

MAGIS PUBLICATIONS

From Nothing to Cosmos:
THE WORKBOOK +
(it's more than just a workbook)

Fr. Robert J. Spitzer, S.J., Ph.D. & Michael K. Noggle

Contributions By: Joseph G. Miller & Claude LeBlanc, M.A.

 magis center

February 3, 2015

Editor
Ignatius Press
San Francisco, CA

Dear Editor:

I am writing to let you know that I have read the following book by Robert J. Spitzer, S. J. and Michael K. Noggle, and I find it to be deserving of a Nihil Obstat and Imprimatur with respect to its accord with Catholic teachings:

From Nothing to Cosmos: The Workbook +

I am authorized to give approval of books by Jesuits of the Oregon Province and have done so for several authors.

Sincerely,

David J. Leigh, S. J., PhD
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Introduction to:

From Nothing to Cosmos:

THE WORKBOOK +

Welcome to *From Nothing to Cosmos: The Workbook+*. It is more than just a **workbook**. Bring your “**smart Device**” and we will provide **QR codes** to connect you to video clips, biographies and excerpts from the original Study Guide. The **Workbook + can be used on its own**, but it is intended to accompany, and help interpret, the DVD series entitled, *From Nothing to Cosmos: God and Science* (based on Fr. Spitzer’s award winning book, *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy*).

The Workbook+ is filled with useful information – perhaps the most useful information imaginable – contemporary scientific evidence of an intelligent Creator and a transphysical soul. Through the course of **16 chapters** in **4 episodes** (DVDs), we will explore several kinds of evidence for the transcendent from science and philosophy.

We will be examining the following topics:

1. What science can and cannot do.
2. The Big Bang Theory and the modern universe.
3. The Borde-Vilenkin-Guth proof for a beginning of ANY universe or multiverse.
4. The evidence for a beginning from Entropy.
5. Evidence of supernatural design from fine-tuning of universal constants.
6. A response to atheist’s objections (particularly, Richard Dawkins).
7. A metaphysical proof of God.
8. Evidence of a transphysical soul from near death experiences.
9. Evidence of a transcendent soul from our five transcendental desires.
10. Atheism, the bible, science, and evolution and aliens.

Each Chapter will follow a **five-step process** to lead you from readiness through understanding to review and finally, reflection. These steps are:

- 1) **Introduction** – a preview of what we will explain.
- 2) **Preview Questions** – to help you reflect on your current views of the subject matter.
- 3) **Presentation** - a full explanation of the DVD content (with references and study resources).
- 4) **Review** – a summary of the points made in the presentation.
- 5) **Questions** – for study and reflection by individuals and groups.

Here are some important notes on how to use the workbook and other resources:

1. Time Stamps: To help you find this spot in the DVD. “02:34” would indicate this section starts at 2 minutes and 34 seconds into the related DVD (“DVDs” and “Episodes” are synonymous for our purposes).

2. Free Online Forum: Inside the cover of every **Workbook +** is a unique **registration code** to our forum. Trained facilitators are standing by to answer your (related) questions.

3. QR Codes: These are the little squares that look like bar codes. They will take you to additional reference materials from many sources. We have included many clips from the DVDs so you won’t have to search for them. All you need is a “**smart device**” (**phone or pad**) with an app to read bar codes / QR codes. If you don’t have the app, you can get one online for free. The QR codes will open up additional resources. There will be many codes scattered through the **Workbook +**. With your smart device and app, all you have to do is point it at the QR and it will do the rest. You don’t even have to click a button. Try this one (QR4) and be transported to our website and directly to the Study Guide.



qrs.ly/zs4ja81

4. Online Study Guide: The original Study Guide for this series, *From Nothing to Cosmos: God and Science* (by Fr. Robert J. Spitzer, S.J., Ph.D.) is available **FREE** at our website. Go to <http://www.magiscenter.com/from-nothing-to-cosmos-study-guide/> (or use QR4 -- as we noted immediately above -- with your smart device to go directly to the Study Guide). You may access the whole text – or go directly to individual chapters through the Table of Contents. Those who want a hard copy of the Study Guide may purchase it on our website store.

5. <SG Codes>: These codes are provided to help you find pertinent reference materials from the original Study Guide as quickly as possible. Many are **integrated with QR codes**. The **<SG Codes>** are easy to identify by the less than (<) and more than (>) arrows and their bold font. Here is how they work:

<SG – 90/71> This would indicate the referenced material can be found in the Study Guide at page 90, item number 71. The “SG” tells you it is from the Study Guide, the number following “SG” is always the page number(s) and information after the forward slash (“/”) will tell you exactly what to look for.

6. “Short URLs” Just in case you are using a computer and don’t have a smart device, you can still read all of the QRs by simply typing in the custom short URL that you will find immediately beneath each QR code. Here is an example, try it on your computer – **q-r.to/0Mcj**. These custom codes are generated to make your life a bit easier.

You may, and most likely will, find numerous new words and terms from science and philosophy in this book. Though we provide definitions, either in the text or in the footnotes, we are providing all of the above methods to help you get the most from these materials.

Why is Magis Presenting these Materials?

The 21st century is by far the best time in human history to be studying evidence for God from science. In addition to the evidence of the Big Bang (the presumed beginning of our universe 13.8 billion years ago), we now have evidence for the beginning of almost every known universal configuration – multiverses, bouncing universes, string universes, static universes, and so much more. As we shall see, the evidence from space-time geometry proofs, entropy, and anthropic coincidences shows not only a beginning of physical reality (and its implications for a transcendent creation), but also for an incredible intelligence lying behind that creation. The evidence for a transphysical soul from peer-reviewed medical studies of near death experiences also confirms the existence of a transcendent reality beyond our physical universe. Never before in human history have we had all of this scientific evidence to complement the philosophical proofs for the existence of God.

Despite all this evidence, certain scientists and philosophers have proposed a materialistic and atheistic agenda. Though their thoughts have attained the status of “best sellers,” many of them conveniently ignore the evidence we will present in this **Workbook+** -- despite the fact that **it comes from the very best physicists and physicians in this century**. This materialistic and atheistic agenda has confused many people by its gaping **errors of omission**. Our purpose in writing this **Workbook+** is to give faculty and students the “whole story” – about all the evidence -- so that you can **judge for yourselves what is most reasonable and responsible**.



qrs.ly/wf4jcug

If you find this presentation to be a more complete and logical explanation of the evidence from science and philosophy than that of popular materialism and atheism, then we would ask that you **share it with others** – so that you and they may know of the true eternal, transcendent destiny that awaits you in the infinite and all-loving God. As we shall explain, this transcendent perspective is essential to seeing the true dignity of every human being and to working for a culture that is worthy of that dignity. This transcendent perspective holds the key to the future of humankind, and you can play a part in making it a reality in the lives of the people around you.

Join us now as we seek to discover God and the transcendent through science.

THE WORKBOOK +

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From Nothing to Cosmos:
THE WORKBOOK +

Episode One
Chapter 1

What Science Can and Cannot Do
(00:00 ~ 21:25)

Introduction to the series:

Each episode (DVD) in the series contains numerous chapters. This Episode (DVD 1) contains three chapters:

- 1) What Science Can and Cannot Do (with respect to God)**
- 2) The Big Bang Theory and the Modern Universe**
- 3) Evidence for the Beginning of the Universe from Space-Time Geometry Proofs.**

The Table of Contents will show you the chapters in each episode, their beginning page numbers and the time stamp for the DVD.

In this chapter, Fr. Spitzer shares three conclusions from mainstream physics and philosophy:

- 1) Science cannot disprove God.**
- 2) Science cannot possibly know everything about everything in the universe so science cannot really say the universe does not need God.**
- 3) Science can give evidence for God's existence.**

<SG – 7/1 – QR99>

Episode One, Chapter 1: *What Science Can and Cannot Do*

Introduction:

Imagine this; it's your first week back to school and a new friend begins telling you about an article he read over the summer from a well-known scientist who said, "God is not necessary for the creation of our universe or mankind." What do you think about a world-renowned scientist making such a claim? How do you react?

Well, this really happened. The scientist was Stephen Hawking, Ph.D. and many people, including students, are talking about it. Fr. Robert Spitzer, the author of *New Proofs for the Existence of God* challenged Dr. Hawking on The Larry King Show and wants you to be aware of why.



qrs.ly/ex4jcul

Before you watch the video, here are a few questions to get your brain engaged:

- 1) Do you think it is easier for science to prove or disprove something?
- 2) What would a scientist have to do to prove something?
- 3) What would he have to do to disprove something?
- 4) Can you think of some scientific evidence that might imply the existence of a creator? What form might that evidence take? If not, why not?

Presentation:

Section 1. Can Science Actually Disprove God? (02:34 ~ 08:05):

Did you know that it is much **harder for science to disprove than to prove** something? The Scientific Method always has to begin with observational (empirical) data. Have you ever thought about how difficult it would be to try to prove something does NOT exist using the Scientific Method?

"The Scientific Method" is the name given for a system scientists use to provide evidence for or against various hypotheses. It is an inductive process (moving from **particular** observations to a **general** theory that unifies them). This means it is **limited to** studying only **observable realities** (physical realities within our universe). The process typically involves the following steps:

- a. Asking a question,
- b. Doing background research,
- c. Forming a hypothesis,
- d. Testing your hypothesis by observing physical data,
- e. Analyzing your data, and
- f. Drawing a conclusion and communicating your results.

FNTC – What Science Can and Cannot Do

When other scientists replicate an experiment, the results are considered reliable. Scientists may disagree on what the results mean but they agree on the results. **Science must always be open to new discoveries since it cannot know what it has not yet discovered.**

Before getting into whether or not science can disprove the existence of God, why don't we start with an easier example? How about aliens? **We can prove aliens exist by finding just one.** Can we use the Scientific Method to disprove one? Let's find out:

- a. (Asking a question) Do aliens exist?
- b. (Doing background research) Reports of UFO sightings have never been 'proven.'
- c. (Forming a hypothesis) Aliens don't exist.
- d. (Testing your hypothesis by observing physical data) We must go and search for one. We will have to look *everywhere* in the universe, and in every possible way to know whether or not they exist.
- e. (Analyzing your data) We didn't find one.
- f. (Drawing a conclusion and communicating your results) Because we can't know for sure that we looked everywhere and in every possible way, there may still be aliens in the universe.

We used the Scientific Method correctly. Doesn't this mean that aliens do not exist since we didn't find one? No! It's really **impossible to disprove** the existence of **aliens with observable (physical) evidence**. Think about it, if you see an alien, it exists for sure. If you don't see one, that doesn't prove one does not exist. You can just imagine how difficult it would be to be certain you had scoured the entire universe and not missed a thing before concluding there were no aliens. How could you possibly know you didn't miss anything or that the aliens might be sub-microscopic (or, simply hiding)?

If we apply the same method to God it becomes even more impossible (if it's possible to be more impossible than impossible). You see, God transcends (is beyond) the universe, but science can only gather data from observing what is **within** the universe. Therefore, we must recognize that the **Scientific Method** (and therefore, science) **cannot be used to disprove God**.

Section 2. Can Science Know Everything About the Universe? (8:05 ~ 11:00): **<SG – 9/6 – QR98>**

Some scientists claim that we know enough about the universe to conclude that the universe can explain its own existence. If they are right, that would mean no Creator was required, making God unnecessary for creation. But, is it even possible for scientists to come to this conclusion? In a word: no. Science is an inductive discipline (going from particular observations to a general theory). There may be new discoveries made in the future that would require changes to existing theories. Here's the problem-- **scientists cannot know what they do not know until they have discovered (observed) it**. Even if it were possible, hypothetically, for scientists to gather vast

amounts of information about the universe, they couldn't know how much data was still missing, and thus could not say with any confidence that the universe created itself. **In other words, science can't rule out the possibility of a Creator** because it must always remain open to new discoveries

The Horizons and Limits of Science

1. Science *cannot* disprove God.
2. Scientific theories are always open to modification. Therefore, science cannot be sure it knows everything about the universe.
3. Science *can* give evidence of the beginning of the universe, implying a creation.

Section 3. How Can Science Give Evidence For a Creator? (11:00 ~ 21:25):

There is significant **evidence from within our universe** that **can be used to reveal** that there has to be a **Creator**. Science can provide evidence that there is a limit to past time, implying our universe had a beginning . Does a beginning imply a Creator? Here is why many physicists and philosophers think it does:

- 1) Prior to a beginning, the universe (and even physical time itself) did not exist--it was literally **nothing**.
- 2) If we don't sneak **something** into *nothing*, then the only thing *nothing* can do is **nothing**.
- 3) Therefore, when the universe was *nothing* (before the beginning), it could not have moved itself from nothingness to something, because it was nothing and capable of only doing **nothing**. Therefore, something else--beyond the universe--would have to have moved the universe from nothing to something. Many physicists and philosophers call this a Creator or God. You can plainly see, **a beginning indicates a Creator**.

While we are often confronted with people saying things like, "Science has proven God is not necessary for creation", or "God does not exist", there are many world-famous scientists who do not believe that. That list includes Einstein, Planck Eddington and many more. Here are comments from five of these well-known physicists / mathematicians:



qrs.ly/zs4ja81

<SG – 11/13 – QR97>

What can nothing do? Nothing! "Only Nothing comes from Nothing" dates to Parmenides from the late 6th or the early 5th Century BC. So where is the controversy? Sometimes scientists try to sneak **something** into **nothing**. For example, Stephen

FNTC – What Science Can and Cannot Do

Hawking, in his book, *The Grand Design*, said “Because there is a law such as gravity, the universe can and will create itself from nothing.” Here is the problem--a law, such as gravity, is *not* nothing. **Nothing is the absence of everything**, but the law of gravity is clearly *something*. Such attempts to *sneak* something into nothing (pre-beginning of reality) are both contradictory and incoherent.

If we really treat “nothing as nothing”, then the universe could *not* have created itself, and, therefore, something beyond the universe would have to have created it--a Creator or God.

What if our universe is merely a bubble universe in a multiverse having trillions upon trillions of other bubble universes? Would we still need a creator for our universe? Yes we would, because every multiverse must also have a **beginning** (which is proven by the Borde-Vilenkin-Guth proof given in Chapter 3 of this episode). Therefore, even if we are a bubble universe within a multiverse (which is completely hypothetical), the multiverse would have to have a Creator to move it from nothing to something before *its* beginning.

Four Steps from Beginning to Creation

1. Beginning of physical time + the absolute beginning of physical reality.
2. Before the absolute beginning of physical reality - - physical reality = *nothing*.
3. Nothing + Nothing; nothing can only do nothing.
4. When physical reality = nothing, then physical reality cannot move itself from nothing to something.

Therefore, something else (something transcending physical reality) had to move it from nothing to something - - a Creator.

Chapter Review:

In this first chapter we learned science cannot disprove God. Science can, however, provide evidence that God exists. We learned that there is evidence for the beginning of a universe. If we can prove there was a beginning, that would mean there was nothing before that and, since *nothing* can only do *nothing*, a Creator would be required to produce the universe.

Questions for Review and Discussion, Episode One, Chapter 1:

1. What are the purpose and limitations of the Scientific Method?

From Nothing to Cosmos:
THE WORKBOOK +

Episode One
Chapter 2

The Big Bang Theory and the Modern
Universe
(21:26 ~ 47:30)

In this chapter, Father Spitzer says, “There has never been a better time for finding scientific evidence pointing to the existence of God.” We will learn about the Big Bang Theory and the Belgian priest, Fr. Georges Lemaître, who first discovered it. We will learn how the overwhelming evidence for an expanding universe was powerful enough to sway the opinion of Albert Einstein. <SG – 12/16 – QR96>

Episode One, Chapter 2: *The Big Bang Theory and The Modern Universe*

Introduction: (21:26 ~ 47:30):

Before Lemaître’s discovery of the Big Bang, Einstein, like most cosmologists of his time believed in a static universe (i.e., not expanding or contracting and eternal into the past and the future). He actually “corrected” his original equations for his general theory of relativity to allow for a static universe by arbitrarily inserting a new constant to make it work. However, this was later disproven. Nevertheless, Einstein’s contribution to cosmology cannot be underestimated. He discovered the most comprehensive theory of our universe – *the general theory of relativity*. It was the first organic cosmological explanation of the universe as a whole.

We will divide this chapter into two major sections:

- A) The Big Bang Theory**
- B) The Modern Universe**

In this section, we will discuss Edwin Hubble’s use of **red shifting** to verify Lemaître’s discovery of an expanding universe. We will then discuss Penzias’ and Wilson’s discovery of a universal radiation (from the Big Bang) which further verifies Lemaître’s theory.

In the next section--on the Modern Universe--we will discuss the four forces in the universe as well as dark matter, and dark energy.



qrs.ly/ng4jcsx

Before you watch the video, here are a couple of questions to ponder or discuss:

1. Do you think evidence for the Big Bang shows that the universe was created? Explain.
2. Do you think the Catholic Church supports the Big Bang Theory? Explain.

Presentation:

A. The Big Bang Theory (21:30 ~ 32:35):

Section 1. As noted above, Fr. Georges Lemaître is credited with proposing his expanding universe hypothesis to Einstein. Lemaître, in addition to being a Catholic priest, was a theoretical physicist specializing in cosmology (the science of the origin and the development of the universe) with a Ph.D. from M.I.T. As such, he was well aware of Einstein’s famous “Theory of Relativity.” They were, in fact, contemporaries and met on several occasions. Einstein said Lemaître’s math was “elegant (correct) but he was not ready to buy into his expanding universe physics.

Lemaître initially published his theory in 1927 and included what would later become Hubble’s Law. He discovered a precursor to Hubble’s constant. Two years later, Hubble would produce precise observational data confirming Lemaître’s theory and revising the value of his constant. In 1933 Einstein and Lemaître traveled together to California for a series of seminars. In the end, and with the help of Hubble’s findings, Einstein was convinced that Lemaître was correct in his theory and he publicly endorsed it. Einstein then integrated it into his **General Theory of Relativity (GTR)**.

From all of this comes Lemaître’s conclusion that an initial “Creation-like” event must have taken place. He proposed that the universe came from an initial point that he referred to as the “**Primeval Atom**”.. It would later become known as, “**The Big Bang Theory**” (thanks to Fred Hoyle, initially a proponent of a “steady state” universe).

<SG – 13/20 – QR95> Let’s get back to the part where we said there was a linear relationship to our expanding universe. What both Lemaître and Hubble noted was, the farther a galaxy is from us, the greater the recessional velocity (the speed of an object going away from us). Like an expanding balloon with dots on it, the dots all move away from one another as the balloon expands. The skin of the balloon is like our spatial continuum. Believe it or not, space stretches and grows – which makes the universe stretch and grow. The dots on the balloon are like galaxies – the more the balloon expands (the more the spatial continuum stretches and grows), the more the galaxies move away from each other.



qrs.ly/854jcta

The linear relationship is easier to see with a rubber band, a ruler and a marking pen. Here is an experiment for you:



qrs.ly/ca4jcsz

Take out a rubber band and put it next to a ruler. Now draw a dot on the rubber band at point zero; another dot at one inch; and yet another dot at two inches. Now, take the rubber band and hold it with your left hand at point zero. With your right hand stretch the rubber band so that the dot that was at two inches is now at four inches.

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Episode One
Chapter 3

The Beginning – From Space-Time
Geometry Proofs
(47:30 ~ 63:40)

In this Chapter, we begin with Fr. Spitzer’s questions, “Was the Big Bang the beginning or was there some prior period? Did we move from an **Eternal Static State** to an exploding universe? Could we be part of a **Multiverse** or a **Bouncing Universe**?” We will look at the science and figure this out.

Episode One, Chapter 3:

The Beginning – From Space-Time Geometry Proofs

Introduction (47:30 ~ 63:40)

As you might have guessed from the title, we are going to look at evidence that explores three hypothetical alternatives to the Big Bang: The **Eternally Static State** Theory, **Multiverse** theories, and **Bouncing Universe** theories. What would these theories mean as relates to The Big Bang? Do they avoid the need for a beginning? Father Spitzer will introduce three different sets of scientific evidence that can be used to prove a beginning of physical reality itself, which comes close to implying a creation event and a transcendent creator.

Pay attention all the way to the end as the B-V-G theorem will be introduced late in this chapter. This is an exceedingly important and recent (2003) scientific proof.

Before you watch, here are some questions to consider:

1. Are you aware of any theory(ies) offered by scientists as alternatives to the Big Bang Theory?
2. If yes, why do you think these theories were put forward in the first place and what evidence is used to support them?

Presentation:

Section 1. Three Hypothetical Alternatives to the Big Bang (47:30 ~ 50:57)

Let's deal with the possibility of a **Past Eternal Static State** first. Remember, at one time, Einstein thought that our universe was eternally static, i.e. not expanding or contracting. We know better than that today. A twist on the idea of a permanently static universe is a universe that was static for an infinite amount of time into the past and then suddenly exploded and starting expanding. Physicists call this the "cosmic egg" theory. There is no scientific evidence to support this theory, and a good deal of evidence against it. First, sound logic suggests that it is impossible for something to be stable for an infinite period of time (i.e. permanently stable) and then to expand suddenly (in a Big Bang). Think about it. If something were to remain static for an infinite period of time, it would have to be *perfectly* stable. However, if that static state is to decay so that it can give rise to a big bang expansion, it *can't* be *perfectly* stable. It must be what physicists call "metastable" – that is, unstable enough to decay and change a tiny bit at a time. In other words, this theory is a logical contradiction because it requires that the universe be both perfectly stable and unstable at the same time! Secondly, from the vantage point of physics, Alexander Vilenkin and Audrey Methani have shown that

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Episode Two
Chapter 2

The Evidence of a Beginning of the
Universe from Entropy
(23:00 ~ 40:12)

In this Chapter, Father Spitzer will walk us through the Five Steps for proving a beginning of our universe from entropy. We will see how this law of disorder can be used effectively to provide us with convincing evidence for a beginning of our universe.

Episode Two, Chapter 2:

The Evidence of a Beginning of the Universe from Entropy

Introduction: (23:00 ~ 40:12)

Entropy is the central idea in “the second law of thermodynamics”. The Second Law of Thermodynamics says that in isolated systems (in which there is no outside replenishing source of energy), entropy (basically, a measure of disorder) always increases or stays the same. Physical systems never get more ordered in the long term. As we shall see, entropy is a key indicator of a beginning of our universe, which is completely different from the B-V-G Proof we addressed above. Why is this important? If we have two completely different data sets (i.e. the B-V-G Proof **and** entropy) pointing to the same conclusion (a beginning of our universe and even physical reality), it reinforces or corroborates the conclusion – it makes the conclusion more likely. Let’s delve in to this important idea and its consequences for cosmology and a beginning.

Before you watch the video, here are a few questions to ponder.

- 1) What is your understanding of the term, “entropy”?
- 2) Do you have any inkling of how this term might be tied to the beginning of our universe?

Presentation:

1. 5 Steps from Entropy to a Beginning of the Universe.

<SG 43/49 – QR83>

Entropy is actually a measure of **disorder**. That doesn’t sound like a very good place to look for evidence does it? One would think that we should be looking for **order** among things in the universe, and yet, entropy provides us with significant evidence of the beginning of a universe and even an oscillating or bouncing universe. Here are five steps from entropy to a beginning of our universe, or any universe:

- 1) In order for a physical system (like our universe) to work, it must be ordered. What is meant by “order of a physical system”? This may seem strange, but order refers to **disequilibrium** (imbalance) within a physical system. For physicists and chemists, disequilibrium is something positive, because it enables physical systems *to do* something.

By now, you are probably thinking, “How about an example”. Did you ever have a wind-up toy when you were a child? Remember how you could wind the toy soldier up with the key in his back, and this would wind up a coil or a spring? How could we describe this in the above terms? You are creating **disequilibrium**

FNTC – The evidence of a Beginning of the Universe From Entropy

in the coil or the spring. When you released the wind-up key, what happened? The coil began to move toward what? You got it – equilibrium – it “wants” to get back to a state where the tension within the coil is fully relieved – so that it has the same potential energy everywhere. Notice also that when the coil is moving from disequilibrium (order) to equilibrium (disorder) the toy soldier can walk around – do some productive work. Finally, notice that when the coil has reached equilibrium, the toy soldier cannot do any more work. It is used up or run down. We call this a state of “maximum entropy” or a state of “maximum disorder” where the system cannot do any more productive work. If the system is to be “revived” so that it can do some work again, someone will have to wind up the key – produce some more disequilibrium (order), and then allow the system to reach a state of equilibrium once more.

Why is this important? Because in the standard Big Bang model, our universe can be considered a physical system – which needs disequilibrium (order) within it to do productive work. We will discuss this in step four below. For the moment, what is important to see is that every physical system –including our universe needs order (disequilibrium) within it to do work. If it does not have this order, we say it is completely run down and has reached a state of maximum entropy.

- 2) Every time a physical system does some work, it will lose a little bit of its order—it will become a little more disordered (entropy). When a system does work, it runs down and become a little less capable of doing work. The system is losing its disequilibrium and capacity for work.
- 3) The Process of physical systems becoming more disordered (entropy) is irreversible. An example of this would be playing a game of pool. Fifteen balls are racked in a triangular shape and a player “breaks” the racked balls using a cue ball. The balls, typically, move from a state of disequilibrium – ordered distribution (compacted in a triangular configuration) to a state of equilibrium – random distribution – spread throughout the table. When we hit the cue ball at the racked balls, we expect them to move from their compact state to a more random one. However, what would you say would be the odds of a player, on the very next shot, hitting the balls just right so they would go back to exactly their arrangement before the “break shot”? If you saw that happen, you would have to be totally amazed as that is *highly* unlikely. A system simply does not become more ordered over time.



qrs.ly/iz4jcte

We can also return to our example of the toy soldier. We are not surprised when the coil moves from disequilibrium to equilibrium; but what would be the odds of the toy soldier moving from a state of equilibrium (a wound down coil) to a state of disequilibrium (a wound up coil) all by itself? If it did that, you would be, again, amazed.

Five Steps from entropy to a Beginning

1. **Useful work must be produced by ordered physical systems (disordered or random systems can't do anything)**
2. **Every time work is done, a physical system moves slightly from order to disorder (it loses a little bit of its order)**
3. **Disordered systems do not move back spontaneously to ordered systems (It is highly, highly improbable--like the pool table analogy in step 3 below); thus, entropy is irreversible.**
4. **If our universe is an isolated physical system and it has existed for an infinite time, it would be at maximum entropy today (Maximum disorder = incapable of doing anything).**
5. **But, in fact, our universe has very low entropy (e.g., stars burning etc.)**

Therefore, our universe has not existed for an infinite time. It had a beginning

Additional Conclusions from Entropy:

Entropy can reveal more than a beginning of our universe. **Every** physical system – our universe, other universes, and even a multiverse must obey the second law of thermodynamics, because entropy is not a law which applies to our universe alone, but to every physical system. It is not only true because it occurs in our universe, but because it is statistically (mathematically) required. Order is always far more **improbable** than disorder – no matter where the order is found.

Einstein was so convinced of this that he believed that if every other physical law were changed, the one law left standing for **all** physical systems would be **entropy**. He phrased it as follows:

*A law is more impressive the greater the simplicity of its premises, the more different are the kinds of things it relates, and the more extended its range of applicability. [Entropy] is the only physical theory of universal content, *which I am convinced, that within the framework of applicability of its basic concepts will never be overthrown.*⁸*

Do you see the significance of this kind of evidence? It has the same kind of vast applicability as the B-V-G Proof – because it can apply to every physical system for purely statistical (mathematical) reasons.

⁸ Holton and Elkana 1997. p. 227.

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Episode Two
Chapter 3

*The Fine Tuning of Initial Conditions and
Universal Constants*
(40:12 ~ 1:03:45)

In this Chapter, opens with Fr. Spitzer stating, “If we can find no explanation for the necessity of the conditions and constants of our universe being as they are, then it may be **more reasonable and responsible** to believe that there is an intelligent designer of our universe than it is not to believe in that creator.” You might note, this is the third independent set of scientific data that points to a Creator.

Episode Two, Chapter 3:

The Fine Tuning of Initial Conditions and Universal Constants

Introduction (40:12 ~ 1:03:45): Thus far, we have seen evidence from Entropy and from Space Time Geometry Proofs that there is, more than likely, a transcendent Creator. Let's pick up a new thread and see where it leads us. In this chapter, Father Spitzer will be presenting a whole new set of evidence for "fine-tuning" from "anthropic coincidences". You might feel a little lost, but this is actually quite simple if we take one step at a time. We are talking about the best scientific evidence on how we humans, and everything else in the universe, came to be.

Before you Watch, here is another question for you to ponder: Do you think it is reasonable and responsible to believe in a Creator if there is no *other* natural explanation for the constants of our universe being what they are?

Presentation:

Section 1. What is the meaning of "fine-tuning" and "anthropic coincidence"? (40:28 ~ 43:00)

Before we begin, we need to define some terms. Let's start with "fine-tuning." Fine-tuning is a term referring to the remarkable coincidence of initial conditions and universal constants being precisely what they need to be for life to develop in the universe. **Anthropic coincidence** refers to the extreme **improbability** of this fine-tuning at the Big Bang.

What does "anthropic" mean? Well, you have probably figured it out by now. Anthropic means, "capable of sustaining life, particularly intelligent life". So, the term "anthropic coincidences" refers to an entire array of highly improbable conditions necessary for the origination, development and continuity of life forms (that would include us).

We will show the reasonableness of belief not only in a transcendent Creator, but a highly intelligent one. As you shall see, this evidence will require an answer to one major question -- is it really more difficult to believe in an intelligent Creator than to believe that all of these anthropic coincidences occurred by pure chance or through a multiverse? A Creator may be the more believable of those choices.

Anthropic Coincidences

Definition:

“Anthropic Coincidence” - A highly, highly improbable condition of the universe necessary for the origination and development of life forms.

Section 2. Universal Constants at the Big Bang (43:00 ~ 1:02:00).

We are going to be looking at “fine-tuning” at the Big Bang. Why? Because the Big Bang is a barrier to causation. It represents a “disconnect” from anything that might have preceded it. Why is this so important? Because we don’t want someone to say to us later on – “Perhaps there is some **natural** cause of this fine-tuning that we don’t know of yet.” Our response is very simple – “There was no **natural** cause prior to this event, because the Big Bang presents a barrier to causation. If there was anything prior to the Big Bang (and there may not have been – as many physicists believe¹⁰), then it would have been causally disconnected from any activity after the Big Bang.” This means no one can appeal to a prior **natural** cause of the anthropic coincidences given below.

Since we cannot appeal to a prior natural cause of anthropic coincidences, we have only two options -- either believe in an intelligent Creator or believe in a multiverse (which is “unseen” and “unproven”). We will discuss this second option below.

There are two kinds of anthropic coincidences – those that concern the **initial conditions** of our universe at the Big Bang and those that concern the values of **universal constants** at the Big Bang. Let’s begin with the first – initial conditions.

The most important initial condition of our universe at the Big Bang is **low entropy**. Recall what was said above – that low entropy is high order which is necessary for a

¹⁰ Recall from above that some physicists have speculated that there might have been a multiverse or a bouncing universe prior to the Big Bang and our universe. Though this is possible, there is no evidence for it, and so many physicists believe that the Big Bang was the **beginning**. If the Big Bang really was the beginning, then there was no physical reality prior to it – physical reality itself would have been **nothing**. Recall also that even if there was a multiverse or bouncing universe prior to the Big Bang, they too would have to have had a beginning (according to the BVG Proof), and so we concluded that there is a strong likelihood that physical reality has a beginning no matter how it is configured – as a multiverse, a bouncing universe, or just our universe.

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Episode Three
Chapter 1

The Multiverse vs Supernatural Design
(00:00 ~ 13:41)

In this Chapter, we finished the last episode with the statement: “If the values of the constants (at the Big Bang) did not occur by pure chance (because that is virtually impossible), and those values are necessary for life forms, then there must be another cause--either a multiverse or a supernatural designer.” What are the available options and which seems more reasonable and responsible? Let’s go find out...

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Introduction (3, 00:00 ~ 13:41)

Recall the idea of a multiverse from Episode One—a mega-universe which coughs out little bubble universes—one of which is ours. Recall, too, that this is a purely speculative idea, and even if it were real, it would have to have a **beginning** (according to the B-V-G theorem).

We are now going to look at the multiverse from a slightly different angle. We already saw that it does not avert the need for a beginning (with its implications of a creation), but could it help to avoid the implications we saw at the end of the last episode—could it explain the incredibly high improbability of the anthropic coincidences necessary for any life form in a universe?

Before you watch the video, here are some questions you may want to ask yourself:

- 1) Do you think that a multiverse can explain the high improbability of anthropic coincidences necessary for life?
- 2) Can you think of some problems with the multiverse hypothesis explaining these improbabilities?
- 3) What are some of the arguments you can think of for Supernatural Design?

Presentation:

Section 1. More Evidence of Fine-tuning (00:53 ~ 04:48)

We will first give a review of all of the evidence provided thus far in our journey into the past and through the universe. The DVD took us through the possibilities for physical reality—our universe, a bouncing universe, a multiverse, and any other known universal configuration— and showed that physical reality, very likely, had a beginning—from the B-V-G proof and entropy. Fr. then showed why a beginning implies a Creator—because nothing can only do *nothing*, so when the universe (and physical reality) was nothing prior to the beginning, it could not have moved itself from nothing to something. This leaves the inevitable conclusion that something else would have to have done it—a Transcendent Creator.

Section Two: The Multiverse (04:48 – 13:41)

Let's take a moment to briefly define a multiverse and see whether it can explain the high improbability of our anthropic universe.

A multiverse is a hypothetical configuration proposed by Andre Linde and others as a possible implication of the collapse of a false vacuum in inflationary theory. The hypothesis suggests that little “mini-universes” (bubble universes) could be generated by the collapse of the false vacuum in this “super-universe” (the multiverse). All the bubble universes would be unified through the space-time of the multiverse. We already saw that every multiverse must have a beginning, because it must be inflationary (and

FNTC – The Multiverse vs Supernatural Design

have a Hubble expansion greater than zero). This means that every multiverse is subject to the condition of the B-V-G proof (and must have a beginning). Therefore, there can only be a finite number of bubble universes in any hypothetical multiverse because the multiverse itself is finite.²³

So, with that in mind, let's look at this multiverse theory very closely. This does afford a seemingly viable possibility for explaining the existence of our highly improbable anthropic universe. Why? Because, each bubble universe "coughed out" can theoretically have a new set of initial conditions and values of its constants—allowing for trillions upon trillions of "do-overs" or "new tries." It's like getting a new roll of trillions of dice until all the correct values of the constants and initial conditions comes up. Every new roll is a whole new set of initial conditions and constant values. How many times would you have to throw these trillions of dice to get the one roll where all of the correct values for an anthropic universe come up on top? Far, far more than the Penrose number. Whoa—that's a lot of bubble universes! Even though this is theoretically possible (after a multiverse's beginning) there are still **two other problems with a multiverse**.

- 1) **A multiverse violates Ockham's Razor.** This is an assumption of natural science which holds that nature favors elegance. Another way of saying this is the least complex, complicated and convoluted explanation is probably the correct one (see link following this paragraph). The multiverse theory entails trillions upon trillions of bubble universes. As **Paul Davies** notes, "*This is like bringing excess baggage to cosmic extremes,*" which is a superb example of a violation of Ockham's Razor. This does not disprove the possibility of a multiverse because Ockham's Razor is not an observational datum or scientific law. It's just an assumption which seems to work almost every time. Maybe the multiverse is the one "super-huge" exception to Ockham's Razor—but then again, perhaps nature is totally consistent and multiverses simply do not exist.



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- 2) Here's a bigger problem—**every conceived multiverse theory requires fine-tuning in its initial conditions and constants!** For example, in **Andre Linde's** chaotic inflationary multiverse, the bubble universes cannot be produced in a random and disordered way. If they were produced in this way, the bubble universes would bump into each other and their gravitational influence would wreak havoc upon other bubble universes. This would be very bad for lifeforms because excessive gravitational influence and collisions of bubble universes would shake the whole space-time continuum of the bubble universe like shaking a bowl of Jello. Trust me, this would make natural laws and the development of complex systems very difficult indeed—if

²³ It is important to remember that there is no observational evidence for a multiverse. It is purely speculative. Furthermore, it is doubtful that we will ever be able to get observational evidence of any multiverse, at least not until we can get beyond our universe to obtain evidence of its possible existence.

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Episode Three
Chapter 2

*A Response to Two Objections to
Supernatural Design (13:41 ~ 21:00)*

In this chapter, we will address what “new atheists,” like Richard Dawkins, use for arguments against a Creator and how we should address those arguments. We will examine the two most common objections. These arguments appear to make sense, at least, at first glance. Let’s look under the surface.

FNTC – A Response to Two Objections to Supernatural Design

Introduction (13:41 ~ 21:00)

It is no surprise that “new atheists” reject supernatural design (fine-tuning, etc.). They insist that the fine-tuning of our anthropic universe has a natural explanation—because “*It just is!*” Is this really a valid explanation of anthropic coincidences like the low entropy of our universe and the anthropic values of our universal constants at the Big Bang? Is this really their best punch?

Before you watch, please answer the following questions:

What do you think of the explanation “It just is!”? Take it out of the context of physics and cosmology for a moment and apply it to any other question “*Why?*” What would you think if you asked a scientist the question “Why is the sun hot?” and he responded, “*It just is!*”? And how about the questions “Why are the tides so high today?”, or “Why is this tree dying?” with the response being: “It just is!” Why would we think that this response is unsatisfactory? Don’t you think and assume that there is a better answer?

Presentation:

Section 1. What Atheists Are Saying and a Proper Response (13:41 ~ 21:00)

Many new atheists argue that all natural occurrences must have a *natural* explanation. As you might remember from Episode One, this is not true because inasmuch as our universe (or even a multiverse) has a beginning, all natural occurrences *cannot* have a natural explanation—remember, prior to a beginning, all natural explanations *do not exist*—they are literally, *nothing*. Recall also, from Episode Two that the Big Bang is a barrier to natural causation; so even if there were something prior to the Big Bang, it would be *causally disconnected* from it. The idea of asking for a natural cause of occurrences at the Big Bang is like asking “What is the natural cause of an event prior to which there can be no natural cause”—an obvious contradiction.



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Believe it or not, **many skeptics** are either **unaware** of or simply **ignore** the contradictory nature of their position.

The second objection of skeptics was given above—“don’t concern yourself with the cause of universal fine-tuning, just accept it—“It just is!” Is this really adequate in light of the physical evidence? Let’s take low entropy, for example. Recall, that the famous physicist Roger Penrose asserted that the odds against low entropy occurring at the Big Bang are $10^{10^{123}}$ to one. Why do you think he asserted this if the low entropy of our universe at the Big Bang “just was”? Obviously, he did not think that it “just was.” Why? He knew that there were $10^{10^{123}}$ equally possible phase-space options²⁶ for our universe at the Big Bang. Without getting needlessly complicated, just think of a phase-space

²⁶ “Phase-Space Option” refers to a possible condition of the universe that can arise out of the entropy of the universe’s total mass. There are approximately 10^{80} baryons (protons and neutrons) of visible matter in our universe. Since the entropy of each baryon is 10^{43} , the total entropy of our universe is 10^{123} . In order to calculate the total number of possible phase-space options for our universe, all we have to do is find the exponential of the total entropy— $10^{10^{123}}$ -- possible phase-space options.

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Episode Three
Chapter 3

*A Response to Dawkins and a
Metaphysical Proof of A Creator
(21:00 ~ 41:35)*

In this chapter, we will directly respond to Richard Dawkins and his argument against a Supernatural Designer. As a recognized leader of atheists, a response to his objection from Magis Center is appropriate from both science and faith perspectives. We will stick to the science and let faith fend for itself. We do bring data.

Episode Three, Chapter 3: – *A Response to Dawkins and a Metaphysical Proof of a Creator*²⁷

Introduction (21:00 ~ 41:35)

If you have made the decision to venture into the depths of metaphysics, we must first start with explaining this term. In Greek, “*meta*” means “beyond” (among other things). That works pretty well for what we’re doing here. Webster’s defines metaphysical as, “transcending physical matter or laws of nature.” A metaphysical explanation, then, is one beyond the physical. Often times, such explanations are based upon philosophical (logical) proofs. In this chapter, we will respond to a well-known argument from Richard Dawkins’ *The God Delusion*. In the video, Fr. Spitzer gives a very basic outline of a proof for God’s existence that began with Aristotle and St. Thomas Aquinas and has been enhanced by many philosophers today. Students interested in these proofs may want to check out Mortimer Adler’s *How to Think About God—A Guide for the Twentieth Century Pagan*. If you are really ambitious, you may want to look at Chapter 3 of Fr. Spitzer’s book *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy*.²⁸ The brevity of the video presentation forced Fr. Spitzer to give only a brief summary of the proof in the video. Students who want a formal presentation of the full 8 step proof should go to: < **SG69/64 – steps 1 thru 8 – QR80**>



qrs.ly/st4jcw1

Before you watch the video think about these questions:

What do you think about God? Do you think he is complex (composed of many parts) or simple (not composed of any parts) like a pure spiritual power? Do you think that God has to be in space and time or could He be a power that transcends space and time?

Presentation:

Section 1. Dawkins’ Objection to a Supernatural Designer (Creator)

So what is Dawkins’ argument? We can set it out in three steps:

1. A designer must be more complex than anything it designs.

²⁷ The following section contains complex metaphysical concepts which may be challenging. You may skip this chapter if these philosophical proofs are not of interest. However, it may be beneficial to give it a try.

²⁸ In this book Fr. Spitzer gives references to many other philosophers and physicists who have developed excellent contemporary proofs of God—Bernard Lonergan, Karl Rahner, Jacques Maritain, Etienne Gilson, Joseph Pieper, William Lane Craig, and Emerich Coreth, and many more.

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Episode Three,
Chapter 4

*A Summary of the Evidence for an
Intelligent Creator from Physics
(41:35 ~ 48:00)*

In this chapter, we will review the past three topics: space-time geometry proofs, entropy, and anthropic coincidences.

Presentation:

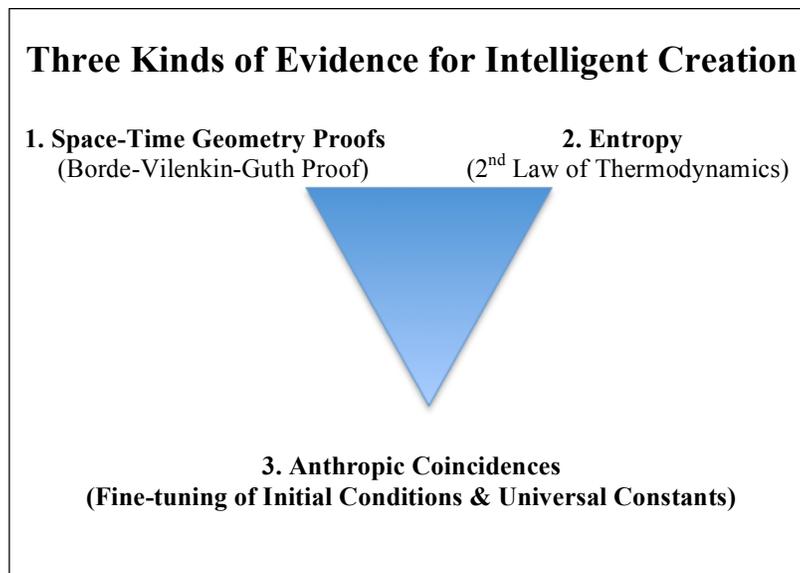
Introduction (41:35 ~ 48:00): The title pretty much sums up this brief review of the previous lessons from physics.

Before you watch the video, please answer these questions:

1) What conclusions (if any) have you drawn from the evidence presented from Space-Time Geometry proofs (like the B-V-G Proof), entropy, and fine-tuning of universal constants?

2) Do you see any advantage in presenting evidence from several different sets of data that point to the very same conclusion rather than relying solely on one set of data?

Section 1. What does all this mean? (41:40 ~ 48:00): Let's take a look at the diagram below and review the three major sets of evidence from physics that lead to the likelihood of an intelligent Creator. As we are reviewing this evidence, try to think of how these three sets of data complement and corroborate (reinforce) each other.



1. **Space-Time Geometry Proofs:** The Borde-Vilenkin-Guth Proof (B-V-G Proof) shows the necessity for a beginning of any universe or multiverse with an average rate of expansion greater than zero. This applies to virtually every known universal model (except the infinitely static universe which was shown to be contradictory). Since this proof has only one condition and is so vastly applicable, it shows a high likelihood of a beginning not only of our universe, but of physical reality itself (even if physical reality includes a multiverse, string universe, etc.)

2. **Entropy:** Recall that **entropy is a measure of disorder**, and it increases with time and work – so that any physical system doing work for an infinite amount of time would have to be completely used up – incapable of doing work. In the case of our universe, if it had existed for an infinite amount of time, it would have used up all of its order (which

FNTC – A Summary of the Evidence for an Intelligent Creator from Physics

enables it to do work), and it would be a dead universe. But this is not the case; our entropy is exceedingly low, indicating that our universe has only been around for a finite time – indeed, a comparatively short time when we compare 13.8 billion years to infinity. Incidentally, entropy, as Einstein suspected, probably applies to every physical system – including multiverses and string universes because it is based on mathematics – (the much higher probability of disorder over order).

3. **From a Beginning to a Creator:** Before we get to fine-tuning coincidences that show the intelligence of a Creator, see if you can recall the following two items:
 - Why does the combination of these two data sets lead to a stronger likelihood of a beginning?
 - Can you recall why a beginning of physical reality implies a transcendent Creator? Hint – it has something to do with nothing.

4. **Fine-tuning and Anthropic Coincidences:** Recall the information that pure chance alone simply cannot explain the fine-tuning of our initial conditions and universal constants at the Big Bang. This strongly implies that the Creator is **intelligent** – unless of course there is some as yet unknown natural cause. Since the fine-tuning of our initial conditions and constants occurs **at the Big Bang**, we will have to find a natural cause which occurs prior to it. But that can't happen, because, everything before the Big Bang is causally disconnected to it.

Thus, the only possibility of a natural cause would have to be a multiverse which allows for trillions upon trillions of bubble universes – all of which have their own distinct set of conditions and constants (much like a new roll of the dice -- a “do over”). If the multiverse is the only natural cause that might be workable, and it too requires fine-tuning in its conditions and constants, then a supernatural designer begins to look more reasonable and responsible than a natural cause.

If you are interested in seeing more about “Fine Tuning”, here is an interesting YouTube video for you:



qrs.ly/224jcts

At this point, Dawkins' objection becomes relevant– if a designer must be more complex than what it designs, then it must be more probable. But this objection proves to be invalid, because an uncaused reality (necessary for existence) must be absolutely simple – as we have shown in the metaphysical proof of God. By Dawkins' own logic then, this **supernatural Creator and Designer is the most probable cause** of the anthropic conditions and constants of our universe. This blends perfectly with the evidence for a beginning from the B-V-G Proof and entropy.

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Episode Three,
Chapter 4

*Evidence of a Soul From Near Death
Experiences
(48:05 ~ 1:04:22)*

In this chapter, we will discuss one of the most fascinating new discoveries of the 20th and 21st centuries. Though some accounts of near death experiences (NDE's) are anecdotal and warrant skepticism, Fr. Spitzer will work only with the major scientific medical studies conducted in the last twenty-five years. Do you know anyone who has had a NDE? If so, I'll bet this will sound quite familiar to them.

Episode Three, Chapter 5: – *Evidence of a Soul From Near Death Experiences (NDEs)*

Introduction (48:05 ~ 1:04:22)

One of the most remarkable new kinds of evidence for a transcendent soul (capable of surviving bodily death) can be taken from the medical study of near death experiences. The first major study (by Dr. Raymond Moody) took place in 1975, and since that time there have been many other major peer-reviewed medical studies of NDEs in the United States and Europe. In this chapter, **we will present only veridical** (verifiable) **evidence**, from peer reviewed journals which show the strong likelihood of life beyond the physical world from literally thousands of cases. There are many anecdotal stories that are probably perfectly valid (you may well know someone who has experienced an NDE) but we do not include those in this presentation.

Before you watch the video, please answer these questions:

1. What would be satisfactory evidence for you of a soul that can survive bodily death?
2. What would be satisfactory evidence of a life beyond this physical world/universe?

Presentation:

Section 1. Evidence for the Existence of a Soul:

First, let's define some terms. What constitutes “**clinical death**”? This is the starting point for all studies of NDEs. You can see from the diagram below that we are using the standard definition -- “**The absence of electrical activity in the cerebral cortex (flat EEG) and in the lower brain (shown by fixed and dilated pupils and the absence of gag reflex).**” With no electrical activity in the brain, we should not be able to see, hear or comprehend sensory stimuli, and we should not be conscious or capable of thinking.

What are the **common aspects of NDEs**? After bodily death, a transphysical form of consciousness (like a “soul”) leaves the physical body. Frequently, this soul goes through what appears to be a **tunnel** and **rises above its physical body**. Much of the time this soul **is able to see** what is going on **in the room and even outside** the room. People in this state often are aware of what is happening in the operating room -- and even beyond it, such as a waiting room. **They can hear** what is being said and often relate these comments to the person who made them. Another common attribute of an NDE is **going to “the other side”**. Some experience **meeting deceased relatives** and some are greeted by **Jesus**. A **loving white light** is also a frequent experience.

FOUR KINDS OF OBJECTIVE EVIDENCE OF SURVIVAL OF CONSCIOUSNESS

1. **Veridical (verifiable) aspects of NDEs (all five major studies).**
2. **80% of blind people see during NDEs (Ring and van Lommel studies).**
3. **Vast majority of children/adults experience little death anxiety after NDE (Morse and Greyson studies).**
4. **Similarities among in the ten major characteristics of NDEs (all five major studies).**

These four kinds of veridical data will be described and explained in detail in the next episode – Chapter 1.

Chapter Review: Medical science has entered into the domain of a transphysical soul and a heavenly domain through modern resuscitation techniques. People in the midst of an NDE pass through walls, see where their missing dentures were placed and hear what their friends were saying about them in the waiting room, **the blind see**--many for the first time ever--and children meet Jesus or long deceased relatives they never knew existed. People experiencing an NDE seem to lose their fear of death while those who did not--experience a marked increase in the fear of death. We will continue this study in our next episode. See quotations from doctors who performed the studies at **<SG 93-96/A thru G – QR79>**

Questions for Review and Discussion, Episode Three, Chapter 5:

1. What is the definition of “clinical death”?
2. How does that definition play a role in Near Death Experiences?
3. What do you think about NDEs as evidence of a soul and life after death?
4. How would you explain people blind from birth suddenly being able to see while they were clinically dead?
5. How would you explain a clinically dead child meeting a relative they never knew existed, and learning facts that were later verified by parents or others?
6. Which, if any, of the four kinds of veridical evidence did you find most compelling? If you answer “None”, why?

Lots of notes:

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Episode Four,
Chapter 1

Near Death Experiences (NDEs) Continued
(00:55 ~ 6:04)

In this chapter, (continuing from the previous chapter) we will see a more detailed explanation of the medical studies of NDEs. We will learn how these are far more than anecdotal stories passed from person to person. The evidence has strong veridical features, which are difficult, if not impossible, to explain by brain physiology, pharmaceuticals, oxygen deprivation, hallucination, and other physical causes.

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Introduction (00:55 ~ 6:04)

If you remember from our last episode, we were discussing the various studies of Near Death Experiences (NDEs). Recall that all the people studied were **clinically dead** -- marked by an absence of electrical activity in the cerebral cortex (flat EEG) and in the lower brain (fixed and dilated pupils and absence of gag reflex). We examined **four types of veridical evidence**:

- a. Reports of unusual data taking place during clinical deaths which were verified by independent researchers after the fact.
- b. 80% of blind people see during clinical death.
- c. Those having an NDE have significantly lowered death anxiety.
- d. Those having an NDE met deceased relatives and friends and were able to report hitherto unknown facts upon returning to their bodies.

In the last episode, we noted that there were three major features of near death experiences that could not be explained by physiological causes – and required transphysical (“soul-like”) consciousness, sight, hearing, and recall outside the body:

- Reports of verifiable data outside of the operating room (e.g. in waiting rooms and outside the hospital) when patients are clinically dead and confined to the operating room.
- 80% of blind people reporting verifiable data *seen* during clinical death.
- Significant lowering of death anxiety in virtually everyone who has had an NDE -- which has no known physiological cause.

How can this be explained by any typical physiological cause – hallucination, oxygen deprivation, pain protocols (pharmaceuticals), temporal lobe stimulation, etc? All three of these data – in hundreds of cases --- studies after study – simply elude physical explanation. If not a transphysical soul, we are unable to explain them.

Before you watch the video, here are some questions to consider.

How do you explain the above three data?

Can you find a physical explanation that does not require a transphysical soul?

Presentation:

Section 1. The Criterion for Accepting a Case for an NDE as “Accurate”:

Where do we go from here? Let’s move ahead and check out some of the evidence and conclusions formed from these studies. **Using extremely stringent criterion**, researcher **Dr. Janice Holden found 107 cases**, spread over thirty-nine studies by thirty-seven authors, of reported veridical evidence. Here is what she found:

If a case study had **one detail** found to be **inaccurate**, it was classified as “**inaccurate**”. Holden determined **only 8% of the cases reviewed had any inaccuracies**. She **found 37% of the cases to be perfectly accurate**, and 55% to be “not inaccurate, but perfectly verifiable by independent researchers.” If we eliminate the

FNTC –Near Death Experiences (NDEs) Continued

cases that she could not perfectly verify (55% of 107 cases), then 48 cases remain (45% of 107 cases). Of those 48 remaining cases, only 8 of them (8% of 107 total cases) were found to have any inaccuracy while 40 (37% of 107 cases) were found to be perfectly accurate. Thus, of the cases which could be perfectly verified, only 17% were inaccurate (8 cases of a total of 48) while **83% were found to be perfectly accurate** (40 out of 48 cases). How can this be explained?

Section 2. Examples of Why Researchers Believe the Veridical evidence for NDEs is significant:

Here are some quotations from recent studies reported in peer-reviewed journals:

Dr. Pim van Lommel's study reported in Britain's most respected medical journal *The Lancet*:

How could a clear consciousness outside one's body be experienced at the moment that the brain no longer functions during a period of clinical death with flat EEG?...Furthermore, blind people have described veridical perception during out-of-body experiences at the time of this experience. NDE pushes at the limits of medical ideas about the range of human consciousness and the mind-brain relation. In our prospective study of patients that were clinically dead (flat EEG, showing no electrical activity in the cortex and loss of brain stem function evidenced by fixed dilated pupils and absence of the gag reflex) the patients report a clear consciousness, in which cognitive functioning, emotion, sense of identity, or memory from early childhood occurred, as well as perceptions from a position out and above their 'dead' body.³²

Dr. Kenneth Ring's study of the near death experiences of blind people:

Among those narrating NDEs, not only did their experiences conform to the classic NDE pattern, but they did not even vary according to the specific sight status of our respondents; that is, whether an NDEr was born blind or had lost his or her sight in later life, or even (as in a few of our cases) had some minimal light perception only, the NDEs described were much the same. Furthermore, **eighty percent** of our thirty-one blind respondents claimed to be able to see during their NDEs or OBEs, and, like Vicki and Brad, often told us that they could see objects and persons in the physical world, as well as features of otherworldly settings.³³

³² See Pim van Lommel, *et al* 2001. "Near-Death Experience in Survivors of Cardiac Arrest: A Prospective Study in the Netherlands." In *The Lancet*. Vol. 358, Issue 9298, pp. 2039-2045.

³³ See Kenneth Ring, S. Cooper, and C. Tart. 1999. *Mindsight: Near-Death and Out-of-Body Experiences in the Blind* (Palo Alto, CA: William James Center for Consciousness Studies at the Institute of Transpersonal Psychology). pp. 81-82.

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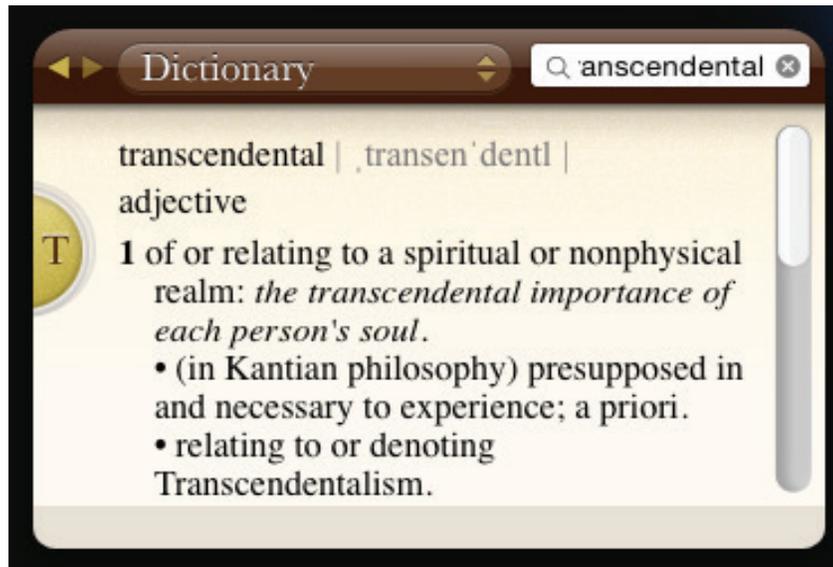
Episode Four,
Chapter 2

*More Evidence of a Soul from the
Five Transcendental Desires*
(6:05 ~ 25:50)

In This Chapter, we move from learning about evidence for a soul from NDEs to learning about a soul from the **Five Transcendental Desires**. You may or may not have heard of the “Transcendentals” before but you should have a college level understanding of them when you are finished with this chapter. FYI, they date back to Plato and Aristotle. We’ll do this like one would eat an elephant, one bite at a time.

Episode Four, Chapter 2 – *More Evidence of a Soul from the Five Transcendental Desires*

Introduction (6:05 ~ 25:50): What do you think of when you hear, “Transcendental Desires”? Here is how the dictionary describes “transcendental”:



Before you watch the video, consider this:

1. Have you ever desired something that you knew could not be fulfilled in this world? If so, what was it, and why do you think you desired it if its fulfillment is not possible in the here and now?
2. Have you ever seen or heard something that, though it may have been quite good, was just not perfect? If so, how did you know it was not perfect unless you have an idea of what perfect would be?

There are five Transcendental Desires that were recognized around 400 BC by Plato and Aristotle. St. Augustine, St. Thomas Aquinas and many other philosophers have spoken of these same desires through the centuries. Let's look at how these transcendental desires indicate the presence of God to your consciousness.

Section 1. Evidence of the presence of God to our consciousness.



qrs.ly/1m4jcu8

What are these transcendental desires? They are our built-in desires for:

- i. Perfect and unconditional **Truth**
- ii. Perfect and unconditional **Love**
- iii. Perfect and unconditional **Justice (Goodness)**

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Episode Four,
Chapter3

*A Summary of the Evidence for a Creator
and a Soul plus the Question of Atheism
(25:50 ~ 36:30)*

In this Chapter, we will give a brief explanation of the five different datasets we have examined pointing to our transcendental soul, and a Transcendent intelligent Creator. Father then turns his attention to whether atheism is based on science or reason – or something else – such as personal choices.

Episode Four, Chapter 3: *A Summary of the Evidence for a Creator and a Soul plus the Question of Atheism*

Introduction: (25:54 ~ 36:30): Well ladies and gentlemen; the first paragraph was for the chapter *title*. Now let's get to the introduction part of this chapter. We have now reviewed evidence for God and a soul from five different sources:

1. Space-Time Geometry Proofs (particularly the B-V-G Proof) implying a beginning of physical reality.
2. Entropy indicating a beginning of our universe.
3. Anthropic Coincidences implying supernatural design of our universe.
4. Near Death Experiences implying the existence of our transphysical.
5. Five Transcendental Desires implying a transcendental soul.

In light of these five kinds of evidence (as well as the metaphysical proof of God), we might wonder why someone would be an atheist. Perhaps some people will deny all five of the above kinds of evidence as well as the metaphysical proof of God, but if they do, it cannot be arbitrary. Remember the first rule of logic and evidence – “arbitrarily asserted, then arbitrarily denied.” Well, the opposite holds as well – “arbitrarily denied, then arbitrarily re-asserted.” In other words, if one gives no reason for denying the B-V-G Proof – or the evidence from entropy, or the fine-tuning implied by anthropic coincidences, etc., then an opponent can simply reassert them. The fact is, the evidence for God and a soul is quite compelling – and has certainly not been arbitrarily asserted. It therefore deserves evidence for its denial. As we have seen above, it is difficult to “get out of” the B-V-G Proof or the entropy evidence for a beginning of physical reality without creating exceedingly complex and convoluted solutions, which seem to violate Ockham's Razor. The same holds true for the evidence of anthropic coincidences and near death experiences. One cannot simply say – “I deny them all – arbitrarily.” The burden of proof – the requirement to give coherent evidence -- rests on those who consider themselves to be reasonable and responsible. If such evidence cannot be coherently given, then the evidence for God and a soul stands.

Before you watch the video, please consider the following questions:

1. With all of the evidence presented so far, why do you think some people might choose to be atheists?
2. Do you think that atheism is a matter of evidence or personal choice?

Presentation:

Section 1. Why Atheism?

We should begin with the fundamental notion that evidence for God and the soul alone will not be perfectly persuasive – even if the evidence is overwhelming. If we do not **want** to believe in God, we can deny the B-V-G Proof – even though Alexander Vilenkin claims that it should convince even an unreasonable person. We can also deny the evidence of thousands of cases of near death experiences that report data accurately described by blind people during clinical death – if we do not **want** to believe it. We can also deny the existence of an uncaused reality – even though it would necessitate that nothing exists – if we do not **want** to believe it. We can claim that low entropy occurred at the Big Bang by pure chance – even if the odds against it are the same as a monkey typing the corpus of Shakespeare. I think you are probably getting the point. Belief in God and our transcendent soul not only requires evidence, but a mind and heart open to believing in what the evidence shows. Evidence is absolutely essential for us to ground our beliefs in reason and reality. But by itself, it will not be perfectly persuasive. We must have **faith** as well.

Can atheists reasonably deny all of the above evidence? It is hard for me to believe that they can – and I have certainly not heard any of them successfully refute the B-V-G Proof, the evidence of all near death experiences, the proof of an uncaused reality, and the entropy evidence. Though some have used a multiverse to explain the low entropy of the universe, I have not heard of any who have not acknowledged that it (low entropy) is exceedingly improbable and that its occurrence is astonishing indeed. So, what's the point?

As we have seen in Episode One (Chapter 1), science **cannot** disprove the existence of God, and cannot show that the universe does not need a Creator. The limits of scientific method make such claims impossible to substantiate. Indeed, all the evidence seems to point to the contrary. In view of this, why choose to be an atheist instead of an agnostic? An agnostic does not have to reject all of the above evidence, but only to declare uncertainty about it. This allows agnostics the option to resolve their doubts about the evidence, to find additional evidence, and to make a future decision in favor of that evidence. But atheists, because they reject the existence of God, are likewise forced to reject the above evidence – which is quite difficult for someone who is trying to be rational and responsible.

So why reject God (and the probative evidence for God) instead of continuing one's search for the truth? There must be something in the idea of "God" or "religion" that engenders either negative **feelings** (e.g., perhaps anger, resentment, fear, or guilt) or runs contrary to one's fundamental **desires and choices** – about identity, life, others, human dignity, etc. Frequently, both negative feelings and desire/choices are involved in the decision. Sometimes these feelings, desires and choices are **subconscious** -- and atheists are not fully cognizant of them. This also holds true for theists and agnostics. Nevertheless, these feelings, desires, and choices seem to move atheists beyond the domain of rationality and evidence into the **choice** of rejecting a Transcendent (Supreme) Being.

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Episode Four,
Chapter 4

The Bible, Evolution and Aliens
(36:30 ~ 57:20)

In this chapter, we will examine the Bible and answer some questions regarding possible conflicts with creation (ism) and evolution, science and the Bible, etc. We will also look at why the Bible is necessary and how it fits with the evidence for God we have already discussed. Lastly, we will look at the topic of aliens. Do they exist? Might they exist? Do you really care if they exist?

Episode Four - Chapter 4 – *The Bible, Evolution and Aliens:*

Introduction (36:30 ~ 57:20): There is a popular cultural myth that states that the Bible and science are in conflict. No doubt the biblical and scientific accounts of creation are quite different, but does that mean that the Bible and science are in conflict? As we shall see, it does not because theology and science have different objectives, methods, and, as one might expect, legitimate conclusions. Confusion about the Church's position on "the Bible and science" has led to further confusion about the legitimate belief in evolution. Can Catholics believe in evolution? Are there limits to what Catholics can believe? As we shall see, Catholics have incredible latitude and freedom -- not only for belief, but also for belief in all legitimately established scientific facts and theories. Faith and science cannot be in conflict – for they come from the *same source* – the infinite mind and all loving heart of God. We will then consider the possibility of alien life forms – and even intelligent alien life forms – and how Catholics might respond to them.

Before you watch the video, here are a few questions for you to consider:

1. Do you think the Bible and science are in conflict? Why or why not?
2. Do you think Catholic doctrine and evolution are in conflict? Why or why not?
3. Do you think intelligent life is out there in our universe? If so, would it have a soul AND, would it need redemption?

Presentation:

Section 1. The Bible and Science - Is there a Contradiction?

There *seems* to be some disagreement between what the Bible tells us and what science teaches us. A prime example would be what the Bible says about creation and what science has discovered about creation. Is this an impasse where both cannot be right? **Pope Pius XII, in 1943, stated in a papal encyclical⁴⁶ entitled *Divino Afflante Spiritu*, that the purpose of the Bible (in which God speaks through inspired authors) is to manifest truths of **salvation**. He goes on to tell us **the Bible does not present scientific truths but sacred truths**. Why did he say this? Because he wanted to clarify that **there are two approaches to creation and the understanding of nature:****



qrs.ly/eb4jcuu

- 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**.

⁴⁶ Papal encyclicals are public letters written by the pope to the church. One purpose of an encyclical is to clarify and communicate the Church's teaching on important matters.

Pope Pius XII also made another important clarification. He indicated that God's inspiration of the biblical author was intertwined with the thoughts and capacities of the biblical author – God and the biblical author were “partners,” so to speak, in the writing of the biblical text. God is clearly the source of inspiration, and so the primary source of revelation, but **He uses the biblical author to produce a work which can be understood by and appeal to the biblical author's audience – situated within a particular culture and time.**

Notice that this “*partnership*” theory of inspiration is quite different from the “*dictation*” theory. The dictation theory holds that God simply spoke to the mind of the biblical author, who in turn, wrote down what he “heard” -- *verbatim*. In this view, the biblical author plays only a transcriber's role, while God does everything else, so that every word in the Bible is the truth of God – and all of it must be taken *literally*. Though some Christian denominations hold this view, Catholicism does not – which was clarified by Pope Pius XII's encyclical.

The “partnership” theory of divine inspiration holds that the biblical author plays a role in the production of the revealed text. He brings his thinking patterns, his culture, his sense of history, and his categories to the writing process. Why would **God** allow this? Because he **wants to communicate with the people in the biblical author's audience.** The author and audience of Genesis 1 could not possibly have understood a scientific explanation of creation (as we understand it today). They did not understand the method and mathematics of science – nor did they have the instrumentation necessary to discover scientific data. According to Pope Pius XII, **God was really not concerned with giving a proper scientific account of creation** when he inspired the biblical author – **He was concerned only to give** – through the author's and audience's own categories and culture – **sacred truths necessary for salvation.** This is a long held belief within the Catholic Church which was summed up by **St. Thomas Aquinas** when he said, “Whatever is received is received according to the manner of the receiver.” Thus, if God wants to communicate his truth to a 6th Century BC Israelite audience, he will have to use the categories and mindset of a 6th Century BC Israelite audience – and what better way to do it than to “**work with**” a 6th Century BC Israelite author. By doing this, he communicates effectively with past audiences, and does not impede communication with **future audiences**, for those audiences **would be able to clearly understand the categories and mindsets of a less sophisticated, non-scientific time and culture.**

Today **we can understand the salvific truths in the Genesis narrative** (see below) as easily as the biblical author's audience in 500 BC. **If** we do not confuse the salvific intention and content of God's revelation with the method and content of the natural sciences, there will be no contradiction between the biblical and scientific accounts of creation. Each account has its own purpose with its own method and its own content – conflating them is a misunderstanding of God's intention in revealing himself to us through the Bible.

It is important to be aware that the Catholic Church was integral to the development of science throughout the centuries. **Professor Stephen Barr** – supersymmetry physicist

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Episode Four,
Chapter 5

Series Review
(57:20 ~ 1:02:50)

In this chapter, we will take a look over our shoulder at the 15 chapters we have covered. It has been a long and arduous journey but we have gained so much. Let's take a look at what we have discovered.

Episode Four, Chapter 5 – Series Review (57:20 – 1:02:50)

Introduction (57:20 ~ 1:02:50): This chapter is a brief recapitulation of the previous fifteen chapters. **Before you watch** the video, take a deep breath and relax. Enjoy the highlights of - *From Nothing to Cosmos*. One last question to ponder:

What is the evidence presented in this series for God and our transphysical soul?

We learned in Episode One that science is limited to observation – and observation, in turn, is limited to the event horizon **within our universe**. Therefore, science cannot disprove God, because God is **beyond the universe**. How can you use evidence from within the universe to disprove something beyond it? You cannot. Furthermore, we showed that **science** is an inductive discipline that **must always remain open to new discoveries**, meaning that science can never know everything about the physical universe sufficient to know that it does **not** need a Creator. These claims are beyond scientific methodology.

Nevertheless, science can give evidence for the existence of God by showing the intrinsic **limits of the universe** – which are within its observational purview. Thus, if science can find sufficient evidence to establish a limit to past time (**a beginning**) of our universe – and even a multiverse, a string universe, and a bouncing universe -- it can come close not only to showing a beginning of physical reality, but also imply a Transcendent Creator.

We looked at evidence from the Borde-Vilenkin Proof of 1993, and then concentrated on the **Borde-Vilenkin-Guth Proof of 2003**, and acknowledged the probative evidence for a beginning – not only of our universe, but of multiverses, string universes, and bouncing universes. We asked whether there was a physically realistic exception to the one condition of the B-V-G Proof (an average Hubble expansion greater than zero), and acknowledged the possibility of an eternally static universe. However, we showed that this hypothesis was intrinsically contradictory (both perfectly stable and unstable), and also inconsistent with contemporary quantum theory (Vilenkin and Mithani). **This led us to the probability of a beginning of physical reality.**

We then considered the consequences of the second law of thermodynamics (**entropy**), and acknowledged that its universal applicability – to all physical systems – implies a beginning not only of our universe, but any physical universe or multiverse. **This gave us a second data set** (along with space-time geometry proofs) **pointing to the beginning of our universe** as well as multiverses, bouncing universes, and physical reality itself.

The probability of a beginning of physical reality implied the probability of a Transcendent Creator, because if there was a beginning of **physical reality**, then prior to that beginning, **physical reality would have been nothing**. Now if physical reality had been nothing, then the only thing that it could do was nothing – in which case **it could not have moved itself from nothing to something** – when it was nothing. This led to the inevitable conclusion that something beyond physical reality – a transcendent

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causative force – would have had to move it from nothing to something, and for this reason, we called it a “Transcendent Creator.”

We then turned to the question of whether this Transcendent Creator is intelligent. This led us to two kinds of anthropic coincidences occurring at the Big Bang (a barrier to past causation in our universe):

1. The exceedingly high improbability of low entropy (necessary for life forms) at the Big Bang -- $10^{10^{123}}$ to one against (the Penrose number), and
2. The exceedingly high improbability of our universal constants having anthropic values at the Big Bang – which is as improbable as low entropy.

We concluded from this, that the anthropic conditions (necessary for life forms) that occurred at the Big Bang were completely beyond the domain of pure chance in a single try. This left us with only two possibilities – a multiverse (where we could get “new tries” again and again with the production of each new bubble universe) or a highly intelligent Creator. We resolved that the latter was more probable not only because every multiverse must have a beginning (according to the B-V-G Proof) and violates Ockham’s Razor, but most importantly, requires fine-tuning in its initial conditions. Thus, the multiverse seems only to have moved us back one step in explaining the origin of highly improbable fine-tuning – which means we are faced with the question of where the highly improbable fine-tuning of the multiverse came from. We concluded that this pointed to the probability of a highly intelligent Creator who is ultimately responsible for intentional and rational design within the physical universe. This conclusion complemented and corroborated the one we reached about a Creator of physical reality (from the need for a beginning of it). Our ultimate conclusion was that science indicates the probability of a highly intelligent Transcendent Creator.

This led us to the objection of **Richard Dawkins who claims that since a designer must be more complex than what it designs, and more complexity is always more improbable, a designer must be more improbable than what it designs. We showed that the first premise of this argument was fallacious** through a **metaphysical proof of God proving** in five steps that **there had to be at least one uncaused cause** which must be unrestricted, completely unique, and **absolutely simple**. We concluded from this – using Dawkins’ second premise -- that **God would have to be the most probable reality of all.**

Next, we turned our attention to the existence of a transphysical soul, and first explored the peer-reviewed studies of near death experiences that gave significant probative evidence for the following:

1. Patients reported leaving their bodies, and being in a transphysical form in which they were conscious and had the capacity to see, hear, remember, and recall.
2. During that experience, many reported verifiable data (perfectly accurately) that took place after clinical death (30 seconds after cardiac arrest when there is virtually no electrical activity in the brain).
3. **80% of blind people saw (most for the first time) after clinical death.**

FNTC – The Fine Tuning of Initial Conditions and Universal Constants

4. Many went to a heavenly domain in which they encountered deceased relatives and friends, a tremendously loving and beautiful white light, and Jesus. During that time, many heard hitherto unknown facts from deceased relatives and friends that they were later able to verify after resuscitation.

We concluded from this that physiological explanations of near death experiences – such as hallucinations, pharmaceutically induced states of mind, oxygen deprivation, stimulation at the temporal lobe, etc. – were completely incapable of explaining what took place in an NDE (and patients’ – even blind patients’ ability to report it perfectly accurately). **This substantiated the probability of our having a transphysical soul** – and the possibility of encountering a divine loving presence after bodily death.

We then explored our transcendental desires – the desire for perfect truth, love, justice (goodness), beauty and being (home) – and asked how we would be able to recognize imperfection in these areas continuously – and seemingly endlessly. We reasoned that these abilities entail at least a **tacit awareness** of perfect truth, love, justice (goodness), beauty and being (home). We then asked what the source of this transcendental awareness might be and concluded that it must come from a source commensurate with the awareness – that is, from perfect truth, perfect love, perfect justice (goodness), perfect beauty and perfect being (home) itself. After recognizing that these characteristics entailed absolute simplicity – and that there could only be one absolutely simple reality – we concluded that the one absolutely simple reality (proved in the metaphysical proof of God) must also be perfect truth, love, justice (goodness), beauty and being (home). This led to our final conclusion that the one **God was present to our consciousness imparting our awareness of these transcendental domains** – allowing us to ask questions, create, and engage in empathy, moral reasoning, and aesthetics (e.g., art, music, literature, architecture, etc.).

By way of summary, we asked how science (the physical) relates to the **metaphysical** (the transcendent domain), and we set out eight basic propositions:

1. Science cannot disprove the existence of God, because it depends on evidence from within the universe – and this cannot be used to disprove a being beyond the universe.
2. Science cannot know whether it knows everything about the universe, because science can’t know what it does not know until it has discovered it. Therefore, science cannot prove that the universe does not need a Creator.
3. Since science can give probative evidence for a limit to time (a beginning) in our universe (as well as multiverses, bouncing universes, and string universes), it can also show the probability of a beginning not only of our universe, but of physical reality.
4. Science can also give probative evidence - on the basis of entropy - for a beginning of our universe as well as other physical systems (such as a multiverse and a bouncing universe).

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5. Scientific evidence does not conflict with logical-metaphysical evidence of God – indeed, the two methodologies complement and corroborate each other's conclusions about an ultimate intelligent cause of physical reality.
6. Science can give evidence of fine-tuning of universal constants and conditions at the Big Bang (a barrier to causation), which implies a supernatural designing intelligence (since a multiverse is ultimately unable to explain its own fine-tuning).
7. Peer-reviewed, longitudinal, comprehensive studies of near death experiences imply strongly that human beings have a transphysical soul (which can think, see, hear, remember, and recall) after clinical death.
8. The metaphysical proof of God shows that a necessary uncaused cause must be unrestricted, unique, and absolutely simple. Since absolute simplicity has no prior conditions, it is perfectly self-sufficient and self-explanatory, and is therefore, the only adequate explanation (cause) of the rest of reality.

We conclude with the Fr. Spitzer's final statement in the video series:

"It appears very likely that there is some kind of creative force outside of our space-time asymmetry, outside of physical reality itself, outside of every multiverse. This creative force is, therefore, a transcendent force, and that transcendent force would have to be outside of time itself, and would actually have to be uncaused and unconditioned -- making it absolutely simple. This absolutely simple, unrestricted power, this unrestricted existence through itself would have to be the source of our transcendental awareness of perfect and unconditional truth, love, justice (goodness), and beauty. This unrestricted, uncaused creator; this super-intelligent agency; this source of perfect and unconditional truth, love, justice (goodness), and beauty; this unconditionally loving entity created us into existence through its intelligence and love, and maintained us so that we could thrive with him for all eternity in that love."

Questions for Review and Discussion, Episode Four Chapter 5:

1. What is the single most important thing you have learned from this series?
2. How have your thoughts and beliefs changed as a result of studying this series?
3. Have you thought about how you might use this new information?
- 4) Do you have any remaining questions about God, human souls, evolution, etc? If so, please consult the website and forum below.

Questions?

Please visit us at: www.magiscenter.com

Remember the **FREE FORUM** (look inside front cover)

Check out this **Wiki** as a resource >

AND - - Check our **free Study Guide** On our website under the "Free/Resources tab"



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QR Library

Below you will see a sample from the QR Library found on the following pages. Please note the several ways you can gain access to this information. Magis hopes this addition enhances your experience with the **Workbook +**.

1. You will need a “smart device” such as a smart phone or smart tablet to make use of the QR codes (similar to barcodes).
2. Some smart devices come equipped to read barcodes. If yours does not have this capability, you may have to download an app (application) to read barcodes. There are many free apps available for both Android and Apple devices.
- 3) If you do not have a “smart device” but have access to a computer with internet access, you can use the URL codes shown in the information box adjacent to the QR code you desire to access. (it will probably work on your browser without the <http://> - try it)
4. To use the QRs, simply open your app (if required on your device) and point it at the QR code you want to access. Be careful to verify you “shot” the code you wanted. It is very easy to pick up a nearby code by accident. Try #4 below and see if you can get it to work for you.

3		Biographies - Albert Einstein and Georges Lemaître http://qrs.ly/fm4jct3	
4		FNTC - Complete Online Study Guide http://qrs.ly/zs4ja81	
		God is Perfect Love - From Fr. Spitzer's	

One last tip for you: We tried to give enough space between QR codes to minimize read errors but they can still happen. To insure you get the right read every time, consider cutting a hole, large enough for one QR code, in a sheet of paper. Use that to cover all of the nearby codes while accessing the one you want. Let us know if you like the QR features.

QR Library

QR#	Workbook + QR Library		
1		Biography - Edwin Powell Hubble http://qrs.ly/ng4jesx	
2		Example of Universe's Linear Expansion Using a Rubber band http://qrs.ly/ca4jesz	
3		Biographies - Albert Einstein and Georges Lemaître http://qrs.ly/fm4jct3	
4		FNTC - Complete Online Study Guide http://qrs.ly/zs4ja81	
5		God is Perfect Love - From Fr. Spitzer's new book, <i>The Soul's Upward Yearning:...</i> http://qrs.ly/9u4jct5	
6		Biographies - Doctors Arvind Borde, Alexander Vilenkin & Alan Harvey Guth http://qrs.ly/zl4jct6	
7		Vilenkin on the beginning of our universe http://qrs.ly/n54jct7	
8		Simulation of our expanding universe using a balloon http://qrs.ly/854jcta	

ABOUT THE AUTHORS:

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Fr. Spitzer was born in Honolulu, Hawaii in 1952. He is a Catholic priest in the Jesuit Order. A past President of Gonzaga University (1988 – 2009) he is currently President of Magis Center and The Spitzer Center. Magis Center produces documentaries, books, high school curricula, adult education curricula and new media materials to show the close connection between faith and reason in contemporary astrophysics, philosophy, and historical study of the New Testament. The Spitzer Center produces facilitated curricula to strengthen culture, faith and spirit in Catholic, non-profit and for profit organizations.



Father has published 8 books with an additional 3 to be released this year. His book, *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy* (Eerdmans, 2010) won the Catholic Press Assoc. Award for the best book in Faith and Science. Other books include *Ten Universal Principles*, *Healing the Culture*, *Spirit of Leadership*, *Five Pillars of the Spiritual Life*, *Finding True Happiness* (Ignatius Press, 2015), *Evidence For God From Contemporary Physics: Extending the Legacy of Msgr. Georges Lemaitre* (St. Augustine Press, 2015) His academic specialties are (1) Philosophy of Science, particularly space-time theory and transcendent implications of contemporary big bang cosmology, (2) metaphysics, particularly the theory of time and philosophy of God, and (3) organizational ethics and its relationship to personal and cultural transformation. He has also studied leadership, historical exegesis of the New Testament, the life issues, and philosophy of culture.

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Michael K. Noggle



Mike was born in Long Beach, CA in 1946. His Wife, Patricia, is his best friend. Four children and 9 grandchildren will be his most important legacy.

His background is in manufacturing where he was President and CEO of a company in the plastics field serving global clients. He produced two books for the plastics industry, one for classifying injection molds and one for unifying quality standards.

He has taught: bible studies (for adults and teens) for over 30 years, RCIA, Pre-Cana and Confirmation classes. Mike is a Certified Catechist in the Diocese of Orange, CA

The Workbook + was produced with you in mind. Though it can be used on its own, it is intended for use with the 4-disc DVD series, *From Nothing to Cosmos: God and Science*, by Fr. Robert J. Spitzer, S.J., Ph.D. It gives contemporary answers to the top 12 most asked questions by high school and college students about science and faith – questions that can influence their belief in God and participation in church for the rest of their lives.

We endeavored to put some challenging concepts and proofs from science and philosophy into laymen's terms using lots of examples and reference material. We have added QR codes (like bar codes) that, with a smart device, (may require a downloaded app), give you access to additional information, e.g. videos, websites and more – instantly. Many of you may have heard some or all of the following 12 questions which have come to our attention again and again from students starting in the 6th grade all the way through Ph.D. graduate programs – and beyond.

So what are these questions?

1. Can science disprove God or the need for a creator of our universe?
2. Can science give evidence for a beginning of our universe or physical reality itself?
3. Can science give evidence of supernatural design which does not fall prey to some of the objections to "intelligent design theory"?
4. Does the Higgs Boson – the "God particle" – disprove or replace God?
5. Do multiverses, string theory, or M-Theory cancel the need for a Creator?
6. Do near death experiences show that our consciousness can survive bodily death?
7. Why are some scientists atheists if there is so much evidence for a Creator from physics, philosophical proofs, and medical studies of near death experiences?
8. Are the recent comments of Stephen Hawking and Richard Dawkins valid?
9. Did the Catholic Church persecute Galileo for his belief in a heliocentric universe?
10. Can the biblical account of creation and the scientific account of creation (showing a 13.8 billion year old universe) be reconciled?
11. Can Catholics believe in evolution? Are there limitations?
12. Do aliens exist? If so, are they intelligent? How should Catholics respond to this possibility?

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