above—that an unrestricted reality must be one and *only one*. This is why St. Augustine said that all the transcendental attributes—perfect being, truth, love, goodness, and beauty—must belong to one and only one being—the one *unrestricted* reality—God. Notice if perfect love is perfectly inclusive, then it must be unrestricted, and if it is unrestricted, then it must belong to the one and only one unrestricted reality (God)—it cannot be a separate unrestricted reality (which would imply two unrestricted realities—a contradiction). Similarly if perfect good is perfectly inclusive, then it too must belong only to the one unrestricted reality—God. Finally, if perfect beauty is perfectly inclusive, it too must belong to God alone.

This is a truly profound insight, for by recognizing that restricted realities exclude other restricted realities, but that an unrestricted reality would be perfectly inclusive, we are able to show that any attribute (such as love, goodness, and beauty) which could be perfectly inclusive would have to belong to the one unrestricted reality. This means that if we can show that perfect love, goodness, and beauty are perfectly inclusive, then God must be perfect love, goodness, and beauty. This extends the conclusion we obtained from Aquinas' and Lonergan's proofs of God—that "a unique uncaused unrestricted act of consciousness or thinking and the creator of everything else" (God) exists. Now we must see whether perfect, love, goodness, and beauty can qualify as perfect inclusivity.

Love—We have mentioned that we are defined as separate, restricted individuals. Regrettably, when we are egocentric, we can enhance the separation and distance we have from others. However, . Love empowers us to transcend these limitations. If selfishness and isolation keep us focused on our own self-preservation and autonomy, empathy makes

us move beyond these self- centered concerns and into unity with the other. Ultimately, if there is no intrinsic limit to the unifying power of love, then perfect Love is capable of perfect unification. As such, it could be *perfectly inclusive*. This implies that it is an attribute of the one *unrestricted* reality. (A philosophical conclusion that coincides with the biblical revelation that "God is Love.")

Justice/Goodness—We saw that selfishness divides us and yet love enables us to rise above that division to truly connect with others. In the same way, injustice comes from a desire to set our own self-interest ahead of the rights of others, setting us in conflict against our neighbors.

Justice allows us to rise above this divisive conflict and instead work with others in building a common good, a just society where everyone's rights are protected. This unifying power of justice, like love, has no natural limit. Justice has an unlimited power to overcome the depravity and misuse of power (arising out of greed, pride, and the resultant desire for control and domination)—an unlimited power to inspire and unify an entire planet—and beyond. As such, it is capable of being a perfect unifier—a perfect unity. Therefore, it could be *perfectly inclusive*. Once again, since perfect inclusivity must belong to the one unrestricted reality (God), perfect justice must be the same reality as perfect love, perfect intelligence, and perfect being—that is, the one unrestricted, uncaused reality existing through itself as an unrestricted act of thinking. As such, God would seem to be perfectly just or good—as well as perfectly loving and perfectly intelligent.

Beauty—The key characteristic of beauty is harmonious resonance. When different forms blend together, each form brings out hidden aspects of the other. In music, playing two or three notes together brings out something that you couldn't hear in the notes played in isolation. Whether it's the boldly contrasting colors in a painting, the cumulative grandeur in the porticos and windows and pillars of a great work of architecture, or the seemingly tossed-off yet coordinated ensemble on a fashion runway, the principle is there. In all these instances, harmony—unity—among different forms enhances beauty. One might say that simple objects of beauty point to the perfection of a form, but the harmony—the unity—of multiple forms points to ever greater beauty—and even to perfect beauty itself. this harmonization or unification process seems to have no intrinsic limit: it seems that *all* forms have an ideal complementarity with *all* other forms, suggesting perfect unity. Just as Plato foresaw, perfect beauty could be perfect inclusivity, implying that it too belongs to the one unrestricted reality—God. As such, God not only seems to be perfect being, perfect truth, perfect love, perfect justice-goodness, but also perfect beauty—the harmony of all

forms provoking and inspiring emotions of reveling, joy, and the sublime.

In sum, empirical evidence and logical reasoning can prove with reasonable certainty the existence of God as the unique uncaused, unrestricted act of intelligence which is the creator of everything else. The further recognition that the one unrestricted reality is the only reality that can be perfectly inclusive, enables us to infer that all other perfectly inclusive attributes must also belong to God alone. There are three such perfectly inclusive attributes beyond being and intelligence—perfect love, perfect justice-goodness, and perfect beauty. Therefore, God would appear to be perfect being, intelligence, love, justice-goodness, and beauty. Reason can go no further. If we want to know who God is, we will have to turn to revelations (Vol. 3).

Chapter Four:

Questions Raised by the Existence of a Creator

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I. Can the Existence of God be Disproved?

There are three ways to prove a claim—and three corresponding ways to disprove a claim—by a-posteriori evidence, a-priori evidence, or a combination of the two.

- 1) A claim is false if an exhaustive search of all reality reveals that it does not exist (a-posteriori evidence). Empirical evidence (a-posteriori evidence) is simple and valid to prove that something exists. For example, to prove that dogs exist, we need only have one confirmed sighting of a dog. However, to prove a negative—that something does not exist by this method—is much harder, as one must exhaustively search everywhere to confirm that the thing is nowhere to be found. We cannot prove, for instance, that unicorns do not exist—we instead say that there is no as yet discovered evidence of their existence. When we try to disprove God by this method, we would not only have to search our universe, but the whole of reality beyond our universe (which we cannot currently do and may not, in principle, be ever able to do). Furthermore, if God is not directly perceivable by our senses or our scientific instruments, He might also elude our search. Therefore, disproving God in this way is untenable.
- **2)** The Law of Non-Contradiction (a-priori evidence). A-priori evidence is based on the simple principle that any intrinsic contradiction is impossible, and

therefore, false. Thus we know that there are no square-circles of the same area at the same place and time. Likewise, we know the same about proton-electrons and a man being 6'3" and 6'4" in the same respect at the same place and time. Can we use this method to show that God is not real? No we cannot, because God is unrestricted. Recall from above that all restricted realities exclude other realities from themselves—the restrictions of square exclude the restrictions of circle in the same respect at the same place and time. However, as we saw above, God is unrestricted, and therefore, purely inclusive—He has no restrictions to exclude anything from Himself. Therefore, no finite reality can contradict Him. For it is impossible to show a contradiction in an unrestricted reality. Thus, this method is also untenable for disproving God.

3) A claim is false if it leads to a contradiction of fact (a combination of a-posteriori and a-priori evidence). This method, too, rests on the concept of contradiction. Recall that God is an unrestricted reality and an unrestricted reality does not exclude anything from itself. Therefore, God cannot contradict any possible reality. Using this method to disprove God is also untenable.

Therefore, none of the three rational methods for disproving a reality can be used to disprove the existence of an unrestricted reality (God). Hence God cannot, in principle, be rationally disproved. The only way to do this is to claim that God is restricted and non-transcendent—in which case that entity would not be "God." As such, Atheism is not formally provable, and therefore, cannot be rationally established.

II. If There Is So Much Evidence for God, Why Do We Need Faith?

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As we will see, God is not simply a "What" – the unique uncaused unrestricted intelligence which is the creator of everything else. He is also a "Who" calling us to a life with Him, and gives us freedom so we have the power to choose whether or not to answer that call. The evidence of reason allows us to build a bridge of understanding to God, but we must take a leap of faith in believing in him. We see a similar dynamic in human relationships—choosing to trust someone, to believe in them, to love them, always requires a free choice and a certain leap of faith. But that doesn't mean the choice is irrational or unreasonable.

Also, reason is limited in what it tells us about God. Historically, many thinkers who follow the logical proofs about God knew that God was a creator, but had no way of knowing how God cared about his creation, and concluded that he was distant and indifferent, rather than a God of unconditional love. Thus, the personal qualities of God—the "Who"-cannot be known without revelation, as we will discuss in Volumes 2 and 3.

III. If the Scientific and Philosophical Evidence Is So Probative, Why Are 49% of Scientists Either Agnostics or Atheists?

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This is a more specific form of the previous question. With scientists as with anyone else, the need for a personal response to God's invitation means rational proofs will not be enough for belief without a free choice. Though agnostics (who say that they are unsure of whether God exists) do not deny God's existence, atheists (a much smaller group) do.

Here are some specific causes that can lead scientists and others to deny God.

1. Atheism and Suffering

Christianity charts a path to find positive meaning in suffering (which we will discuss in Volume 4), but in the absence of such meaning, many people find suffering to be a refutation of God's love, and are driven to reject God in a choice fueled by sadness or resentment.

However, if there is genuine purpose in suffering, leading to a purification of our love and faith, as well as our salvation, then suffering may well be consistent with the God of love and even part of His plan.

2. Atheism and the Rejection of Moral Authority Beyond the Self

For some, the desire to avoid being answerable to any higher authority—a desire popularized by Nietzsche as a "will to power"—leads them to embrace atheism. As with the previous entry, this rejection has an emotional motivation, rather than a review of evidence for/ against the existence of God. However, if we have no objection to being answerable to a higher moral authority, then the all-knowing and all-loving God can be our guide to the perfection of love and to eternal joy in His kingdom.

3. Atheism and the Accusation of "Wishful Thinking."

The idea that religion is a naive fantasy or wishful thinking can lead people to embrace atheism in a desire to be authentic, to have the integrity to face reality. Sigmund Freud is a notable example of someone who chose atheism on this account. His famous student Carl Jung dissented, saying the human inclination to religion was driven by a sense of God's presence within us—this line of inquiry was continued in the research of Rudolf Otto and Mircea Eliade, which we will review in Volume 2. If Jung, Otto, and Eliade are correct, then our sense of and desire for God are not the product of fear avoidance and wishful thinking, but rather, the presence of God within us calling us to Himself.

4. Atheism and Historical Revisionism

This route to atheism was advocated by Karl Marx: in his model of history as class struggle between the merchant class (the bourgeoisie) and the laborers (the proletariat), he indicated that religion had prevented the proletariat from revolting by distracting them with the promise of a better life in the hereafter. However, as we will see in Volume 4, religion has actually been central to many advances in fighting social injustice in fields like education, social welfare, and healthcare.

5. Other Personal Motives for Atheism.

Many children are introduced to God as a harsh, demanding, even hateful figure. Though it flatly contradicts God's own self-revelation as the loving Father of the Prodigal Son, this fear- inducing introduction often happens—scandalously—in the context of a few religions. The trauma stays with people through adulthood, leading them to avoid both God and religion.

Agnosticism and Naturalism

We should mention a scientific motive that can often lead to Agnosticism (the idea that we cannot know whether God exists or not). This motive is naturalism—the notion that we cannot entertain a supernatural reality until every natural reason for physical reality has been exhausted.

However, as the great astrophysicist Sir Arthur Eddington observed, there are many realities that go beyond what can be observed in physical nature—transcendentals like goodness, beauty, and love, as well as the domain of mysticism and the spiritual. If we are not open to these transcendental realities, we would artificially limit our human experience and therefore our sense of ethics, personal dignity, purpose in life, and fulfillment.

IV. The Bible and Science

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It's a common view today that the Bible and science are in conflict. The example most often cited is the creation of the universe which holds that any good scientist must disregard the Book of Genesis as unscientific, and any good Catholic must disregard contemporary scientific theories of creation as a contradiction of the word of God. Nothing could be further from the truth. In reality, faith and science cannot be in conflict, for they come from the same source: the infinite mind and all loving heart of God. As we shall see, Catholics have incredible latitude and freedom—not only for belief, but also for belief in God and religious principles, but also in all legitimately established scientific facts and theories.

Pope Pius XII addressed the creation issue in *Divino Afflante Spiritu*, where he explained that there are two approaches to creation and the understanding of nature:

- a. The Bible—which reveals sacred truths necessary for salvation.
- b. Science—which uses an empirical-mathematical method to give descriptions and explanations of the physical world.

The Bible is the inspired word of God, but Pius XII makes an important clarification that the Bible was not dictated word-for-word by God with the human author recording the transcription (the Dictation theory). Instead, God inspired the human author, who contributed his own thought patterns, cultural perspectives, etc. to the formation of the final text (the Partnership theory). This allowed the truths necessary for salvation would be communicated to his audience in an intelligible way to the author's contemporaries. To the Israelite tribes in B.C. times, an intelligible account of creation would not involve specifics on galaxies, black holes, electrons, physics, etc. Furthermore God's interest, as stated above, was not on explaining the scientific detailsof the universe, but rather to explain the sacred truths necessary for salvation.

What were these truths? That everything in the world was created by the one God, that this creation was good, and that man was specially created in God's image and likeness. At the time Genesis was written, its Israelite audience was surrounded by cultures that had a very different origin story, where the rivers and stars and stones of creation were themselves gods— cruel gods that treated humanity as disposable—and the material world itself was frequently seen as evil.

Avoiding these distortions was the priority in God's creation account. Thus, —details like the "six days" were a means of telling this story (by conveying distinct stages in creation), rather than presenting a scientific explanation of universal creation.

Far from feeling threatened by the pursuit of scientific truth, the Catholic Church has a long history of interested involvement in the development of Science. We look at this in more depth in Volume 4, but for now, some of the most popularly-recognized highlights are:

- a. Nicholas Copernicus, a Catholic cleric—developed the heliocentric (sun-centered) model of the solar system.
 - b. Gregor Mendel, an Augustinian monk and abbot—founder of modern genetics.
- c. Nicolas Steno, a Danish Catholic bishop—one of the founders of modern stratigraphy and geology.
- d. Fr. Georges Lemaître—founder of contemporary cosmology after discovering the Big Bang Theory in 1927.

Even the most famous instance of perceived opposition, the Galileo case, was essentially a political fight. Jesuits were actually helping Galileo with the mathematics involved in his scientific research. He was admonished for publishing before he had the proof of his theory. He had promised the Pope he would wait until he had the actual proof. This came well after his death.

While there are some intriguing incidental points of intersection between the biblical account and modern science (the creation of light on the first day, before the sun, moon and stars are formed, is certainly suggestive of the Big Bang), these are secondary to God's main purpose in the Bible, conveying sacred truths for salvation. As long as we let the Bible be salvific and let science be descriptive and explanatory of the physical universe, we need not worry about contradictions, but if we force the biblical author to be a scientist, or force scientists to give truths of salvation, we will find ourselves in a world of confusion. Pope Pius XII has cleared the air, and we can allow both pursuits to enjoy their distinct discoveries and revelations.

V. Evolution and the Church—Is There a Conflict?

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Evolution is sometimes seen in the popular culture as an alternative to creation, and there is an instinctive sense that it therefore would conflict with Church teaching. However, Evolution as an actual theory deals with how species develop, and does not actually speak to the questions of how the universe began, where the fine-tuning of the material conditions came from, nor the other cosmological questions that we discussed earlier in the proofs for God's existence.

There might be a perceived conflict in scientific details between the account of Creation in Genesis and the account that Evolution gives for how various life forms originated. But as we discussed in the previous question, the Biblical account is focused on sacred truths and is not intended to be scientifically exhaustive. Pope Pius XII in the encyclical *Humani Generis* explained the particular truths that Catholics must hold regarding creation:

- 1) They cannot deny the creation by God of a unique transphysical soul in every human being. A transphysical soul is not physical (biological), and so it is not susceptible to an evolutionary process.
- 2) Furthermore, the soul cannot be reduced to any physical or biological structure or process. In other words, whatever process accounts for the physical development of human beings (including the brain)—i.e. from other species of primates—one cannot say that the transphysical soul was produced by these processes.

Provided these truths are maintained, Catholics are free to entertain Evolution as a scientifically valid theory.. Again, it is worth remembering that for Catholics, the source of truth is One, and it follows that we should not expect the truths of faith and science to conflict with each other.

VI. The Possibility of Aliens

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Given the many trillions of stars in our universe's billions of galaxies, it seems likely that a certain number of planets would have conditions favorable to life. It also seems likely that finding such life, if it exists, will remain far outside our scientific powers of observation for some time.

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For the present, we can only speculate hypothetically about the possible existence of life elsewhere in the universe, but there is a special set of questions raised by the possibility of intelligent life—i.e., life that has a transphysical soul, experiences the five transcendental desires, and so on. As with human creation, we would assume that the creation of such beings involved the direct creation by God of the transphysical soul, that such beings were invited to the same relationship with God as we are and beneficiaries like us of the Son of God's salvific sacrifice.