Introduction to

Scientific Apologetics

Tearing Down Walls of Unbelief

BY

JEREMY LIVERMORE, M.A., P.E.

SPRING 2013
1. **Class Information**

   a. **Class Structure**

      i. Start time at 7:00.

      ii. Finish time at 8:45.

      iii. We will take a 10 minute break sometime around 7:50.

      iv. If people can we would love to have refreshments provided each week.

         1. Sign up list going around.

      v. Class ends on March 14th…maybe…

   b. **Class Requirements**

      i. No cost for the class ($20 for your materials)

         1. Suggested Donation for Hadavar Ministries, School of Biblical and Jewish Studies.

      ii. No homework

      iii. No tests

      iv. No required reading (but strongly recommended)

      v. Brought some books from home for you to get titles and purchase online.

      vi. Recommend 1 chapter per week in these books.

      vii. Only1 Class requirement – SHOW UP EVERY WEEK!!!

         1. Attendance List is a way for me and the school here to have your email addresses and contact information.
2.  This will be used to communicate each week of the upcoming lecture topic and study.

c. **Class content**

i.  It’s too hard to gage when we will get to each topic so I purposely did not create a syllabus with a schedule of topics.

ii.  Level of difficulty is broad and deep.

iii.  Hopefully, this class will be the beginning of a lifelong learning journey for you.

d. **Goals:**

i.  After appropriately completing the requirements of this course one ought to be able to:

ii.  In each apologetics area, know and evaluate the basic arguments for and against each view.

iii.  Articulate, reason, weigh evidence, present and critique scientific arguments for and against the Christian faith.

iv.  Demonstrate the plausibility of the Christian world view that integrates scientific truth.

v.  Develop the ability to engage in conversational apologetics with believers and non believers.

vi.  Integrate apologetics in the context of the local church.

vii.  Minister with passion and humility in the area of defending and commending the faith.
viii. For the non-Christians, I want to especially speak to you at this moment. First thanks for coming into this church. We welcome you with open arms. Second, please know that this class is for you equally as much as it is for the Christian. I will explain how and why coming up.

e. Instructor

i. Jeremy David Livermore, P.E., M.A.

1. jeremy@apologetics.com

2. cell 951-515-8836

ii. If necessary, hours available outside of class to meet and discuss issues: by appt only on weeknights or Saturdays from 8:00am – 5:00 p.m.

iii. Personal background

1. Quick story of my life

2. I am not a Christian because I want it to be true, I am one because I have discovered it is actually true.

3. The best thing about Christianity is that the truth sets free and I can know the truth. I am not stuck behind or inside of the cloud of postmodernity. We have access!

iv. Jeremy received his Masters of Arts in Christian Apologetics from Biola University. Currently he co-hosts the Apologetics.com weekly a radio show on 99.5 fm KKL. With Apologetics.com (non-profit based in OC), Jeremy writes articles and speaks publicly on apologetics locally and internationally. Jeremy’s ministry experience includes serving Jesus in Uganda, Liberia, Chile, Australia, Mexico, and Canada where he be speaking at the 2012 Canada Apologetics Conference. He has several years of evangelistic & non-profit ministry experience working with
various organizations such as Campus Crusade, Engineering Ministries International, Engineers Without Borders, Habitat for Humanity, Euroteam Designs, & Apologetics.com.

f. **Pray**

g. **Icebreaker**
I. Introduction

A. Recent popular claims against Christianity:

i. “Intelligent Design is just Creationism.”

ii. “Science has proven the Bible is wrong.”

iii. “Science has made Christianity irrelevant.”

iv. “All that exists, is that which can be perceived through the 5 senses and that which can be understood by scientific experiments.” (I have been told this by a very smart engineer).

v. “Everyone knows we evolved. Get over your creationism. Darwinism is a fact of the universe.” (I have been told this by a different very smart engineer).

vi. These statements are propagated from the highest academic level to the street level. I have read these in books by professors and even heard these at birthday parties.


   a. Dawkins is an outspoken critic of Christianity and writes/speaks very provocatively and angrily. As a scientist, he bashes Christianity as a whole instead of just sticking to his area of expertise. He has been dubbed one of the New Atheists by Christian responders who take on his angry charges.

viii. Noble prize winning physicist Steven Weinberg argues that science sets people free
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from their religious “superstition.”

a. “I think the world needs to wake up from its long nightmare of religious belief; and anything that we scientists can do to weaken the hold of religion should be done, and may in fact be our greatest contribution to civilization.”

ix. How does the Christian respond?

x. What do we do when we hear this?

xi. Possible Scenario:

a. Every year in February, there is an international Darwin Day celebrating the anniversary of the *Origin of Species* and the birthday of Charles Darwin.

b. Darwin Day is administered by Institute of Humanist Studies.

c. The day will be filled with all sorts of fun activities, such as lectures, conferences, and plain old birthday parties in various areas worldwide (see www.darwinday.org or www.americanhumanist.org).

d. This will be a very welcome celebration for advocates of Darwinism around the world.

e. But, this event definitely fuels the flame of those who enjoy bashing Christians and pushing Christians out of the public square (Not to mention, labeling Intelligent Design as Creationism or non-science).

f. So what ought the Christian to do on Darwin Day? Here are some possible responses:

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1) Use the day as an occasion to learn about Darwinism, theories of Micro & Macro evolution, and research performed in the Intelligent Design movement to raise awareness about these areas of science to Christians.

2) Organize an international Intelligent Design Day to raise awareness of the results of scientific research in the fields of biochemistry and astrophysics that point to design.

g. Christians can be appalled at how the gatekeepers of scientific knowledge in the ivory towers of academia attempt & succeed in holding minds hostage to a naturalistic worldview, but we need to get our stuff together and respond well.

xii. Before we struggle with those who “know” the “facts” of the universe, we ought to really think about how we disagree. In what respects do we differ? In order to do this we need to dig deeper.

xiii. Ask ourselves:

a. Can we learn more about the method of science?

b. Can we learn more about the various theories of human origins that Christians hold?

c. Can I learn more about the philosophical presuppositions of scientists and myself?

d. How sophisticated or simple is my scientific understanding of the world?

xiv. We all (Christian and non-Christian) can get better and polish up our understanding of science, scientific discoveries, and scientific worldview.

xv. We all could use a little academic honesty and confess that we are not the experts on everything.
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xvi. But, many people will still often claim that science is the expert on everything.

xvii. Our current Western culture has lofted up Science as the sole authority or the sole source of knowledge and truth.

xviii. But does science rule out Christianity?

xix. Is the physical world all that there is, or is there more?

xx. How are we to understand the evolution vs. intelligent design debate?

xxi. These questions and others will be addressed in this class.

xxii. Here is an opportunity for us to know how Christianity and Science are compatible realms and how scientific study can actually:

   a. strengthen the Christians faith - not hinder it

   b. establish belief in the Non-Christian.

xxiii. To do this, we must understand the philosophy of science and the results of current scientific research better.

II. Motivation

   A. Why Scientific Apologetics??

      1. Because it matters to non-Christians!

         i. Non-Christians

            a. Non Christians hold science in high regard.
b. 84% say that science has had a positive impact on society.³

c. 70% say that scientist contribute a lot to society.⁴

d. 55% of the public sees science conflicting with religion.⁵

1) 55% is a large # of non-Christians.

2) 55% will have an intellectual barrier to coming to faith in Jesus due to the idea they have that science conflicts with religion.

3) 55% already are predisposed to have doubts about God due to science.

e. Reaching the non-Christian by removing intellectual barriers and doubts caused from science is what we are about here in this class.

ii. Academic Non-Christians

a. Renown atheist philosopher Antony Flew:

b. In 1950, the young Flew wrote a philosophy paper entitled *Theology and Falsification*. Back then, he wrote on the idea that the burden of proof is on the theist to show there is a god and that each of us is to follow the evidence wherever it leads. This was reputedly the most frequently-quoted philosophical publication of the second half of the 20th century.⁶

c. Since 1950, Flew and a few others have been proudly carrying the atheist philosophical torch.

⁴ Ibid.
⁵ Ibid.
⁶ http://www.telegraph.co.uk/news/obituaries/culture-obituaries/books-obituaries/7586929/Professor-Antony-Flew.html
d. He was an expert on the atheist philosopher David Hume. In my philosophy of religion class in college, we were assigned a textbook about Hume which was written by Antony Flew. In the academic community, he is regarded as one of the most brilliant atheist philosophers of our time.

![Picture of Antony Flew](image)

**Picture of Antony Flew**

e. In the 80’s Flew began debating Gary Habermas and other Christians philosophers.

f. In each debate, Flew was very respected and started to acknowledge the convincing scientific evidence that Christians have accumulated for their case for theism.

g. I saw Flew debate Habermas for the 3rd time in 2002 at my college Cal Poly, San Luis Obispo. It drew over 1500 Christian and Non-Christian students to the auditorium. Many were forced into the overflow rooms across campus. The vibe was exciting and tense even as the 2 were seated comfortably on stage during the debate. It was more of a conversation that day, with no clear winner.

h. Over the last 2 decades, despite the astute and rigorous philosophy that guided
him for over 50 years as one of the world’s leading atheist philosophers, the evidence from science began to win him over.

i. This is a well documented shift. Flew stated:

j. “I think that the most impressive arguments for God’s existence are those that are supported by recent scientific discoveries. I’ve never been much impressed by the kalam cosmological argument, and I don’t think it has gotten any stronger recently. However, I think the argument to Intelligent Design is enormously stronger than it was when I first met it.”

k. Eventually, Flew could not deny the significance of scientific evidence. In 2004 or so, Flew, compelled by the evidence, set aside his atheist philosophy and embraced the belief that God created the world and that this God exists (his belief is similar to a worldview known as Deism).

l. Finally in 2007 he published this book explaining his conversion: There Is a God: How the World's Most Notorious Atheist Changed His Mind

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7 www.biola.edu/antonyflew/flew-interview.pdf
m. Flew passed away on April 8, 2010.

n. It was clear that Christian philosophy, Christian arguments, the original church life he had as a boy, and even Christian charity could not sway him to believe that God exists.

o. What finally made his position untenable was scientific evidence.

iii. Science matters!

iv. Scientific evidence is extremely significant in the case for the existence of God.

v. The results of Science can convince an atheist to believe in the existence of God.

vi. Science can be all that one needs to reject atheism completely.
2. Because Christians need it!

i. Christians have intellectual conflicts, uncertainty, and doubts too!

   a. Uncertainty:\(^8\)

   ![Public's Views About Life's Origins and Development](chart)

   1) It is clear that there is some uncertainty by the varying beliefs between Christians of all stripes.

   2) 55% of Evangelical Protestants believe that evolution has not occurred.

   3) 20% of Evangelical Protestants believe that evolution has occurred but

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was guided by a supreme being.

4) 5% of Evangelical Protestants believe that evolution has occurred but do not know how.

5) 10% of Evangelical Protestants believe that evolution has occurred by natural processes.

6) So for Evangelical Protestants, the total is 55% say that evolution hasn’t occurred and 35% say that it has occurred.

7) For Catholics, the total is 27% say that evolution hasn’t occurred and 65% say that it has occurred.

8) So it is clear that views on evolution vary greatly between Christians of different backgrounds.

9) As a whole we are not really sure what is going on with evolution. We are very uncertain.

10) We really need to get our act together here and educate ourselves.

b. Conflict:

1) “48% of those who attend religious services at least once a week see a conflict.”

2) “However, among those who attend worship services once a month or less, as well as those who attend rarely if ever, perception of a conflict runs higher, at 58% and 60%, respectively.”

9 Ibid.
10 Ibid.
3) “Those who have no specific religious affiliation are the most likely to perceive a conflict between religion and science (68%), while only 53% of all Protestants and Catholics feel this way.”

   c. This is a lot of us!

   d. 48% to 68% of people sitting in church on any given Sunday morning understand there to be a conflict between their beliefs and the results of science.

   e. Look around the church on Sunday morning and think to yourself what how many people is 50% of your church. Then think of this across the country. This large number of Christians!

   f. Christians, we need to figure this out!

   g. Our beliefs, if true and correspond to the actual universe, should be backed by science.

   h. Our Bible and entire Christian philosophy points to a God who created it all. But when pressed about it, many of us have a hard time articulating how the results of science collaborate with this belief?

   i. Many Christians afraid to dig in, afraid to really know that Genesis and science don’t match! No one wants to hear that God couldn’t have done it because of this rock formation or that fossil!

   j. So many of us don’t even go there and say “Well, I am not sure.”

   k. Because we know that there is some confusion we have and we think that if we look into it deep enough our belief would be contradicted by hard evidence!

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11 Ibid.
So many of us don’t even want to think about it!

I have good news for all of us, the evidence is in favor of the Christian faith not opposed to it.

What is lost is a great apologetic to strengthen our faith and enhance our worship in the creator God we have a relationship with.

This class will attempt to strengthen that relationship and worship by giving you ways to think about science and faith by exposing you to hard scientific evidence.

Younger Christians are being affected by alleged hostility to science.

The polling/statistics organization Barna Group sought to understand why young Christians are leaving the church. These results were published in a book and can be found online.

They found that there were 6 key factors that contributed to an overall loss of faith. 1 of the 6 factors: Churches come across as antagonistic to science.

Here are some of their finds:

1) “Christians are too confident they know all the answers” (35%).

2) “Churches are out of step with the scientific world we live in” (29%).

3) “Christianity is anti-science” (25%).

4) Furthermore, the research shows that many science-minded young Christians are struggling to find ways of staying faithful to their beliefs.

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12 Kinnaman, David,
and to their professional calling in science-related industries.

d. This has to change. We have it better than this and our young people need to have confidence and understand the church’s better positions on matters of science.

e. Our younger Christians need Scientific Apologetics and they need older Christians to show them the way.

f. They need to learn this now more than ever.

iii. If we are to have confidence and certainty in our belief system, both are older and younger Christians need to understand the appropriate relationship between science and Christianity, the philosophy of science, scientific evidence for theories, etc.

iv. This class will attempt to provide material that will allow confidence and certainty for any Christian.

3. **Because the same universe imposes upon us all and we must respond.**

   i. We all must respond to the same world.

   ii. We all are forced to live with gravity, the temperature, the brightness of the sun, the fragility of our bodies, the effects of aging, the loss of natural resources, etc.

   iii. We can respond to nature as caretakers or abusers or somewhere in between.

   iv. But, we all respond.

   v. How we respond to nature stems from our belief system.

   vi. The universe we live in either is from a God or it is not.
vii. We need to know the answer to this question in order to have a reason behind our responses, otherwise we respond to nature irrationally.

viii. Christians refer to the human response to the universe as worship.
   a. We either ship worth to other humans or God. We do this well or poorly by caretaking or abusing the planet.

 ix. Christians refer to our understanding of the universe as General Revelation:
   a. The awareness of God or knowledge of God obtained through looking around and making observations.
   b. Consider the earth, sun, moon, stars, life, death.
   c. This is also experience, experiment, and reason (Empiricism & Rationalism)
   d. Romans 1

x. Non-Christians have several philosophical systems and worldviews that help them reason why they respond to the world the way they do.
   a. Many that are passionate about this refer to themselves as green, sustainable, etc.
   b. Christians can learn from this careful lifestyle and enhance our stewardship.

xi. By learning Scientific Apologetics, the Christian and non-Christian alike can understand each other better in respect to our responses to nature.
B. Why now?

1. **Confusion abounds… There is a difference between the philosophy of science and science.**

   i. Many people are confusing philosophy of science with science and this affects their view of God or lack thereof.

   ii. This is one of the most common and pervasive general population confusions of our time.

   iii. Some people say: “Only science can give us truth.”

      a. This is a self-defeating statement.

      b. If only science can give us truth we could never know that "only science can give us truth" because this is not something science can tell you!

      c. That is because this statement is philosophical in nature rather than scientific.

      d. You might respond, "What science experiment taught you that?" or "What is your scientific evidence that only science can give us truth?"

   iv. There is a huge difference between philosophy of science and science.

   v. Philosophers of science include David Hume, Immanual Kant, Thomas Kuhn, Paul Feyerabend, etc. These are the more famous ones in the history of philosophy.

      a. Hume thought that any and all knowledge can only be obtained through experiment or experience (i.e., science).

      b. Kant said that we can’t know things of God’s realm through reason AND we can’t

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know things of God’s realm through experiment or experience (i.e., science). We can’t use the rationalism or the reasoning of cause and effect or even experiences or empirical sciences to know that God exists.

vi. Philosophers of Science provided entire philosophical systems for thinking about science while addressing such questions as:

a. Does the universe actually exist? Is this all real?

b. How to understand it?

c. How to test it?

d. How to test our test?

e. What is a theory?

f. Could this theory be falsifiable?

g. Are presuppositions guiding the hypothesis?

h. Can someone be a neutral observer?

i. Are observations “theory-laden”?

j. Are these results relative to me, or us, or planet earth?

k. How much does science tell us about reality?

l. What counts as facts?

m. What is a law of nature?

n. Can a law of nature be suspended?
o. Can a law of nature be stopped?

p. What are the boundaries of scientific knowledge?

vii. These questions are about science and cannot be answered by science.

viii. Philosophers are trained, educated, and experienced in generating these systems of ideas about science and answering questions regarding the limits and influence of science.

ix. There is a big difference in the questions:

a. Can science prove a Creator exists?

b. Does science prove a Creator exists?

x. The philosophical question is “Can science prove a Creator exists?”

xi. The scientific question is “Does science prove a Creator exists?”

xii. I am an amateur philosopher of some sort as a layman apologist and I love philosophy. But, the answer “yes” or “no” to “Can science prove a Creator exists?” doesn’t matter if science does prove that a Creator exists!

xiii. Because if science does prove that God exists, than science can prove a Creator exists.

xiv. So, this delineation of philosophy of science and science will be the theme of this class.

xv. We will attempt to clearly answer the questions:

a. Can science prove a Creator exists?
b. Does science prove a Creator exists?

xvi. …and understand the difference between them.

xvii. In this class there will be ample time given to understanding the scientific philosophy of many people and

xviii. This confusion of science and philosophy of science affects our educational structures and affects our students from children to college students learning what the gatekeepers define as science.

xix. Referring to the judge ruling that “…ID is not science…”\(^\text{16}\) in the Dover, PN school board decision.

xx. Last time I checked, judges were not scientist and were not philosophers of science who determine what science is and is not.

xxi. The philosophy of science has been around since the Greeks and philosophers have spent centuries discerning these crucial issues.

xxii. Is a federal judge the appropriate authority to handle the questions listed above? Has he studied the brightest minds in history and the volumes written on epistemology?

xxiii. No! A judge may be an expert in the law and the Constitution, but he is not an expert in science, does not practice science for a living, and is not a philosopher of science.

xxiv. This is not the right authority. The public hears this ruling and immediately walks away and says “It’s over. The religious radicals are ridiculous for trying.” “The Christians are defeated, haha.” The ID proponents walk away feeling defeated.

xxv. But, this is acting out on a logical fallacy known as “Appeal to an Irrelevant

\(^{16}\)http://www.msnbc.msn.com/id/10545387/ns/technology_and_science-science/t/judge-rules-against-intelligent-design/
Authority/Expert” (argumentum ad verecundiam). This fallacy is committed when one appeals to someone who is not an expert or an authority on the issue and cites them to further their argument or defend their position.

xxvi. He has authority to rule on the matters of the law and rule on conflicts with the constitution – and matters on school board members being overzealous, etc. – but he is misusing his authority to decipher what is and is not science.

xxvii. Also, the public is misusing his authority to champion this ruling as a defeater of the ID movement and the Christians are misusing his authority to feel defeated.

xxviii. We cannot accept his authority as a scientist or as a philosopher of science.

xxix. We need more philosophers of science to be in the public square and vocalize this. It turns out that those philosophers of science like atheist Daniell Dennett are chosen by the media to be the outspoken critic and gets a lot of airtime. Whereas those philosophers of science who advocate ID are on air much less and are the minority. The media is part of the gate keeping regime.

xxx. If there are fundamental scientific problems with the evolution, shouldn’t we want our students to know about it?

xxxi. So far, people have advocated that:

a. ID should be taught in public schools (Kansas)

b. School boards ought to inform students about how evolution is currently being challenged (not just by ID advocates) by reading them a disclaimer statement (Dover, PN school board)

c. Stickers should be applied to the evolution text books stating that “evolution is a theory and not a fact” (Atlanta area school board).
xxxii. I don’t see why we cannot explain to students that “evolution is a widely held theory that many or even most scientist consider as fact.” This statement does nothing but respect the student. Ask any high school student, and he will tell you that his system is not shaken to hear this. They can handle that. Also it wouldn’t cast doubt at all as long as we teach them what in fact a scientific theory is!!

xxxiii. In this class we will not be discussing whether or not ID should be taught in public schools. We will not be debating matters of church and state separation.

xxxiv. We will investigate the nature of scientific theory in the first premise of our argument below later on. We can use this to help us understand whether or not ID is science.

2. **Recent scientific discoveries are quickly changing our understanding of the universe, ourselves, and God.**

   i. Science has changed our world!

   ii. More scientific ideas, theories, and discoveries have hit our world in the last 75 years than the combined history of the human scientific enterprise.

   iii. Comparatively, these have caused a very rapid shift of ideas and worldviews.

   iv. Technological advances/tools of the last 75 years (such as electron microscopes, deep space satellites, etc.) have allowed us to discover what we were once ignorant of:

      a. Genes & DNA

      b. Fossil records

      c. Neanderthals and hominid creatures
d. Seismology & Meteorology

e. Cosmological expansion constants of the universe

f. Dark matter

g. Quantum Physics

h. Relativity Theory

i. Higgs Boson particle/field

v. These new discoveries of the last 75 years have caused many in the academic & scientific community to reevaluate long-standing ideas. Experimental results have changed or replaced old theories.

a. E.g., New cosmological big bang theory of origins replaced steady state (non-created universe) theories around 1950.

b. The Steady State Model was pioneered by the famous British cosmologist Fred Hoyle, with Herman Bondi and Thomas Gold. This model was a contender to the Big Bang Hypothesis. They postulated the universe that there was a continuous creation of matter that offset the expansion of the universe, resulting in a steady state. To the observer the universe would always appear the same.\textsuperscript{17}

c. Hoyle: “Material simply appears…The whole idea of creation is queer.”\textsuperscript{18}

d. Hoyle thought that material appears out of nothing.

e. This is interestingly comparable to the Jewish, Christian, Muslim understanding that God created the very material of the universe \textit{ex nihilo} (out of nothing)…but

\textsuperscript{17} Dennis Danielson (Editor), \textit{The Book of the Cosmos} (New York, NY: Perseus Publishing, 2000), page 411.

\textsuperscript{18} Fred Hoyle, \textit{The Nature of the Universe} (Oxford: Basil Blackwell, 1950).
Hoyle thought that new material of the universe just continuously appears and nothing causes it to do so.

f. So, this was the dominant view of the origin of the universe at that time.

g. This view was dismissed by the scientific community in favor of the more dominant big bang theory (which Hoyle actually unknowingly coined).

vi. Even newer scientific finds of the last 25 years present cosmologists with an opportunity to revise or generate entirely new theories of the universe:

   a. Multiverse
   b. Blackhole created universe
   c. Boundless Finite Universe
   d. Bounce Hypothesis
   e. M-theory

vii. These current theories are intriguing and are the results of years of research by some of the brightest scientific minds of our time. We will address them in this class.

viii. The discoveries of our time plant ideas in the minds of people all around the world about our place in such a fascinating and beautiful universe and on such an exotic and varying planet.

ix. The latest discoveries are truly awe-inspiring and in a sense earth shaking.

x. But these discoveries and newer theories come from ideas.
xi. Science is the origination of Technology.

xii. Scientific ideas change culture.

xiii. Scientific discoveries of our world have changed our worldviews.

xiv. Our perspective of ourselves and the reasons for our existence come into question when evaluating scientific finds.

xv. We are faced with personal and collective existential questions due to science experiments and theory.

  a. What are we here for?

  b. How did we get here?

  c. Where are we going?

xvi. So how does each one of us answer these questions when faced with the results of science?
xvii. After a time of scientific progress a generation becomes adapted to technological advances and reevaluates their culture with lots of questions. Then beliefs systems start to change.

xviii. What is interesting and most important, during these last 75 years, academics, scientists, and the rest of us have become faced with the questions related to whether or not a God caused it all or fits into all this new scientific discovery!

xix. The Christian and the public are faced with the same questions!

xx. The public response varies for sure. But when anyone sees an image from the distant universe, most it not all of the time, the response is one of awe!

xxi. How have the scientific community responded to the newest discoveries?

xxii. More academics and scientists are publically open to the idea that God or a higher power/being exists. Many are now very comfortable revealing that they are Christian/Catholic to their fellow scholars.

xxiii. Philosopher Alister McGrath says:

   a. “This fundamental shift in the scientific consensus has changed the tone of the debate about God. It reminds us how science changes its mind about things – often very important things. The cosmology of the twenty-first century is much more sympathetic to Christian belief than that of a century ago. There is now a growing realization that the universe came into being fine-tuned for life…Is this just a cosmic accident? Or is it what would be expected if God had chosen to work this way?”

xxiv. The world is a rapidly changing place thanks to the rapid advances in current science.

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xxv. Although scientific theories about the universe have changed to become hopefully more accurate, Christians are not left behind on this fast track.

xxvi. There was once a time when Christians and everyone else thought that the sun revolved around the earth. This has stereotyped Christians for being too irrelevant for centuries. We were just thinking what everyone else thought at the time and wanted to hold on to it for too long as the Catholic church chastised scientists like Galileo back in 1600. But, this idea was never in scripture then and it is not in scripture now. Christians should not believe in a bad scientific system nor should we accept that the Bible teaches that the sun revolves around the earth.

xxvii. Christians, we have got to know if our scientific worldview aligns with reality. If it doesn’t we must find out why and not stop till we figure out the answers. This class will help in that effort and I know you will come away with several answers.

xxviii. It turns out, that we do have belief system that can accommodate the rapid changes in science and matches reality.

xxix. It turns out that our Scriptures do in fact teach what we observe – beauty, handiwork, care, and detail! We will get into this more later in the class.

xxx. It turns out that Christian philosophy of science is coherent with science and science is continuously validating it. We will discuss this in more detail later but for now consider this.

xxxi. For example: In philosophy, one of the forms for the cosmological argument (known as the kalam cosmological argument) for the existence of God goes like this:

a. Students to note this:

1) Whatever begins to exist has a cause.
2) The universe began to exist.

3) Therefore the universe has a cause.

b. The next few premises in this line of reasoning infers an intelligent agent is behind the cause, but we won’t get into the intricacies of the philosophical argument in this class, that will come in the philosophical apologetics series.

c. We can now point to premise 2 and say this line of reasoning was held by Jews, Christians, and Muslims (even several Greeks) for thousands of years.

d. Science has finally caught up to us whereas before many held to a steady state universe.

e. Big Bang cosmology is a view that the Christian can adopt and accept – we will see this later.

f. Either way, Christians believe that God created the universe so it began to exist.

g. While this conclusion seems elementary, it is quite profound in terms of philosophy but more so in terms of physics and time.

xxxii. So again, it turns out that Christian philosophy of science is coherent with science and science is continuously validating it.

xxxiii. Christianity is well capable of handling anything that science comes up with.

xxxiv. Science is big and powerful, but Christianity endures and will continue to do so.

xxxv. Christianity is intellectually deeply profound in a way that science can’t relate to. We will discuss the limits of science more later.

xxxvi. Christian truth does not have to be compromised by new discoveries. Christian truth
can absorb any new find and any new theory with perfect dignity and no compromise.

xxxvii. Can the atheist philosophy and the other religions keep up with science? I am not sure.

xxxviii. But for Christianity, no recent or new theory can beat it up, knock it down, or defeat it!

xxxix. This is one of the most fascinating parts of being a Christian, that we don’t have to be afraid of any type of intelligence because we have centuries of thought behind us and the thinker who made it all teaching us.

xl. The question for the Christian and the non-Christian is are we open to observing and receiving what the creator or it all is revealing???
III. What is Apologetics?

NEW STUDENTS PLEASE READ THE 63 PAGE “INTRODUCTION TO APOLOGETICS” DOCUMENT FROM THE INSTRUCTOR.

i. Apologetics comes from the Greek word “apologia” or “apologetikos” which can be translated as “From Reason” or “Suitable for Defense”

   a. Απο = From & Λογικος = Reasonable.

ii. Apologetics is the systematic and logical defense of Christianity against its detractors and unbelievers backed up by evidence showing its credibility.

iii. Apologetics seeks to show that Christianity is the most viable, compelling, and true way of living and experiencing reality.

   a. That is, it seeks to show that Christianity corresponds with reality better than any other worldview or set of beliefs.

   b. That the Christian worldview and religion is true.

iv. Apologetics is the study that seeks to provide intellectual reasons for belief in the truth claims of the Christian faith.

v. Apologetics asks the question, "Why and how do you believe what you believe?"

vi. Apologetics helps to strengthen, confirm, and re-affirm the faith of believers. Most of us have times when we question and doubt what we believe. Apologetics gives us a foundation and reinforcement to our faith so our doubts aren’t toxic but helpful.

   a. In this regard, apologetics is helpful in giving a renewed boldness to the believer.

   b. Our worship is enhanced, amplified, and supported.

vii. Apologetics responds to objections from those who are attempting move past
obstacles to come to the faith.

a. Many non-Christians do not become Christians because of the intellectual obstacles.

viii. Apologetics disarms hostile unbelievers who attack Christianity.

ix. A proper use of apologetics prevents the unbeliever from accusing Christianity of being intellectually foolish.

x. Apologetics is “proof” and “persuasion.”

a. A combined approach. To win over ourselves and others to the truth by means of artful, articulate, and winsome persuasion of truth.

b. This persuasion is NOT selling a device we know is defective. That would be deceptive.

c. We persuasively argue for reality that others may not understand well.

d. We also allow them to see for themselves where their own inconsistencies occur.

xi. Apologetics is not merely about winning an argument. This is just the means to the end of winning souls.

xii. Apologetics allows one to have direct access to Jesus by removing intellectual barriers, bringing down the walls we have installed so we can see Jesus face to face.

xiii. Apologetics is a tool that the Holy Spirit can use to disarm an unbeliever. Ultimately, he is the one who moves men’s hearts towards repentance, but he will not ask us to believe in the absurd or the false. He shows us the truth that will set us free.
IV. Scientific Apologetics

i. Provides reasons for rejecting the worldview or philosophy known as Scientism or Naturalism.
   a. Seeks to answer the question: “Is there more to nature than law and chance?”

ii. Emphasizes the ‘integration view’ as opposed to the ‘conflict view’ to understand the most appropriate relationship between science and religion.
   a. “Are science and religion conflicting disciplines?”

iii. Demonstrates how the inductive scientific method yields knowledge similar to the inductive method of other disciplines.
   a. “Does the scientific method yield results that are contrary to Christian theology?”
      (e.g., Does a brain experiment yield results that humans do not have souls?)

iv. Uses scientific data to create a case for an intelligent designer (a case for the existence of God).
   a. “Did God create the universe or is it self-created or eternal?”

v. Seeks to understand and discern Biblical passages and scientific data.
   a. “Are the events in Genesis congruent with the age of the earth?”
      1) Literal Day Views – Young Earth Creationism
      2) Non-Literal Day Views – Old Earth Creationism
V. **Structure of the argument**


   a. Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

   b. Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

   c. Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

   d. Premise #4: Biblically based Christian views are harmonious with scientific observations.

   e. Therefore, based on these 4 premises, Science independently supports the Christian worldview.
2. Expanded Structure of the argument for “Science independently supports the Christian worldview.”

a. Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.
   i. Defining Scientism & Naturalism shows that these worldviews are questionable and seem too limited.
   ii. The “Scientific Method” does not necessitate Naturalism as a worldview.
   iii. There are legitimate problems with Empiricism.
   iv. There are legitimate problems with Naturalism and Scientism.
   v. Alternative Philosophies of Science are more realistic and favorable than Naturalism.
   vi. “Good” models for Secular and Christian scientists can be maintained without Naturalism.

b. Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.
   i. The breakdown of each view shows that the “Integration View” is realistic and favorable.
   ii. To discuss the issues of Science & Religion it is important for Christians and Non-Christians to understand BOTH correctly.
   iii. Some scientific disciplines (e.g. Quantum Physics) are studied, researched, developed, and taught similarly to Christian branches of theology (e.g. Christology).
c. Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.
   i. ID is inferred in Biochemistry when observing the specified complexity and irreducible complexity in the cell.
   ii. ID is inferred in Classical Physics when observing the transparency and beauty of the universe.
   iii. ID is inferred in Astrophysics when observing the finely tuned universe.

d. Premise #4: Biblically based Christian views are harmonious with scientific observations.

e. Therefore, based on these 4 premises, “Science independently supports the Christian worldview.”
## WORLDVIEWS COMPARISON

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A. Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

1. Defining Scientism & Naturalism shows that these worldviews are ____________ and seem too ____________:

   i. Dominant Western Philosophies of Science are typically Naturalism and Scientism:¹,²,³

   a. Naturalism:

      1) Definition:

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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

(i) The universe requires no supernatural cause but is self-__________, self-__________, and self-__________;

(ii) that the world-processes are not teleological or anthropocentric, but ________ and ________;

(iii) every aspect of human life is an ordinary ________ event attributable to ________.

2) Key components to the naturalist’s account of the world:

(i) Naturalists ______ that the supernatural exists, ______ that miracles are possible, and ______ that humans have freedom and purpose.

(a) Naturalism includes Scientific Determinism: “Given the state of the universe at one time, a complete set of laws fully determines both the future and the past. This would exclude the possibility of miracles or an active role for God.”

(b) “A scientific law is not a scientific law if it holds only when some supernatural being decides not to intervene.”

(c) “In the case of people, since we cannot solve the equations that determine our behavior, we use the effective (placebo, make-believe, wishful thinking) theory that people have free will.”

(d) “There are no miracles or exceptions to the laws of

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5 Ibid.
6 Ibid.
(ii) Naturalists account for the alleged problem of ________ and the alleged problem of _________ by:

(a) reducing the mind to _________ functions and reducing ethical judgments to social customs or emotional expressions which are natural processes that can be subjected to scientific investigation (reductionism).

(i) To say that something ‘is wrong’ is _________ to the agreement or disagreement with natural cultural customs.

(ii) To say that ‘one is having pain’ is _________ to the statement about or relating the natural process of his/her brain’s neuro-fiber activity: “Brain is experiencing this sensation called pain."

(b) eliminating the correspondence between the concept and reality (eliminativism).

(iii) To say that something ‘is wrong’ is non-sense as there are no real right or wrong properties that can be tested by science.

(iv) To say that ‘I am thinking about x’ is non-sense as there are no mental states

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7 Ibid.
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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

or thoughts or beliefs.

(iii) Naturalists avoid problems of an immaterial _______ or an immaterial _____ relating and interacting with a material body or a material world. These are problems for dualists and theists to resolve.

(iv) Naturalists hail the successes of __________ as providing answers to problems that have plagued humanity. They claim that superstition, appeals to mystery, and religion have only muddied the waters instead of providing clear answers. Naturalists blame their allegedly __________ opponents for being lazy⁸ thinkers who divert attention to the supernatural instead of finding natural answers to natural problems.

(a) E.g., Mental illness being attributed to demons.

(b) E.g., Degrading the body, earth, and women due to an alleged spiritual inferiority.

(c) E.g., Destructive weather patterns due to the lack of favor of the gods.

(d) This has slowed human progress, caused great harm to people, and oppressed other cultures.

(e) Whereas, naturalism has proved itself time and time again.

(f) All currently unknown issues will one day have

⁸ Lazy was mentioned in a May 12th 2012 debate with atheist Dr. Peter Atkins. http://www.youtube.com/watch?v=Nhlr9OQBst0
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naturalistic solutions.

(v) Naturalist’s notion of matter is passive, in that, matter in and of itself is non-acting. Something is active if it is a causal agent, that is, if it can move other objects with respect to its originating power and free volition.

(a) The naturalist does best to adopt a view that causal connections of entities upon entities is fixed and closed, that is, no other non-physical phenomena can disrupt the course of events in history and any existing physical phenomena must have a previous __________.

(vi) Naturalists argue that ______________ are systems (property-things) of chemical and physical parts, properties and relations which have developed by way of natural mechanism with the unknowing end of survival. These property-things…

(a) Are compounds that can be fully described in objective third person language

(b) Are systems of externally related parts, which are separable and non-unified

(c) Do not sustain sameness of identity through change of properties or parts.

(vii) Note: Some Naturalists allow for __________________ (e.g., numbers) and nonphysical entities (e.g., universals, thoughts). It is not clear how this view remains consistent or coherent in light of their overall account of the world.
(viii) Naturalists propose a _______________

(a) The grand story for naturalist is big bang & evolution.

(b) Main features of the grand story

(v) Atomic theory of matter

(vi) Evolutionary theory

(vii) All of the happenings and history of earth can be explained by natural matter & not even emergent entities exist.

(viii) Particles change and merge by mechanical and material causes forming other stuff with no teleological purpose.

(ix) That there are no free agents.

(x) Physics & Chemistry determine causal happenings.

(xi) Determinism at the physics level fixes the chances of the state of the universe!

(xii) Determinism at the chemical level for all other phenomena.

b. Other definitions of Naturalism include:

1) ________________ Naturalism (Materialism): the spatio-temporal universe of entities that is studied by the hard sciences (biology, chemistry, physics) is all that is and could ever have been or will be real in
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

The only real and existing entities are those which exist in the space-time-causal universe. No non-physical entities could exist. Nothing outside of time can exist. That which is not caused could not exist.

Note that this is a philosophical position which holds that reality is only the material universe. Matter or physical stuff is the only thing in existence. Nothing else exists except that which is physical.

Most naturalists hold to this metaphysical view.

2) _____________ Naturalism: science should explain phenomena only in terms of entities and properties that fall within the category of the natural. Answers to all questions are to be sought out only within nature. The physical universe is the proper object of scientific study and methodological naturalism is the proper method for pursuing that study.

3) _____________ Naturalism: nothing can be known of any entities other than nature.

4) _____________ Naturalism: humans are wholly apart of nature.

c. Scientism:

1) “What science cannot tell us, mankind cannot know.” – Famous atheist philosopher Bertrand Russell

2) Scientism: What constitutes ______________ is only that which science can describe, test, or yield. What is rational and true is that which science
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

can verify.

3) __________ Scientism: Fields of knowledge outside of the hard sciences are not completely worthless but offer no intellectual results concerning reality. Other fields are vastly inferior to science as they are matters of mere opinion and belief.

4) __________ Scientism: Science is the only source of knowing anything at all. There is no value in the speculations of fields of knowledge outside of science. That is, thoughts that are worth having are only scientific thoughts, and non-scientific thinking is worthless because science alone gives knowledge.

5) With Scientism there is an ‘Epistemological Exclusion of 1st Principals of Philosophy.’ That is, any a priori knowledge or innate ideas are rejected as unknowable.

6) All other fields of study that are non-science do not provide knowledge.

ii. Conclusion:

a. Based on the above definitions, these worldviews seem ______________. They seem to be missing something.

b. So one must question these systems of philosophy. We must ask whether or not these systems of philosophy are appropriate to hold.

1) Is science the supreme giver of knowledge? Is it the ultimate authority?

2) Is the natural physical world all there is?

c. Before we ask these questions, we need to understand where these worldviews came from.
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

d. Does the scientific method have anything to do with the worldview of Naturalism?

2. The “Scientific Method” does not necessitate Naturalism as a worldview.

i. The allegedly sacred ritual of the scientific method: ⁹

a. Formulate hypothesis: tentative explanation

b. Make predictions about future events

c. Verify/Test

d. Analysis/Interpretation/Evaluation of test results

e. Publish

f. Reproduce

ii. There are sometimes variations of these items but this is the gist of it. This is from a college biology textbook ¹⁰

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⁹ Leslie Wickman, Ph.D., CRIS 2011-2012 Science, Faith and Culture Series.

Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

iii. Notice that this is a method to generate a _______________ or a _______________.

iv. There is nothing sacred or special about this method.

v. It is a simple straightforward approach to understanding phenomena of the universe.

vi. Notice that Naturalism is not the conclusion of such a method.

vii. Naturalism is not __________ or ______________ by this method.

viii. So where did the philosophical worldview of naturalism come from if it didn’t come from the scientific method?

ix. When investigating history, we can see that the development of Naturalism was not special.

   a. This worldview of Science (note: views rather than science itself) that now opposes Christian thinking originated in Ancient Greece. Centuries later, Naturalism was reinvigorated in Western Europe during the Enlightenment era.

   b. “It is Pierre-Simon Laplace (1749-1827) who is usually credited with first clearly postulating scientific determinism.”

   c. But, one of the very first thinkers to influence the Enlightenment is ___________________________ (1561-1626).

   d. He was a British philosopher who helped lay the groundwork of what would later result in the philosophical position or worldview known as Scientism or Naturalism.

   e. So in order to understand the framework of Scientism or Naturalism we must first consider Bacon’s approach to science and the scientific method.

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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

f. As we will see, his thought had a tremendous influence on post-Enlightenment Evangelical Christianity.

g. During that time much of the Christian premier ___________ heritage was given up, abandoned, and forgotten.

h. Unfortunately, most evangelicals are stuck in a postmodern intellectual marsh because we have annihilated our pre-Enlightenment scholarship.

i. What we see is the influence of Naturalism on the decline of the Evangelical mind.

j. Those intellectual results are still pervasive today in our culture and we need to understand it in order to break free from it.

x. The development of ________________ was not special.

   a. From trying to understand the heavens in the 16th and 17th centuries, modern science was born.

      1) Philosopher Francis Bacon, 1561-1626

      2) Scientist Galileo Galilei, 1564-1642

      3) Scientist Robert Hooke, 1635-1703

      4) Scientist Isaac Newton, 1642-1727

      5) Philosopher John Locke, 1632-1704

b. They sought to study __________ in a rational empirical way.

c. Bacon, being the earliest of this crew, didn’t like rationalism much and strongly emphasized empiricism.
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

d. Bacon developed what is known as Empiricism and formulated an _________________ for scientists to stay within the bounds of Empiricism.

1) Empiricism:

   (i) The view that nothing can be ____________ apart from empirical observations.

   (ii) That is, no ____________ exists except that knowledge which is gained through sensory data (5 senses) or experience of some sort.

   (iii) We have no innate ideas or rational _______________.

   (iv) All ideas originate from sense data or experience. Apart from these experiences we ____________ nothing.

e. Bacon established the “Inductive Method” of science where there can be a rational induction based in empirical observations.

   1) That is, science must start with empirically observable facts then reason by induction.

   2) The inductive scientific method meant examining the evidence and decide for yourself.

   3) This is an empirical approach to knowledge based on induction, collecting, & organizing facts.

f. Bacon advocated a clean fresh unfiltered non-presuppositional approach.

   1) “God’s eye view” or “the view from nowhere”
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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

2) Which meant: To stand outside of history & culture and just see the facts with no prior metaphysical commitments or philosophical framework.

g. So, Bacon wanted to liberate the mind of opinions to base knowledge on face to face view of the world.  

1) ___________________________ objective reality

2) See the world through children’s eyes of wonder

h. This view was very attractive to the new colonial Americans, who ventured to the new world…there was a strong sense of individualism, freedom, and starting again.

1) I am reminded of the end of the movie 2012…What would it be like? What would we do if we were to create our own new world?

i. So, as it always happens, the academic thought eventually filtered into the culture and into the everyday man’s understanding of things, including the ____________.

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Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

i. Implications of Empiricism (like Scientism) on Christianity\(^1\)

   a. Empiricism claims that ‘all knowledge comes from empirical observations and all ideas are a result of empirical observations.’

   b. Although philosophers of science rejected empiricism, the effects of the academics already hit the streets with full force where science was given an authority that other disciplines did not enjoy.

   c. As such, for the ‘Enlightened’ person on the street, real knowledge was only provided by science.

   d. So naturalism, materialism, humanism etc. became the dominant worldview of the West.

   e. Over time there was a separation of religion into another realm (upper story) while science remained in the (lower story) because of the power through knowledge obtained in science.

      1) Science and religion were split and were thought to be incompatible.

      2) Knowledge obtained through science is objective knowledge (lower story) whereas knowledge obtained through Scripture is subjective (upper story).

   f. Theistic evolution became a feasible option to maintain compatibility between science and theology.

   g. Religion was lumped in with other humanities as just preferential matters.

   h. Religion became just an extracurricular activity instead of a worldview.

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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

i. Pearcy: “Christians began talking about a schism between the head and the heart.”²

j. Pearcy: “Christians themselves were partly responsible for the privatizing of religion, by privatizing accepting the Baconian Empiricism definition of science as religiously neutral.”³

k. The churches:

   1) withdrew from intellectual encounters with the secular world,
   2) gave up the idea that religion is a part of the whole life of intellectual experience
   3) abandoned the field of rational studies on the assumption that they were the natural province of science alone.

ii. Recommendations for Christians in the aftermath of Empiricism.⁴

   a. Reject the alleged bias prejudice against Christians when the Naturalist claim unbias access and rationality for objective truth.

      1) The Naturalist are not free from presuppositions.

      2) They also must learn how to see with common sense realism as Thomas Reid proposed during David Hume’s time.

   b. Liberate Christianity from the 2-story division to restore it to objective truth.

   c. Show common sense and nature itself to give reason for belief in God.

² Ibid.
³ Ibid.
⁴ Ibid.
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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

1) ‘General Revelation’ of Romans 1 is often considered the greatest apologetic which declares that God’s existence has been made known to all so that all men are without excuse.

2) Christian theory of reality is a system that makes sense of common sense.

3) Christianity makes sense of the world and our common sense ability to know it.

4) Christianity as worldview unlocks the universe with consistent and logical answers.

d. Does Naturalism give consistent and logical answers?

2. There are legitimate problems with____________________ and __________________.

i. Is science the supreme giver of knowledge? Is it the ultimate authority?

   a. Other fields of study also provide valuable, important, and actual knowledge – that is not worthless or less valuable or authentic than knowledge gained through science.

      1) Languages

      2) Anthropology

      3) History

      4) Archeology

      5) Psychology
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Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

6) Sociology

7) Economics

8) Philosophy

b. Knowledge from science is not more ______________ than knowledge from other disciplines for their respective fields.

1) Each of the above discipline carries its own weight and authority.

c. In fact, Philosophy enlightens and provides the foundation for all other fields.

d. So, no, scientism is not the supreme giver of ______________ and does not have ultimate authority. Thus, scientism fails because it is simply false.

ii. Did scientism use science to prove itself?

a. Scientism claims that knowledge is only obtained through ______________. I.e., if it didn’t come from science it isn’t knowledge or worth knowing.

b. But does it make sense to say that science was used to produce the philosophy of scientism?

c. No, science wasn’t used. No hypothesis, testing, experiments, etc were performed to yield the result: scientism.

d. Science doesn’t have the ______________ to produce scientism.

e. Thus, since science doesn’t produce scientism, scientism doesn’t count as knowledge.
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

f. So, we discard scientism since it isn’t worth knowing.

g. Thus, scientism is self-refuting.

1) Something is self-refuting if it fails to live up to its own definition or standard.

h. Or, put differently: Scientism is a philosophical statement ________science, it is not a result ________science (it was not from empirical observations or testing).

i. Therefore, since science didn’t produce Scientism, Scientism is not rational and it is not knowledge. So, it refutes itself.

j. This means that scientism is necessarily __________ because it is self-contradictory.

1) All self-contradictory statements are necessarily false.

2) When something is necessarily false it has to, it must be, it cannot be anything else but false. It has no choice, its falsity is necessary.

3) When something is necessarily false, in every possible world it must be false.

4) Thus, scientism is false in all _______________ and in this actual world because it is self-contradictory.

k. Limitations to inductive reasoning from empirical observations:

1) Inductive reasoning: Start with many observations of nature and move toward a few robust explanations of how things work.

(i) Reason from the particular to the general.
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

(ii) Developing theories is really looking for the best explanation given existing evidence.

(iii) Theories can’t be proven, only disproved.

2) Interestingly, this approach is not a full proof method of discovering facts of the universe, but it is ________________.

3) This reasoning is invoked in other disciplines.

   (i) The principle of induction is used in law, history, psychology, etc.

4) Certain fields of science (e.g., geology) are not holistically directly accessible to experimentation, so the scientific method is not ________________ for this field.

5) Other unknowns of science (e.g., in quantum physics the existence of quarks or neutrinos) are not directly accessible but these entities are merely postulated as the best explanation of the data. So again, the method is not applicable.

6) So, reasoning by ________________ is helpful in many other disciplines but the scientific method is not nearly a complete method for obtaining knowledge even in scientific fields.

7) Thus, there are limits to the applicability of induction from empirical observations in academia.

1. Empiricism (like Scientism) is self-contradicting.

   1) Empiricism claims that ‘all knowledge comes from empirical observations and all ideas are a result of empirical observations.’
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

2) But this very statement was not an empirical observation. So the statement cannot be considered knowledge and ought to be discarded.

3) Thus, empiricism is a ________________ philosophy.

4) So empiricism is necessarily false and cannot be true in any possible world since it is self-contradicting.

m. Eventually, the philosophers of science rejected Empiricism because there is no way to be free of ________________.

n. Francis Bacon himself could not free himself from all of his own presuppositions.
   1) He naively thought that he had done so.

o. Even the Baconian Empirical Method is a product of human tradition & systems of the time.
   1) Bacon even granted the existence of substances and natures or essences as well as other universals which the Scholastic era philosophers already worked out for him.
   2) He had not rid himself of the presuppositions of the past.

p. Conclusion
   1) Philosopher W.T. Jones states: “A mind empty of all presuppositions & preconceptions would be as incapable at getting at the facts of the natural world as a baby’s, for it would be helpless to organize and interpret the experiences before it.”

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5 W.T. Jones, From Hobbes to Hume
Scientific Apologetics

Premise #1: Scientism and Naturalism are easily defeated and ought to be rejected.

2) The criticism of this approach to knowledge is that it is impossible to have a view from ________________.

3) Empiricism puts the cart before the horse, in that, it puts the observations before the epistemological framework.
   (i) But, we cannot collect facts that will be of much use unless we have some sort of hypothesis already formed.
   (ii) In order to _____ science, we must have a sense of what is an appropriate experiment to do and what hypothesis/theory is reasonable.
   (iii) Thus, we need a sense for reality, truth, logic, etc. These are a priori entities that are not associated with the science at all, but are necessary before the science is conducted.

4) Francis Bacon wanted a new epistemology (Empiricism) but didn’t want to give up metaphysics of substance (a priori entities). This could not be done.

5) Thus, Empiricism is flawed.

6) Eventually, Empiricism was rejected as a philosophy of science and Empiricism is still rejected today.

q. Overall, we see that Science ______________ use Science or Empiricism to prove itself.
iii. Can science validate science as a field of knowledge?  

   a. No, since every field has certain assumptions to start the investigation and a logical flow of thought to continue the investigation.

   b. 1st, the assumptions of science are not a result of science, they are the result of philosophy. Science assumes the following:  

      1) Senses are reliable and can be trusted as givers of accurate information about the world.

      2) Objects exist outside the mind and are real enough to be tested.

      3) The mind is rational and the universe is knowable.

      4) Nature is ___________ so that one can use logical induction to infer that:

         (i) past events are good indicators of future events.

         (ii) examined data is a good __________________ of the properties and behavior of unexamined data.

         (iii) This is important for a scientist to develop theories on how the world works without examining every single phenomena he is testing.

         (iv) Similarly, he doesn’t need to live forever to experience all events under consideration.

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7 Ibid.
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5) The correspondence theory of truth is used.
   (i) that certain propositions are true because they correspond with an objective reality.

6) Unbiased perceptions and appropriate intellectual skepticism are desired when approaching phenomena.

7) Moral integrity is required in performing scientific observations and reporting results.

c. 2nd, _______________________________ used to continue the investigation:

   1) The logical flow of thought in science is based in philosophy.

   2) Logic falls under philosophy.

   3) Logic is required for rational communication and thought processes in any academic field. Science, as well as other fields, owes its thought processes to logic.

   4) Science cannot yield the logic used in science.
      (i) Science cannot test or verify logic.

   5) Science cannot __________________ logic.
      (i) E.g., justifying induction is a philosophical issue.

   6) Science cannot produce the scientific method.
      (i) Logic is necessary to produce the scientific method.
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d. So, we see that certain philosophical presuppositions are assumptions of science and philosophical logic validates the flow of thought in science.

e. Logic and certain presuppositions are necessary for the field of science to start and continue. They ground science as a rational discipline.

f. But, neither are from science nor can they be verified by science.

g. Thus, science cannot validate science as a field of knowledge.

iv. Do scientists or philosophers of science agree on a standard definition of science?

a. No. There is no ______________________________ that a majority agree on.

b. Some definitions fall short of describing certain experiments.

c. Other definitions explain other non-scientific fields as scientific fields.

d. This is a good definition but again it is just 1 definition amongst many:

1) "A natural science is a theoretical explanatory discipline that (attempts to) objectively addresses natural phenomena within the general constraints that (1) its theories must be rationally connectable to generally specifiable empirical phenomena and that (2) it normally does not leave the natural realm for the concepts employed in its explanations."

2) Note the “attempts to”

e. “Even if (a standard definition) were to emerge, the adequacy of the

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definition of science would not itself be a scientific issue but a philosophical one, and thus such a definition would itself illustrate the limits of science.®

f. Thus, the definition of science is not agreed on - which speaks to the limitation of science to explain everything.

v. How is Naturalism perceived in the community of philosophers?

a. The scientific and humanities community is mostly naturalistic in orientation. However, most philosophers of science are ________ Naturalists.

b. “Most philosophers agree that reductionism has not succeeded in ethics and the philosophy of mind.”®

c. “Eliminativism is still largely a minority position among naturalists, especially in the philosophy of mind, mostly because it is widely thought either to contradict what is obvious or to be self-refuting.”®

1) Denying beliefs and thoughts is contradictory to common human experience.

2) Believing or thinking about a view that denies believing and thinking is self-refuting – if we don’t have beliefs then the eliminativists can’t believe in eliminativism.

d. Critics of Naturalism point out the lack of success of Naturalism to account for the human mind and ethics.

®® Ibid.
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e. Most Naturalists actually agree and concede to this ________________, but hold their position anyway.

f. Although, Naturalism still dominates the science and humanities it is backpedaling from the challenges of theism and dualism.

g. Many agree that it will never be able to account for the human mind, ethics, and other real non-material entities.

vi. Can the main point of Naturalism (that no supernatural entities exist whatsoever, anywhere) be proven?\textsuperscript{12}

a. This is what is called an absolute or universal negative proposition as it denies supernatural beings.

b. It could be framed as a positive position: “all entities whatsoever, anywhere, at any time are purely material in nature.”

c. But this has the same implication as the negative version.

d. So, they both suffer the same result: universal negatives are impossible to prove. One would have to be everywhere, at all times, and check all entities in a manner that proves there were absolutely no supernatural beings present.

e. This is ________________.

f. Thus, because it is impossible to prove a universal negative, and the main point of Naturalism is that no supernatural entities exist anywhere at any time, Naturalism is impossible to prove.

\textsuperscript{12} Professor Steve Tsai, private email correspondence.
vii. Can Naturalism account for the existence of these non-material entities?

a. If any of the following entities are real, Naturalism is _________________.

1) Words

2) Language

3) Colors

4) Numbers

5) Thoughts

6) Theories

7) Propositions

8) Meaning & Purpose to life, an action, a written phrase, etc.

9) Logical expressions and the laws of logic

10) Emotions and desires.

11) Outer body experiences

12) Minds as separate entities from brains

13) Souls

14) God

15) Human relationships (brother, friend, son, etc.)
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16) Value or worth of:
   (i) object
   (ii) moral action
   (iii) moral law

17) Dimensional relations: here to over-there; over & under; large & small


19) Universals
   (i) Properties of objects, ideas, etc.
   (ii) Relations of objects, ideas, etc.

20) Justice and Injustice

21) Truth and Falsity

22) Morality and Immorality

23) Undeniable features of human persons.
   (i) Consciousness
   (ii) Libertarian Free Will
   (iii) Rationality
   (iv) A Unified Self – Identity through change
   (v) Intrinsic Value
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b. It makes no sense to perform an experiment on (weigh, measure, etc.) these entities.

1) How much does goodness weigh?

2) How heavy is logic?

3) What position, speed, and rotation does justice have as it travels through space?

c. No, scientific ________________ of these entities cannot be performed.

d. No, Naturalism does not account for these non-material entities.

e. Overall, it is not that Naturalism just doesn’t have a better explanation of these entities or an equally sound version, they don’t have an explanation at all!

f. That is, by ____________________________ of Naturalism, they are ruled out.

g. So, either we deny that these features exist, so Naturalism stands untarnished, or we can’t deny that we have these features so Naturalism must be rejected.

h. Some forms of Naturalists will attempt to adopt some of these entities (such as minds and morality) and features in their worldview by reducing them to effects of material causes.

i. This strategy ultimately fails.

j. Although we do not have time to reveal each reductionist strategy, some forms of ____________________________ will be refuted later in the class.

k. “These reductionist attempts have failed and physicalism as a worldview
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cannot adequately handle the existence of these entities."13

1. Much of the motivation to hold to Naturalism is to be consistent in rejecting the mind (or soul) and God. But, if it is true that the mind or God exists, than much of the reason for holding to Naturalism is removed.

viii. Can Naturalism successfully reduce the mind to the brain or show that the mind and the brain are identical?14

a. On the theist (substance dualist) worldview: the mind possesses mental properties and the brain possesses physical properties.

b. On the Naturalist worldview: the ___________ posseses mental and physical properties.

c. Philosophers of Mind argue either for or against the view that the mind is the same thing as the brain.

d. If the ___________ exists as separate from the brain, than Naturalism is false.

e. The brain is not identical to mind if 1 thing is true of mind that is not true of the brain.

1) This is referred to as Leibniz’s law of Identity of Indescernibles.

2) If 2 things are identicals they share the same properties and everything that is said of 1 can be said of the other.

13 JP Moreland, Scaling the Secular City, (Grand Rapids: Baker 1987), page 82.
14 All items here are heavily dependent on JP Moreland, Scaling the Secular City, (Grand Rapids: Baker 1987) & William Lane Craig & JP Moreland, Philosophical Foundations for a Christian Worldview, (Downers Grove: Intervarsity, 2003), page 484.
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3) If 1 has a property that 2 doesn’t have, they are not the same thing.

   (i) Ryan is 7ft tall, a, b, c, weighs 250lbs (100% muscle with 0% body fat), x, y, z, etc.

   (ii) Ryan is 7ft tall, a, b, c weighs 250lbs (99% muscle with 1% body fat), x, y, z, etc.

f. So, if I can find 1 thing true of mind that is not true of brain, then I succeed in showing that these are 2 non-identical entities.

g. That is, if the mind has property X that the brain doesn’t have, than the mind is not the same thing as the brain.

h. Note that causation, correlation, and connection between ______________ and ______________ is not identicality.

1) Just because processes are correlated doesn’t mean they are identical.

2) Just because we do not know “how” mind moves physical bodies and just because we do not know “how” pains affect the mind, doesn’t mean that they are identical.

3) We have overwhelming evidence that ______________ occurs.

4) It seems clear that the mind and the brain are so close that it is extremely difficult if not impossible to scientifically observe the interaction.

5) Neuroscientists and Philosophers of Mind are very active in this research as it is the hottest in each respective field.

6) It seems that the interaction is direct and immediate. If this is true, there is no in-between mechanism to study.
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7) Regardless, it wouldn’t help the Naturalist argument if they were able to study causation, correlation, and connection between mental states and brain states because this would further the evidence that they are not identical.

i. Naturalism must show that mental states and brain states are the same even if they are caused, correlated and connected.

j. Properties that mental states have that the brain states do not.

1) _________________

   (i) Neuro-scientist cannot see a thought or sensation in the brain when opening up the skull.

2) _________________ directly to the observer

   (i) 1st person perspective gives and is private access to our mental states.

   (ii) We are directly aware of ourselves distinct from even our thoughts and even our bodies. We can sense that there is a “me” in there that “I” am and no thought is needed for this knowledge of self. Self awareness allows me to recognize “I.”

   (iii) Descriptions of mental states depend on us to report and will always be that way. No experiment can or will ever show that the neurophysiologist can describe our mental state like the subject can.

   (iv) I describe myself and self-awareness using I statements not 3rd person statements like he, she, etc.
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(v) Pains and other mental states are directly present and are not physical as painful sensation is part of essence of pain.

(vi) Knowledge by direct acquaintance is subjective in nature and is different than other forms of knowledge.

(vii) This subjective directly presenting property is also not true of physical states of the brain.

3) ____________________________

(i) Mental states cannot be mistaken.

(ii) My experience of the chair is a thought. This is a mental state.

(iii) I am having an experience of a chair in the room which I cannot be mistaken about, but I can be mistaken about the chair.

(iv) I can even be mistaken about the physical state of my brain – but mental states cannot be denied (incorrigable) even though we may not articulate them well.

(v) This incorrigibility is not true of the brain’s physical states.

4) ____________________________

(i) Mental states are “of” or “about” something.

(a) My thought is of the grass.

(b) My thought is about the billard balls.

(ii) Mental states have “of-ness” or “about-ness”.

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(iii) “of-ness” or “about-ness” cannot be explained by science.

(iv) Only mental states are of or about something.

(a) grass is not “of” something

(b) billard balls are not “about” something

k. Thus, we have seen that these mental states are not physical states.

l. Therefore, the mind has mental states that are not _______________ to brain states and the mind is not _______________ to the brain.

m. Side note: Secondary properties are either mental states or physical states

1) Secondary properties are weight, shape, color, texture, motion, etc.

2) The Naturalist attempts to claim that these are in mind because they fail to reduce these to be primary properties of the object (which is really what they want to do).

3) But if they are in mind, they are not physical but are mental for how can a mind perceiving a heavy and blue object all of the sudden be heavy and blue. This does not make sense. So they cannot be in mind and must be in the matter. This is also against Naturalism.

ix. Is Naturalism self-refuting?

a. JP Moreland’s self-refuting criticism: ¹⁵,¹⁶

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1) “It is self-refuting to argue that one ought to choose physicalism because he should see that the evidence is good for physicalism. Physicalism cannot be offered as a rational theory because physicalism does away with the necessary preconditions for there to be such a thing as rationality.”¹⁷

2) If there is in fact nothing but _________________ in the world, then Naturalism is true.

3) This state of affairs denies the possibility of rationality (thinking) as there are no minds in the world to know naturalism is true.

   (i) This is so because Naturalism denies the preconditions for rationality.

      (a) __________________ to be aware of our thoughts.

      (b) Thoughts with intentionality (“of” or “about” something).

      (c) Reasons, propositions, thoughts, evidence, logic, etc.

         (i) Relation of premise prescribes what one ought to rationally accept, but physical states cannot logically imply, infer, or prescribe the rational “ought” in a logical flow of thought.

         (ii) Logical connections are not physical.

      (d) Rational faculty capable of rational insight to “see” a result of the argument

¹⁷ JP Moreland, Scaling the Secular City, (Grand Rapids: Baker 1987), page 96.
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(e) Enduring “___” to be present to connect a series of thoughts rationally and flow from premise to premise in a rational argument. That is, the “I” does not morph or come in and out of existence as time passes.

(f) ______________ with free will to deliberate, choose, and act according to a rational decision. The freedom to believe and ability to believe something is true based on good reasons.

4) If one claims to know that Naturalism is true, or to embrace it for good reasons, or to recommend Naturalism to others due to evidence, than this is self-refuting. (because this knowing, thinking, etc. uses a mind)

5) It is also self-refuting because naturalism implies determinism. But determinism rejects free will. So one would be contradicting himself if he claims that he chooses to hold to determinism because that is choosing a view that says you cannot choose. Thus, it is self-refuting to claim this rational choice to hold to Naturalism because this rationality is impossible in Naturalism.

6) Thus, knowing, thinking, choosing to believe, etc. that Naturalism is true is ____________________________.

x. Is it rational to hold that ‘evolution and naturalism’ is true?18

a. No. Rationality is either not possible or highly improbable.

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b. The following argument was proposed in different ways by C.S. Lewis, Alvin Plantiga, and others.

c. Alvin Plantiga has received quite a lot of attention due to this argument so we will use his form.

d. Plantiga refers to it as an “Evolutionary Argument Against Naturalism” (EAAN)

e. He essentially is arguing Naturalism is ______________ with Evolution and the belief that both are compatible is not rational.

f. Plantinga’s Argument:

1) The probabilities of our ‘cognitive faculties are reliable’, given that Naturalism & Evolution are true, is low.

   (i) This premise needs support which Plantiga argues but is deeper than the scope of this class.

   (ii) Basically, he argues that natural process do not give rise to a reliable cognitive faculty (brain-mind) as it would be the result of matter in motion and is unreliable.

2) One who accepts Naturalism & Evolution as true and also sees that premise (1) is true has an undefeated (champion) defeater for his/her ‘reliable cognitive faculties.’

   (i) That is, the belief that our ‘cognitive faculties are reliable’ is defeated and there is nothing that anyone can do about it.

   (ii) The defeater for ‘cognitive faculties are reliable’ is undefeated.
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3) One who has a defeater for ‘reliable cognitive faculties’, also has a defeater for any belief that he/she takes to be produced by his/her cognitive faculties, including the belief that Naturalism and Evolution are both true.

   (i) That is, if he/she has a defeater for ‘reliable cognitive faculties’, then he/she has a defeater for any belief that arises out of the cognitive faculties, including N & E itself.

4) N & E is self-defeating as it provides a ______________ for itself and is self-referentially inconsistent.

5) Thus, it is not possibly to rationally believe that both naturalism and evolution are true.

   g. So, Naturalism with Evolution is a self-defeating ______________ of belief.

   h. Self-defeating beliefs are impossible to be true and it is not rational to hold them.

   i. So one must ____________ rationalism to accept evolution.

   j. This opens up the idea that God and evolution could be compatible for those that were Naturalists before this critique.

xi. Conclusion

   a. 2 Main Alternatives: Naturalism and Theism. (Perhaps one could say there are a spectrum of other minor views in the middle ranging from deism to new age pantheism to panentheism to whatever.)
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b. Quantum Physicist John Polkinghorne explains that we all start with certain metaphysical presuppositions: existence of matter or the existence of God. It or he just exists without the other. Matter exists without God (Naturalism). Or, God exists without matter (Supernaturalism)

c. Out of these 2 main alternatives, we can now easily see that Naturalism is to be rejected.

d. "The materialist starting point is unsatisfactory because the laws of nature have a character which is not self-contained but point beyond themselves to deeper intelligibility in the universe."\(^{19}\) – this will be seen more clearly as we see evidence for intelligent design in the next sections.

e. So what about the theistic worldview?

f. At this point we can see that at least the theistic worldview has these benefits:

1) explains the features of human existence and the world without the problems that Naturalism is plaqued with (as seen above)

2) is not self-refuting like Empiricism, Scientism, Naturalism are.

g. Thus, Naturalism is rejected already and Christianity must now be evaluated on its own merits.

\(^{19}\) John Polkinghorne, Quantum Physics & Christology
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1. Alternative views of Science are more realistic and favorable than those views seen in Naturalism and Scientism

i. If science required these worldviews to be true, we would be in deep trouble as Naturalism and Scientism are necessarily false and ought to be rejected.

ii. The history and practice of science shows that science has progressed successfully without Naturalism and Scientism being true.

iii. History: It is best to know the history of science to know science.

   a. Quantum Physicist John Polkinghorne: “Actual history of science is the best way to create a philosophy of science.”

   b. Throughout history, we have seen the failures and the breakthroughs in science.

   c. Historically speaking, science (as well as theology) has been shown to progress with theory and experiment, lulls and confusion, mistakes and redirections based on political, religious, socio-cultural influences.

   d. “If the experience of science teaches anything, it's that the world is very strange and surprising. The many revolutions in science have certainly shown that.” says Polkinghorne.

iv. Practice: Actual practice of science is collaborative.

   a. Both evidence and theory are equally important.

   b. Science requires a combination of theory & experiment, interpretation &

1 John Polkinghorne, Quantum Physics and Christology
2 John Polkinghorne, Quantum Physics and Christology
observing again.

c. Polkinghorne says that actual practice of science involves “creative interaction of a profoundly truth-seeking kind between stubborn experimental findings and imaginative theoretical exploration.”

d. All quests for truth are in the hermeneutical interpretative circle of investigation and judgment.

1) Science takes judgment to gain reliable knowledge. It is not all just cold hard facts slapping us in the face.

2) One must understand his own presuppositions but have flexible presuppositions when interpreting empirical observations.

3) One must use common sense principles when interpreting empirical observations.

4) For Polkinghorne, interpretation in science (and theology) is to be performed with critical realism rather than speculation.

e. Polkinghorne: “Science progresses neither by sole reliance on an earthly empiricism, nor by indulgence in theoretical leaps in the dark, but through the discipline imposed by a continual interaction between assessed experience and proffered interpretation.”

f. Basically meaning that in actuality, science progresses with experiment and interpretation.

g. At the end of the day you need both experiment (or experiential data) & theory.

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3 John Polkinghorne, Quantum Physics and Christology
4 John Polkinghorne, Quantum Physics and Christology
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v. Overall, history and practice show best way to view science whereas the worldviews of Naturalism, Empiricism and Scientism are not necessary.

vi. Thus, alternative views of Science are more realistic and favorable than those seen in Naturalism and Scientism.

2. “Good” models for Secular and Christian scientists can be maintained without Naturalism and Scientism.


ii. The eminent secular cosmologist Stephen Hawking proposes that a scientific model is a “good” model if it:5

   a. Is elegant

   b. Contains few arbitrary or adjustable elements

      1) i.e., doesn’t have a lot of fudge factors or adjustment factors…which would turn the model into more of a record of behavior.

   c. Agrees with and explains all existing observations

   d. Makes detailed predictions about future observations that can falsify the model if the predictions do not match future observations

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1) i.e., the model can be falsified and be disproved

iii. Note that Naturalism and Scientism are nowhere to be found here.

iv. Note: Hawking’s approach to theories of science uses what he calls “Model-Dependent Realism” which seems to be a strange blend of science and postmodernism.

a. This is the idea that scientific theories are models and “a set of rules that connect the elements of the model to observations.”\(^6\) That is, models and observations interact on each other:

1) Models influence observations

2) Observations influence models

3) Thus, the Model is Dependent

b. More than one model is acceptable depending on the perception of the observer and results of the observation.

1) Use whichever model is more convenient in the situation under consideration. “Each theory can describe and explain certain properties, and neither theory can be said to be better or more real than the other.”\(^7\)

v. Microbiologist Stephen Meyer proposes using Charles Darwin’s and Charles Lyell’s (19\(^{th}\) century geologist) approach

a. Posit a cause which is known from our present experience to explain the data of the past.


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1) This idea is known as uniformitarianism: the present is consistent with the past (and future).

   b. 1st generate possible causes based on our present knowledge of cause and effect of such similar events.

   c. 2nd infer the most likely cause of the several possible causes.

   d. Darwin used “inference to the best explanation” in defending his theory.

      1) He established the question: how can I best explain the observations?

      2) He used inference to the best explanation for his theory of natural selection based on random mutations.

   e. So, according to Meyer, “inference” by scientists helped answer this philosophical question of how develop a theory.

   f. Interestingly, Intelligent Design uses the same “inference to the best explanation” as Darwin did.
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Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

A. Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

1. The breakdown of each view shows that the “Integration View” is realistic and favorable.
   
i. Here are 4 basics views on relationship between science and religion.

   ii. Conflict View

      a. This is the most common perception of our day. It’s the alleged battle between Scientific Materialism and Biblical Literalism. This view poses that these 2 see themselves as THE path to true knowledge, at the expense of religion (labeled: subjective) or science (labeled: conspiracy to prove atheism). This is a one or the other, either-or extreme view. Media likes the conflict view and promotes it as it is biased to the side of science

      b. This is the view that Richard Dawkins and others seem to espouse.

      c. This view seems to be the most popular but is completely unhistorical.
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Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

d. The history of science and religion reveals that Science and Christianity have been anything but conflicting.

e. When examining history, Christianity has provided the unified concept of a Creator and an understanding of a stable universe for science to have a foundation. This is a well documented cultural and academic scene in Europe for well over 1500 years.

1) Side note: Cultural critic Dr. Os Guinness (who happened to be raised in China), recognized the comparatively minor Chinese scientific developments during this same era. Interestingly, Chinese anthropologists have researched Chinese culture and tried to understand what was the reason for their scientific/industrial revolution delay and they found that the anthropological reason was a lack of a unifying concept of God and the laws of nature – as Europe had.

f. The apparent conflict that most people observe is in the area of worldview difference between Naturalist worldview and the Supernatural worldview (refer to table provided above).

g. Note that people often confuse the difference in these worldviews with a conflict between Science as a field of research and Christianity as a religion.

h. Worldviews are not the same as Science or Christianity.

i. Maintaining ‘Science versus Christianity’ is actually committing the logical fallacy of ‘false dilemma’ as these are not mutually exclusive as we will see.

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1 Fallacy of a false dilemma is also known as: false dichotomy, the either-or fallacy, either-or reasoning, fallacy of false choice, fallacy of false alternatives, black-and-white thinking, the fallacy of exhaustive hypotheses, bifurcation, excluded middle, no middle ground, polarization.
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1) Fallacy of a false dilemma presents 2 extreme absolute choices when more variation exists. Typically the 2 choices are extreme positions of a spectrum of views.

2) Examples:
   (i) “I thought you were a Christian but you weren’t at church today.”
   (ii) Obi Wan Kenobi: “Only a Sith deals in absolutes!”

j. Point is that more options of the interaction of Science and Religion exist and it doesn’t have to be ‘one is against the other’ as this view presents.

k. Overall, this ‘Science versus Christianity’ view is misrepresented and inaccurate.

iii. Independence View

   a. This view shows a separation, but not war, between human discovery and revealed truth. That is, science is limited to the natural realms; to the objective, public, & repeatable data. Whereas, religion is limited to the spiritual realms; to order, beauty, & inner-life experiences.

   b. An example of the Independence View:

      1) Quote from National Academy of Sciences, NAS:

      2) “Science and religion are different ways of understanding. Needlessly placing them in opposition reduces the potential of both to contribute to
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3) Overall, this is an example of the Independence View: the strange Christian theory may be right but it is not science and these 2 areas of study shouldn’t interact as they are very different.

4) If you want some good evolutionist propaganda to steer the masses, go to the above referenced document in the footnote.

   (i) They come across harmless but they wrote that both creationism or intelligent design are not science but are more like astrology and witchcraft.

5) They also say theologians and scientist both stand in wonder at the universe. They say religious scientist have concurred that evolution can be compatible and acceptable with their religious faith.

6) So here they bash ID and creationism but then say there are some religious scientist who agree that evolution is the correct theory. So it’s a little of a backhanded complement. Less of a complement, more of a backhand.

c. Evolutionary biologist Stephen Jay Gould famously referred to this separate but complementary relationship as “nonoverlapping magisteria.”

d. How do science and theology differ?

1) Differ in kind of experience as subjective experiences cannot be repeated

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2 Committee on Revising Science and Creationism: A View from the National Academy of Sciences, National Academy of Sciences and Institute of Medicine of the National Academies; Science, Evolution, and Creationism (National Academic Press, 2008); http://books.nap.edu/catalog.php?record_id=11876

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Premise #2: Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

in the same way that experiments can.

2) Differ in terms of the development of theological understanding as a more complex process than is the case for scientific understanding.

   (i) Science just builds on itself.

   (ii) Where theologians in every generation must dialogue with all of the previous generations.

3) Differ in terms of who is guiding the encounter with truth

   (i) God in Theology

   (ii) Scientist in Science

4) Differ in terms of conclusions

   (i) Conclusions of science get universal acceptance

   (ii) Conclusions in religion vary from country to country

   e. Many think that for science and religion: “A good boundary makes good neighbors.”

1) But this does not work in practice as science is thought to be the superior authority for knowledge where the spiritual world encounters the natural world.

2) Science establishes the fence line

   (i) E.g. tests and experiments on what goes on in the soul
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3) If Scientists say there is no meaning then there is no meaning

4) In practice its only Science in control, Science illuminates the Bible not the other way around.

   (i) Stephen Jay Gould - Scientists can make religious statements

   (ii) Jonathan Wells – has been considered suspect and his text Icons of Evolution has been dismissed because of his ID leanings.

f. Are proper boundaries possible?

   1) Christianity makes empirical (historical claims), so it is doing science.

   2) Reductionism doesn’t leave much room for religion, so it overreaches.

   3) Metaphysical atheism not really in Darwin’s mechanism, so atheism in science is not accurate.

   4) Attempts to define science, are usually to suit one side’s propaganda.

   5) Boundaries are fuzzy, no clear a priori model.

g. Overall, this view is better than the conflict view, but may not be helpful in understanding reality holistically as it constrains the other position and thus limits its own scope.

iv. Dialogue View

   a. This view is the historical one: Christianity had a strong influence in establishing the right worldview for science. Methodologies are not distinct. Scientist have
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faith & theologians have reason (scientist must trust their instruments, uniformity, other scientists testimony, etc.; theologians must think critically). Both sides rely on personal judgment and authority.

b. The historical relationship between Science and Religion has for the most part been one of dialogue and interaction (but not necessarily or always integration).

c. Review Timeline of Science and Religion Handout.\

d. This dialogue and interaction really goes back to the Egyptians and Greeks who considered science and religion to be interrelated parts of philosophy.

e. Famous Physicists in history that were Christians

1) Galileo

2) Isaac Newton

3) Michael Faraday

4) James Clerk Maxwell

5) Lord Kelvin

6) Georges Lemaitre (the Catholic priest who first proposed what became known as the Big Bang theory)

7) Max Planck (father of quantum theory of physics)

8) George Mendel (father of genetics)

f. 51% of current scientists who are members of the American Association for the

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Advancement of Science profess belief in God (33%) or a higher power (18%).

g. This may be the same across all scientists but this pew research poll only has data from those who are members of the AAAS – which is the largest general scientific society and represents scientists from all science fields.

h. A breakdown of the 2009 surveyed scientist’s belief is as follows:

<table>
<thead>
<tr>
<th>Religious Belief Among Scientists</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Who believe in God</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>All scientists</td>
</tr>
<tr>
<td>Men</td>
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<tr>
<td>Women</td>
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<tr>
<td>Age</td>
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<td>18-34</td>
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<td>65+</td>
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<tr>
<td>Field</td>
</tr>
<tr>
<td>Biological and medical</td>
</tr>
<tr>
<td>Chemistry</td>
</tr>
<tr>
<td>Geosciences</td>
</tr>
<tr>
<td>Physics and astronomy</td>
</tr>
</tbody>
</table>

i. As you can see the average belief across the board is right about 51%.

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j. This 51% is a very consistent survey when considering a survey done in 1996 by the historian of Science Edward Larson at University of Georgia and a survey from 1914 by the psychologist James Leuba.

v. Integration View

a. This view develops a unified worldview where God’s action in Nature is plausible. Science and Theology can enlighten and inform each other as we seek to know ultimate truth. Science is the tool we use to explore God’s creation! The world he made is a book of nature for us to investigate just like the word of God. Both of these will never be in conflict because God is the author of both but our interpretation of each can sometimes be off.

b. Integration is common in other academic fields:

1) Psychology and Anthropology

2) History and Science

3) One field may add knowledge that gives further insight to the other.

4) As a result, understanding in Psychology is improved according to better data in genetics.

5) Good and bad Philosophy occurs often even in Science.

6) Other disciplines interacting with each other is more realistic and expected.

   (i) Recall: scientism (which claims all worthwhile knowledge must
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c. What if one field reveals a difference with another field?

1) The Bible scholar may need to review and reinvestigate his position if scientific evidence points to the contrary.

2) The scientist may need to review and reinvestigate his position if Biblical evidence points to the contrary.

   (i) Example is the recent finding of Sodom by Archeologist Stephen Collins.

3) Differences allow us to refine our simple or initial interpretations of each, the book of Nature and the Bible, to a more sophisticated and nuanced level.

4) We can do this without jumping to conclusions that the book of nature or the Bible has to be thrown out.

5) We can do this before we state that the book of nature and the Bible are conflicting.

6) If the creator God exists as Christian doctrine teaches, the book of nature and the Bible will tell the same truth as they both inform us of the same reality.

d. Certain important scientists have held to the Integration View.

1) Many current scientists who fall within the Intelligent Design (I.D.) camp hold this view.
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2) Other current scientist who are Christians hold this view.

   (i) “I'm a very passionate believer in the unity of knowledge. There is one world of reality - one world of our experience that we're seeking to describe.” – John Polkinghorne

3) Many famous scientists of the past seem to have held this view or the Dialogue view:

   (i) “This most beautiful system [The Universe] could only proceed from the dominion of an intelligent and powerful Being.” – Isaac Newton

   (ii) “There can never be any real opposition between religion and science, for one is the complement of the other.” – Max Planck, atomic physicist, 1900s

   (iii) “Religion and science go together. As I've said before, science without religion is lame and religion without science is blind. They are interdependent and have a common goal—the search for truth. Hence it is absurd for religion to proscribe Galileo or Darwin or other scientists. And it is equally absurd when scientists say that there is no God. The real scientist has faith, which does not mean that he must subscribe to a creed. Without religion there is no charity. The soul given to each of us is moved by the same living spirit that moves the universe… I want to know God’s thoughts; the rest are details.” – Albert Einstein, author of relativity theory, 1941.

6 William Hermanns, Einstein and the Poet: In Search of the Cosmic Man (1983).
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e. Judeo-Christian tradition promotes belief in a God who created knowable universe.

1) Jews and Christians (and Muslims) believe in a Creator who made an orderly, rational, understandable universe and gave us the permission and the ability to investigate and utilize it, thereby legitimizing science and technology.

(i) “The heavens declare the glory of God; and the firmament shows His handiwork. Day unto day utters speech and night unto night reveals knowledge.” (Psalm 19:1-2)

(ii) “The heavens declare His righteousness, and all the peoples see His glory.” (Psalm 97:6)

(iii) “I established my covenant with day and night and the ordinances of heaven and earth…” (Jeremiah 33:25)

(iv) “Because what may be known of God is manifest in them, for God has shown it to them. For since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse…” (Romans 1:19-20)

vi. The Integration view presents the most realistic and favorable approach.\(^7\)

\(^7\) Dialogue view is acceptable as well.
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2. To discuss the issues of Science & Religion it is important for Christians and Non-Christians to understand BOTH correctly.⁸

i. Approach the dialog with humility and grace, for now we see through the glass darkly.

ii. Understand the spectrum of positions/arguments on all sides.

iii. Realize that most people are on a journey still figuring out where they stand.

iv. Recognize that these issues are not fundamental to your faith or your salvation.

v. Learn to live with the tension.

   a. It’s okay not to have it all figured out.

   b. You don’t have to have all the “right” answers immediately.

vi. Don’t let arguments/disagreements upset you.

vii. Take Saint Augustine’s Advice:

   a. In essentials, Unity;

   b. In non-essentials, liberty;

   c. In all things, charity

viii. Read and educate yourself.

   a. There are a ton of books on the topic of the relationship between science and religion. But, rather than get overwhelmed, I would recommend starting with

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⁸ Leslie Wickman, Ph.D., CRIS 2011-2012 Science, Faith and Culture Series.
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these:

1) *When Science and Christianity Meet*, edited by Lindberg & Numbers

2) *The Book of the Cosmos*, edited by Dennis Danielson

3) *Creator and the Cosmos*, Hugh Ross, Reasons to Believe.

4) *Quantum Physics and Theology*, John Polkinghorne.
A. Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

a. Disclaimers:

1) If Intelligent Design is in fact the correct way to understand reality, this doesn’t mean the God of Christianity is the intelligent designer.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

2) One could reason that the intelligence is:

i. some being which is unknowable as in agnosticism

ii. matter or in matter - which is/are god/s as in pantheism or pan-en-theism. That is, the universe itself is god, or is composed of individual gods, or gods are within the matter but are not the matter. Thus, the designers are or are within the matter of the universe.

iii. Some Ultimate Being or a Higher Power as in the Eastern or New-Age religions

iv. God as is Islam, Judaism, or Christianity.

v. an alien or an alien community in a parallel universe or this universe that traveled by spaceships to seed the earth with life.

3) That is, ID only shows that some form of intelligence was involved – such that, one could speculate what that the intelligence is from 1 of a variety of possible options.

4) Strictly speaking, if Intelligent Design is in fact not the correct way to understand reality, this doesn’t mean that gods or God cannot exist. Granted that gods or God may not have caused it all, so our understanding of gods or God would have to be changed. But a naturally produced universe, doesn’t necessitate that gods or God are impossible as spiritual beings may have generated from the universe naturally as consciousness did.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

5) Another way to consider this: if the Neo-Darwinist theory of evolution is in fact the best way to understand reality, it doesn’t follow that already existing gods or a God didn’t design the natural process. One could hold that gods or a God (as in the Christian position known as Theistic Evolution) in some way designed the natural process to produce higher orders of life (it could have been designed to produce even higher orders or only much lower orders). – Note that we will discuss the Theistic Evolution position at the end of the class.

6) Additionally, if Neo-Darwinism is right, one could still say that organisms on earth were ‘intelligently designed’ by gods or God who designed such an intelligent natural process.

7) So overall, by way of disclaimer, ID doesn’t produce much by way of implications and with Neo-Darwinism it doesn’t rule out much by way of implication.

8) So when considering ID, the possible implications are usually sources of contention and more heat rather than light. But, as we have seen, the implication of these 2 alternatives are broad and unrevealing. What is of scientific concern are the 2 alternatives and not the implications.
9) So, again ID on its own, doesn’t imply much. It could be used to build a broad inductive case for pantheism!

10) But, ID is included in this overall class argument and structure because it does fit in my argument as the 3rd premise – so formulated to build a broad inductive case for science supporting Christianity.

11) At this point, it is not clear if the ID that is argued here is the source of the natural process or evolution or not.

12) Last disclaimer: ID doesn’t have to be perfect for one to infer ID.

a. The Teleological Argument

1) Telos: purpose

   i. This is the idea that the effects we see are due to an intended purpose.

2) This is an ‘Inference to the Best Explanation’ Argument.

   i. Darwin used “inference to the best explanation.”

   ii. He asked: “How can I best explain the observations?”

   iii. He inferred that the best explanation was natural selection based on random variations and common descent.

   iv. Inference to the best explanation is used all of the time in life, academia, and especially science. This is no new concept for educational spheres.
v. Note that this type of reasoning is used by auto mechanics, judges, bible interpreters, etc.

3) This inference is known as “Abductive” reasoning or “Abduction” in philosophy.¹

i. This is “a type of inference that assigns special status (truth and best) to explanatory considerations.”²

ii. Given evidence $E$ and candidate explanations $H_1, \ldots, H_n$ of $E$, infer the truth of that $H_i$ which best explains $E$.³

iii. In other words, generate $H$’s to explain the body of evidence $E$.

1. $H_1$

2. $H_2$

3. $H_3$

4. $H_4$

5. $H_5$

6. $H_6$

7. $H_n$

iv. Infer the explanation $H_3$ (for instance) as the best explanation.

¹ Term was coined by the philosopher Charles Sanders Peirce.
v. Abductive reasoning is the same as inductive except that it goes beyond induction by making “an implicit or explicit appeal to explanatory considerations.”

vi. It can be understood this way as developed by Charles Sanders Peirce:

1. The surprising fact, C, is observed.
2. But if A were true, C would be expected.
3. Hence, there is reason to suspect that A is true.

vii. In other words, A is inferred as the best explanation of certain evidence C.

viii. This is reasoning by abduction.

ix. Pierce thought that all of science and trial law is abductive reasoning rather than just inductive.

x. Charles Darwin employed this type of reasoning in his theory of natural selection.

xi. “Science begins by assembling a series of observations, then goes on to ask what framework of interpretation makes most sense of what is observed…How good is the fit between theory and observation?”

xii. Stanford Encyclopedia of Philosophy (non-Christian highly respected academic resource) states that “Most

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Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

philosophers agree that this type of inference is frequently employed, in some form or other, both in everyday and in scientific reasoning.”

xiii. Dictionary of Philosophy “Type of inference yielding an explanatory hypothesis.”

xiv. Note that with all abductive reasoning, you cannot prove which is the best explanation. It takes discernment within a scientific community where “You have to decide which you believe to be right, on the basis of the evidence available - and realize the evidence isn’t conclusive enough to prove either option.”

4) It does not depend on us trying to explain the designer/s but we can just say that the designer/s is the best explanation of the facts.

5) “The logic of the design inference moves from a marker of intelligence (specified complexity) to an intelligence as causal agent responsible for that marker.”

6) It appears that the most plausible explanation of the evidence is that the organism/universe was designed. We can infer this logically and rationally. Thus, it is a reasonable inference.

7) In a nutshell, ID theory infers that: “Intelligent action was involved at some points with origins…certain features of the universe and living things are best explained by an intelligent

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5 http://plato.stanford.edu/entries/abduction/
8 William Dembski article http://www.evolutionnews.org/2012/10/design_inference064871.html
b. When compared to the other theories that attempt to explain the data, the design inference is preferred as it satisfies the criteria for making good inferences to the best explanation: \[\text{9}\]

1) it implies further statements describing present observable data.

2) it has the most explanatory power of all the competing theories.

3) it has the most explanatory scope of all the competing theories.

4) it is more plausible than the competing theories.

5) it is less ad hoc than the competing theories.

6) it is disconfirmed by fewer accepted beliefs than the competing theories.

7) it significantly exceeds its rival theories in fulfilling conditions 1-7

8) some would also add that it is the simplest explanation (here Occam’s razor may be employed as a tool that states that the simplest explanation is most likely the most accurate one - where one doesn’t need to multiply entities unnecessarily).

c. Moreover, other theories may also be rejected on their own accord (for instance, self-refuting, manufactured false data, etc.)

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\[\text{10}\] McCullagh’s criteria for 1-7, see McCullagh, C., Justifying Historical Descriptions (Cambridge: Cambridge University Press, 1984).
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

d. There have been many design arguments formulated over the centuries. These date back to Greek philosophy. More of these will be listed below at the end of this discussion.

e. Here it is wise to distinguish between “design arguments” and “design inferences”

1) Design Argument ➔ philosophical premises to establish existence of a cause and its attributes.

   i. Design arguments are made to explain the cause of universe (canvas) as a whole or the cause of particular items in the universe (painting strokes on the canvas).

   ii. Arguments for design have been used over the centuries but will not be addressed now.

2) Design Inference ➔ If specified complexity (which we will discuss below), infer design over chance and physical necessity.

   i. Design inferences are made to explain phenomena by inferring that the phenomena was the effect of an intelligence cause.

   ii. The design inference (used here) is based on an explanatory filter which uses abductive reasoning (which is the design inference at the bottom of the filter): the best explanation of the 3 options (physical necessity, chance, and design) based on probabilities and specification.

f. But a very unique and interesting recent “teleological argument” has been formulated by William Dembski and William Lane Craig\(^\text{12}\) that seems to incorporate inference in its reasoning and says nothing about the attributes of the designer:

i. The fine-tuning of the universe is due to either **physical necessity, chance, or design**.

ii. It is not due to **physical necessity or chance**.

iii. Therefore, it is due to **design**.

2) This is a philosophical argument (premises and conclusion), its soundness is based on the truth or falsity of the premises which depend on probabilities which are based in scientific observations and mathematical modeling.

3) This philosophical argument has theological implications but those implications are irrelevant to the argument itself.

4) Necessity and chance are the 2 options the naturalist employs when explaining the causes and developments of the universe, life, and biological complexity. For evolution, physical necessity and chance are taken together and jointly acting:

i. **Chance** = random mutations in DNA (Darwin referred to this as variation)

   ii. **Physical Necessity** = natural selection

5) Physical necessity and chance is all the Naturalist needs for explanations.

g. Now Dembski holds that this argument is only valid if probabilities are such that the design option is more probable than the physical necessity and chance options.

h. That is, Dembski is stating that one can make justifiably make an inference to the best explanation by knowing the probabilities which are based in scientific observations and mathematical modeling.

i. E.g., design is more probable than chance and physical necessity therefore it is rational to hold to design.

j. How does one detect design?

1) William Dembski has been instrumental in the ID movement and has formulated an “Explanatory Filter.”

2) By following this flow chart, one can detect design.

3) When one inputs the appropriate events, objects, structures, the filter will yield the right result.

4) This flow of thought is similar to the argument just described but Dembski refers to it as the Explanatory Filter and states that the

13 Note that the following extended discussion is heavily dependent and based on William Dembski’s work especially stated in The Design Revolution: Answering the Toughest Questions about Intelligent Design, (Downers Grove, IL: Intervarsity Press, 2004).
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

The conclusion is based on probabilities that we use to infer what best explains the phenomena with the 3 options.

5) The whole point of this Explanatory Filter and the design inference is to differentiate between purely natural causes un-supplemented by design and natural causes supplemented by design.

6) It is not meant to show that there is a natural cause or a design cause.

7) Does the natural cause (originative cause or operational cause) rely on and/or require designing intelligence?

8) So, how can we detect design?
9) The inference to design is validated based on the probabilities and specified information found in the object or event.

10) That is something can be said to be designed if it exhibits “specified complexity” = independently patterned (specified) and highly improbable (complex).

11) If an observer detects specified complexity, the organism or universe is inferred as designed.

12) Again, it’s not just that phenomena are highly or even extremely improbable (complexity), but it is the fact that the event conforms to an independent pattern (specific) which can be thought of as ‘specified complexity.’

13) Specifications are epistemically objective.

14) Complexity is ontologically objective.

15) The bridge card game\(^{14}\)

i. A perfect bridge hand is different from a random bridge hand in that it has special traits which makes its occurrence surprising and improbable.

ii. That is, a perfect bridge hand has special traits due to the independent previously formed rules of the game and one could (before or after) detect design (rigged deal of the cards).

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\(^{14}\) JP Moreland, *Scaling the Secular City*, (Grand Rapids: Baker 1987), page 73.
iii. Both the improbability and the specification of the perfect bridge hand reveal a rigged deal (designed deal of the cards).

16) In summary, we can see that if something is both specified and is highly improbable, it is designed.

17) Note that specified complexity seem to have originated in the 1970’s from the British Chemist Leslie Orgel\(^{15}\) and was also revisited by cosmologist author Paul Davies in 1999.

18) Dembski and Meyer have been instrumental in establishing it as a method for detecting design.

19) Dembski’s Specified Complexity is a statistical criterion (based on probabilities) that has 5 components:\(^{16}\)

i. A probabilistic version of complexity applicable to events

1. The word **complexity** refers to improbability.

2. The greater the complexity, the smaller the probability. The smaller the complexity, the greater the probability.

ii. Conditionally independent patterns

1. The word **specified** refers to conditionally independent patterns.

\(^{15}\) In his book *The Origins of Life*, Orgel coined the concept of **specified complexity**, to describe the criterion by which living organisms are distinguished from non-living matter.

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2. The patterns we observe are independent of our subjective interpretation of them or our subjective meaning applied to them.

3. That is, the patterns are objectively in the observed phenomena and are independent of human observation and pattern imposition.

iii. Probabilistic resources, which come in 2 forms: replicational and specificational

1. Probabilistic resources refer to the amount of chances for an event to occur or be specified.

2. Replication resources refer to the opportunities it can occur.

3. Specificational resources refer to the opportunities it can be specified.

4. The more opportunities an event can occur or be specified the higher the probability that it will occur and be specified.

5. The less opportunities an event can occur or be specified the smaller the probability that it will occur and be specified.

6. For chance to be said to produce an event with certain specifications, the replicational resources (M) and the specificational resources (N) are multiplied with the
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

probability that this event actually occurs with 1 opportunity (p): M*N*p = probability that chance produced the event.

7. The greater the resources, the bigger the probability that the event occurs by chance.

8. The fewer the resources, the smaller the probability that the event occurs by chance.

iv. A specificational version of complexity applicable to patterns

1. Specified complexity must have an easily describable pattern (e.g., 10 heads in a row, or a series of prime numbers, or 20 English words describing something) but its occurrence is highly improbable.

v. A universal probability bound

1. This will be discussed more below.

k. How does one rule out physical necessity?

1) We will discuss this in detail in each area of ID we encounter below.

2) But for now, we can understand that many claim that certain features of the universe exhibit physical necessity when considering self-generation and self-organization.

3) That is, many confuse self-generation and self-organization to be equal to physical necessity.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

4) Here, it is helpful to clarify that natural principles of self-generation and self-organization (for the universe or organisms) are merely revealing the transmissions of order from 1 entity to another.\(^\text{17}\)

5) That is, this self-generation and self-organization is actually the exemplification of order not the explanation of order.

6) Self-generation and self-organization presupposes order and does not originate the order.

7) Physical necessity is based on laws which are on “regularities of temporal succession.”\(^\text{18}\)

8) It can be argued that these laws and the order exemplified or transmitted are best explained by a designer.

9) So again we are not explaining just yet how to rule out physical necessity in the Explanatory Filter as we will do that later when we arrive at certain topics.

10) But, for now we can see that physical necessity can be distinguished in this sense.

11) When using the Explanatory Filter, this distinction is useful.

1. How does one rule out \textit{chance}?

\(^{17}\) JP Moreland, \textit{Scaling the Secular City}, (Grand Rapids: Baker 1987), page 73.

1) “How small of a probability does it take to rule out chance?” Or “How improbable must something be for chance not to be inferred?”

   i. Probability < $10^{20}$? $10^{30}$? $10^{40}$?

2) Dembski has calculated the most conservative “universal probability bound” in literature: $10^{150}$

   i. $10^{80}$ = # of elementary particles in the universe.

   ii. $10^{45}$ = fastest possible transition rate of matter = # of transitions per second.

   iii. $10^{25}$ = age of the universe in seconds

   iv. Total # of specified events < $10^{80} \times 10^{45} \times 10^{25} = 10^{150}$

3) The “universal probability bound” represents the probability of the events occurrence when including all the relevant probabilistic resources that could aid in its occurrence.

4) Something very improbable can become more probable (where chance can be said to produce it) with all the relevant probabilistic resources.

5) It may also remain improbable (where chance cannot be said to produce it) with all the relevant probabilistic resources.

6) Since our universe has a finite past, there is a limited amount of probabilistic resources available.

7) If an event has a probability < 1 in $10^{150}$ its occurrence will remain improbable even with all of the universes probabilistic resources.
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8) “Thus, any specified event of probability less than $10^{150}$ will remain improbable even after all conceivable probabilistic resources from the observable universe have been factored in…all the probabilistic resources in the known physical world cannot conspire to render remotely probable an event whose probability is less than this universal probability bound.”¹⁹

9) “Implicit in a universal probability bound such as $10^{150}$ is that the universe is too small a place to generate specified complexity by sheer exhaustion of possibilities.”²⁰

10) That is, if the probability of something occurring is smaller than the limit, than chance could not be inferred as its improbability is beyond the limit of the actual possibilities of the universe.

11) Specified complexity indicates that an event (corresponding to the specified pattern) has a probability < the universal probability bound of $10^{150}$. That is, its probability is so low, that chance is ruled out.

12) It is not necessary that the probability be below this lower limit, but if it is it is sufficient to assert specified complexity and definitely sufficient to rule out chance.

13) William Lane Craig summarizes William Dembski’s “Generic Chance Elimination Argument” as follows:²¹

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¹⁹ Ibid, page 85.
²⁰ Ibid, page 118.
i. One learns that some event has occurred.

ii. Examining the circumstances under which the event occurred, one finds that the event could only have been produced by a certain chance process (or processes).

iii. One identifies a pattern which characterizes the event.

iv. One calculates the probability of the event given the chance hypothesis.

v. One determines what probabilistic resources were available for producing the event via the chance hypothesis.

vi. On the basis of the probabilistic resources, one calculates the probability of the event's occurring by chance once out of all the available opportunities to occur.

vii. One finds that the above probability is sufficiently small.

viii. One identifies a body of information which is independent of the event's occurrence.

ix. One determines that one can formulate the pattern referred to in step (3) on the basis of this body of independent information.

x. One is warranted in inferring that the event did not occur by chance.
14) Criticisms of the explanatory filter have been put forward to show that it is an unreliable method of detecting design.\textsuperscript{22}

i. Criticism #1: the filter doesn’t account for the joint action of chance and necessity as in the Darwinian mechanism.

ii. Response to Criticism #1:

1. The necessity node can be thought to be chance at 100\% probability. Thus, the filter does account for the joint action of chance and necessity as 100\% chance.

iii. Criticism #2: The filter will incorrectly yield design to that which is merely improbable or geometric or self-organizing.

iv. Response to Criticism #2:

1. This is simply not true as the improbable alone will yield chance, the geometric and self-organizing will yield physical necessity.

2. One needs to have clearly differentiated input when approaching the filter.

3. Additionally, any mathematical sequences (say Fibonacci sequences) found in nature can be distinguished as operation or origin.

   a. Example: Restaurant sign falling in the snow due to storm example. Sign is designed but the

\textsuperscript{22} This entire discussion is found in William Dembski, \textit{The Design Revolution: Answering the Toughest Questions about Intelligent Design}, (Downers Grove, IL: Intervarsity Press, 2004).
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process of the imprint in the snow is due to natural processes.

b. The origin of that sign (or Fibonacci sequence) is designed. If inputted as a origin structuring input, the filter will yield design.

c. The operational development of how the storm caused the sign to fall (or unfolding of that Fibonacci sequence) is natural. If inputted into the filter as an operational event input, than the filter will yield physical necessity.

4. Thus, one needs to have clearly differentiated input when approaching the filter.

v. Criticism #3: Further evidence that future science will provide will show that the filter doesn’t yield design as it would now. Also, in terms of all the evidence we have now, if it is unknown to the person using the filter, they will enter the filter with truncated input. In these cases, the omission of appropriate input would cause the filter to yield inaccurate results. Future evidence or unknown evidence will eventually show it to be necessity or chance.

vi. Response to Criticism #3:

1. But this response would always keep the door open to only chance and necessity and keep it shut to design. It
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rules out design as a design result would just mean that the input is ignorant of ALL information.

2. This preventative criteria of future evidence or unknown evidence would pose problems for all of scientific inquiry as no test or experimental results could be performed. An investigator would never have ALL of the information – and this would prevent them from beginning their investigation. This would represent a fear that the regularities observed now may be different later – implying that current science is wrong about its observations.

3. Overall, we can easily see that this reasoning would cause all science to be thrown out. But science is based on the inductive reasoning not having all of the evidence.

4. This response confuses the filters reliability with its applicability as they say that we can’t apply it right because we may discover future evidence of necessity and chance. Thus, this criticism (shown to be flawed) does not even address the filters reliability.

5. This criticism gives naturalistic causes of chance and necessity an *a priori* biased privilege. It would not allow one to discover what nature is really revealing – which is what scientific inquiry seeks to do.
15) Based on the above discussion, the filter is useful as a method of detecting design.

m. Frequently, we get a criticism of the design inference. Critics will say that this is just appealing to a ‘god of the gaps.’

1) There are some unknowns of science that require further explanation to arrive at holistic understanding of that field of science.

2) These unknowns are like many unknowns of the past that we eventually resolved.
   i. Earthquakes were not caused by the gods being mad.
   ii. Eclipses did not require howling at the moon to be completed.
   iii. Sacrificing to fertility gods didn’t matter for good or bad rain for crops that year.

3) That is, by attributing causal power to a god, we were ignorant.

4) But, now that we are educated and developed there is no need to appeal to a deity for explanations of reality that we are currently ignorant of (gaps in our knowledge).

5) The Naturalist will claim that this is what ID theorists and scientists are doing. They accuse the ID proponents of introducing God to cover their ignorance when they should be doing real science that does not appeal to a non-scientific entity when examining the gaps of human knowledge.
6) The Naturalist claims that theism results to “lazy” thinking when appealing to a god as an explanation for the unknowns in science.23

7) Naturalist strategy is to cast out scientists who they accuse as those who resort to include God as an explanation of what is not yet explained.

8) Eugenie Scott, the Executive Director of the National Center for Science Education stated: “Scientists do not agree on how life began—yet. And “yet” is a very important word in science. One should not assume that just because something is not currently understood that it never will be understood. (The ID Proponent) suggests that because some models of the natural origin of life have been disproved, we must give up our search and seek a supernatural explanation.”24

9) That is, the Naturalist frames the issue with this narrative:

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23 “Lazy” is referenced from debates by Peter Atkins.
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10) Or they could phrase it as:

11) The Naturalist will attempt to separate theism from science and effectively cast out any scientist who claims God is a cause.

n. The responses from the ID Proponent:
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1) 2 types of responses:
   
i. ID proponents who imply God as the intelligent designer.

   ii. Other responses to this criticism

2) ID proponents, who imply that God is the intelligent designer are making an inference not filling a gap.
   
i. But this is actually not happening. The ID proponent is not just throwing up their hands and stating: “I don’t know, God must have done it.”

   ii. What the ID proponent is actually doing, is making an inference to the best explanation. ID proponents do what archeologists, forensic detectives, and Darwin did. Given E₁, E₂, E₃, E₄, E₅, etc.: Which best H₁ to Hₙ best explains them when the criteria is applied? Then, the inference to the best explanation can be made.

   iii. Thus, ID theorists reject the above narrative and restate it as follows:

How to Explain Knowledge and Lack of Knowledge in Each Field
iv. The best explanation is $H_3$ (God is the basis) for all $E$ (the fields of knowledge).

v. God is the conclusion after investigation of what explains rationality for all fields of knowledge. God is not presupposed or assumed here as a starting point.

vi. $H_5$ (Naturalism) doesn’t have the resources to explain all of these fields of knowledge.

1. See criticisms of Naturalism above and the list of unexplained features of the universe and human existence.

2. Wonder, amazement, etc. about the universe have no basis as they are equitable to boredom as it is just neurons firing in the brain and matter in motion.
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3. Suffering of children from disease cannot be said to be “sad” or “unjust” but is just “what happens” according to their worldview as it doesn’t make sense of these features of human existence.

vii. $H_3$ (God) is the best explanation as determined by satisfying the above criteria.

viii. God is not an alternative to a scientific explanation but is the foundation for all explanation and makes explanation itself (including scientific explanation) possible.\(^{25}\)

ix. Consider Henry Ford the inventor of the car and assembly line.

1. He is the mind behind the mechanism of the internal combustion engine.

2. We (those who don’t care what is under the hood) may not all understand the physics behind the mechanisms.

3. The Naturalists state that when we do not understand the physics, the ID proponent is not permitted to invoke Henry Ford as the designer of the car engine.

x. The ID proponent states that when we do not understand and when we do understand the physics, invoking Henry Ford is permitted because all of the mechanism (all of the parts we know and all of the parts we don’t) reveals his genius.

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xi. Henry Ford is the agent behind the mechanism and is not reducible to the mechanism. Ford is the explanation for the existence of the mechanism.

xii. God is the agent behind the mechanism of the universe. He is the foundation and explanation of it all including our rationality to do science.

xiii. “I am not postulating a ‘God of the gaps’…I am postulating a God to explain why science explains…The very success of science in showing us how deeply ordered the natural world is provides strong grounds for believing that there is an even deeper cause for that order.”

xiv. “God is the best explanation for the explanatory power of science…God is not an alternative to science as an explanation…he is the ground of all explanation.”

xv. This understanding is more accurate and more realistic as it provides a basis for understanding how we understand anything at all. This is a philosophical argument for rationality much like the Moral Argument for God.

xvi. God is the ultimate basis for objective morality.

xvii. God is the ultimate basis for language, rationality, science, music, etc.

26 Richard Swinburne, *Is there a God?*
xviii. Thus, the ID inference not a god of the gaps approach, it is a god who explains all ability to know anything at all, including the results of science.

3) Other responses to this criticism:

i. The ID proponent does not necessarily imply God – but could imply gods, aliens, etc. So, there is no implication when discussing how best to explain the data: was it the result of design or not design? The implications are irrelevant.

ii. This criticism really not an objection to the rational abductive reasoning as a philosophical notion. It actually is a caricature or a straw man argument intended to show that ID as a concept is foolishness. This equates to insulting the conclusion of the inference reasoning process as referring to it as ridiculous or *ad hoc*. But, as we have seen it is not ad hoc and does not deserve the caricature. Overall, the charge of “god of the gaps” is not helpful in refuting that ID is the best explanation of all the other explanations. The Naturalists may think it rules out ID as an option by charging that it is a supernatural inference and not a natural one: “*Resorting to the supernatural violates a major canon of modern science: explain only through natural causes.*”²⁸ ¹ˢᵗ, there is no inference to the supernatural but an inference to the best explanation of ID. ²ⁿᵈ, this statement is based on an *a priori* metaphysical position that has already been shown to be unwarranted.

iv. Naturalists also appeal to the “god of the universes.” The beginning of the universe must be natural, beyond this space and time, and must have an ultimate cause. They say that either the universe was caused by a other universes creating this one (black-hole created universes or a non-1st caused series of infinite natural events across universes) or that it is self created (vacuum, energy, and matter). But, if other universes created this one, what created those universes? There cannot be an infinite regress, there must be a first cause, as an infinite regress is philosophically irrational. Also, what created the vacuum, energy, and matter? There must be a 1st cause. If they propose a series of multi-verses that don’t create each other, than they are still not answering the question of what created this one.

4) Thus, we have seen that the charge of the “god of the gaps” is actually committed by the Naturalist, is not committed by the ID proponent, and has been shown to be irrelevant to the type of reasoning the ID proponent is using.
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Overall, different kinds of design inferences can be made. Some kinds are:

1) Design as order
   i. Order as qualitative sequences, patterns, or spectrums
   ii. Order as regularities of spatial presence or spatial arrangement
   iii. Order as regularities of temporal succession according to governing laws (e.g., growth of an organism, paths of heavenly bodies, etc. have features of movements like songs, dances, etc. according to a preset composition. These are explained by an agent and are not explained by science)

2) Design as purpose
   i. Purpose shows a plan (plan as in blueprints or plan as in a scheduled construction sequence).
   ii. Purpose of a beneficent order (the end is a good in itself and has inherent value).
   iii. Purpose of a non-beneficent (neutral) order (cooperation of parts towards an end such as acorn becoming a mature oak tree).
   iv. Purpose of an action versus purpose of a result (the result X was so that history or one’s personal life will unfold according to a purpose).

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29 This sections discussion is heavily dependent on JP Moreland’s *Scaling the Secular City*, (Grand Rapids: Baker, 1987).
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v. Purpose may be natural or non-natural (cosmological constants or personal miracle story).

3) Design as sense and cognition

4) Design as simplicity

5) Design as complexity

6) Design as information

7) Design as beauty

8) Design and cosmic constants.

p. Design arguments have been formulated differently than that above. Some of the forms are:  

1) The Synthetic A Priori Argument

2) The Argument from Analogy
   
   i. This is reasoning by analogy.
   
   ii. 1 version: Consider the watchmaker argument by William Paley (1745-1805) in his *Natural Theology*.
       
       1. One finds a watch on a beach and *intuitively* infers design.

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30 This section's discussion is heavily dependent on JP Moreland's *Scaling the Secular City*, (Grand Rapids: Baker, 1987).
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2. Living organisms are complex like a watch.

3. Watches are designed by intelligent agents with a purpose.

4. Living organisms seem to be designed by an intelligent agent with a purpose.

iii. Another version: U = Universe & A = Human Artifact (table)

1. U has properties x, y, z.

2. A has properties x, y, z, and i.

3. Therefore it is reasonable to hold that U also has i.

4. That is, the universe resembles human artifacts as both seem to have order and a purpose; since human artifacts are designed, it is reasonable to conclude that the universe is also designed.

iv. Criticisms of this argument center around the similarity premise. Are organisms and the universe actually like each other with respect to the order, complexity, purpose, etc? Critics argue that they are not; supporters argue that they are.

3) The Probability argument

i. The Possibility view

ii. The Frequency view

iii. The Evidential view.
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q. We will be using variations of these probability arguments, the argument proposed by Craig and Dembski’s Explanatory Filter, and general Abductive reasoning (inference to the best explanation).

r. Intelligent design is easily inferred in biochemistry, classical physics, and astrophysics.

i. In biochemistry, we see intelligent design in the specified complexity and irreducible complexity of the cell.

ii. In classical physics, we see intelligent design in the transparency of the world/universe and the beauty of the world/universe.

iii. In astrophysics, we see intelligent design in the fine tuning of the universe.

We will now investigate the scientific evidence that supports the design inference.
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1. **ID is inferred in Biochemistry when observing the specified complexity and irreducible complexity in the cell.**

Richard Dawkins: “*Biology is the study of complicated things that give the appearance of having been designed for a purpose.*”

Christian De Duve (leading scientist and Naturalist): “*Cells are so obviously programmed to develop according to certain lines…that the word design almost unavoidably comes to mind.*”

i. ____________________ shows intelligent design in the cell.

   a. In 2009, Dr. Stephen Meyer of the Discovery Institute (sometimes referred to as the hub of the ID movement) in Seattle wrote *Signature in the Cell* where he

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established a breakthrough and powerful case for design in the cell.

b. Note that this entire discussion can be found in *Signature in the Cell* and various other works by Stephen Meyer. For the most part this section on specified complexity summarizes or borrows directly from Meyer.

c. Quick background on ____________.

1) The DNA (deoxyribonucleic acid) molecule is a double helix shape comprised of smaller molecules (nucleotide bases).

   (i) There are __________________ links between the 2 chains on 1 double helix molecule.

   (ii) Sugar-phosphate groups form the backbone of the double helix.

   (iii) The links are referred to as base pairs as 1 chain has a nucleotide that corresponds to the other.

   (iv) DNA is ____________ into RNA

   (v) RNA is ____________ into protein

2) The genetic “code” is comprised of:

   (i) Letters: nucleotides

   (ii) Words: codons or triplets

   (iii) Sentences: genes

   (iv) Paragraphs: operons
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(v) Chapters: chromosomes

(vi) Books: living organisms

(vii) Richard Dawkins: “Physics books may be complicated, but . . .
the objects and phenomena that a physics book describes are
simpler than a single cell in the body of its author. And the
author consists of trillions of those cells, many of them
different from each other, organized with intricate architecture
and precision-engineering into a working machine capable of
writing a book. . . . Each nucleus . . . contains a digitally coded
database larger, in information content, than all thirty volumes
of the Encyclopedia Britannica put together. And this figure is
for each cell, not all the cells of the body put together.”

3) The order of the nucleotides in the sequence form a certain code.

4) If the order was different, the code would be different. The order
determines the code.

d. Meyer presents the following case:

e. __________ are the workhorses of the cell

1) They catalyze reactions,

2) They form the structural parts of molecular machines.

3) They help to copy and process genetic information.

f. To explain proteins, we must explain the complex 3-D shape, structure, and
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specificity: the specific order of the amino acids that are linked together.

1) If they are _________ together just right, it will fold right.

2) If it is rearranged, it will not fold right.

3) Order of amino acids determines the protein shape.

4) The _______________ of the protein determines its function.
   (i) The form will determine the job of the protein.
   (ii) Proteins can’t perform functions unless they fold into stable structures.

   g. Crick and Watson were at the forefront of this.

   1) Proteins display an information property called sequence specificity.

   2) _______________________: If the function of the whole is determined by the arrangement of the parts.

   3) E.g. sections of a computer code

   4) E.g. words in a sentence

   (i) If the words in a sentence are arranged correctly then we get a meaningful code.
   (ii) If the words in a sentence are arranged incorrectly then we do not get a meaningful code.

   5) If the amino acids are arranged correctly, then we get a functional protein.
6) If the amino acids are arranged incorrectly, then we get a non-functional protein.

7) So proteins are ‘Sequence Specific.’

h. So, there are 3 key features in proteins:

1) Shapes perform functions

2) The shapes are produced by folded chains of amino acids.

3) The precise sequencing of amino acids determine the folding and eventually the ________________.

i. Specificity of arrangement of amino acids is critical to overall biological functioning of the cell.

j. The sequence specificity was derived from a prior specificity – from a prior order.

k. How do proteins get their beautiful shape and their function?

1) Through the DNA strand of ordered ________________ and the RNA translation that builds a line of amino acids.

l. Digital information is being used to direct mechanical parts and machines.

1) Information is the key.

2) Information in the DNA is what is directing those proteins to be formed in the right way – which causes proteins to function in the cell.

m. This is the new revolution of molecular biology.
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n. The DNA enigma is “where did it come from?” not “where the information resides? (DNA, RNA, etc.)” and it’s not “what it does?” or “how it does it?”

o. “The problem of the origin of life is clearly basically equivalent to the problem of the origin of biological information.”

p. It concerns the questions of ________________.

q. Where did the precise sequencing - that allows the direction of mechanical operations - come from?

r. This gets to the question of the origin of life itself.

s. For life,________________________ is necessary for the arrangement of parts.

t. Proponents of design argue that previously existing meaning is what orders the sequence as “the information in the genetic code existed prior to and outside of the parts of that code and that information was imposed on those parts by a

____________________________

4 Bernd Olaf Kuppers
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u. Complexity vs. Specified Complexity

1) Shannon: If something is highly improbable (mathematically), it is complex.
   (i) This is information of a simple sequence: ME ME ME ME ME which is a structured set of low level information.
   (ii) An example in nature of a structured set of low level information would be the properties of H₂O forming ice crystals and snowflakes as the internal properties of the entity H₂O determines the shape.⁶

2) Leslie Orgal: Common: highly improbable but specified to perform a function.
   (i) DNA, represents something incredibly greater than the information and order seen in H₂O.
   (ii) The information in the cell is not just Shannon’s information it is Orgal’s.

v. Specified Complexity in the Cell

1) So the information in the cell is not just ____________ (improbable) but it is ____________ (independently patterned) to perform a function.

⁵ JP Moreland, Sealing the Secular City, (Grand Rapids: Baker, 1987), page 52.
⁶ Ibid.
2) The information in the cell exhibits specification and complexity.

3) Thus, we refer to it as __________________________.

   (i) Information in DNA performs a function – it tells the cell how to arrange the amino acids to build a protein.

4) Francis Crick: “By information I mean the specification of the amino acid sequence in the protein…”

w. Information  

   1) In the cell it is both specified and complex.

   2) This is crucial and necessary to explain the origin of life.

   3) Dawkins admits it’s very machine like and it has the appearance of design.

   4) Bill Gates “**DNA is like a computer but much more complex than any computer that we have been able to design.**”

   5) In order to know where information comes from, we must first understand what it really is; but in order to understand what it is, we must learn about how it is __________________________.

6) How is information transmitted?

   (i) Information is transmitted across a “communication channel.”

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7 This section is heavily dependent on Dembski’s chapter 11; Dembski, William, *The End of Christianity, Finding a Good God in an Evil World* (Nashville: B & H Publishing Group), 2009.
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(ii) Mathematician William Dembski explains that information is something that can be transmitted in 2 ways:

(a) Through communication channels requiring energy transfer.

(b) Through communication channels not requiring energy transfer.\(^8\)

(c) Note:

(i) Energy is ‘_________________’

(ii) Information is ‘_________________’

(d) “*The information relationships between ‘source’ and ‘receiver’ must be distinguished from the system of causal relationships existing between these points.*”\(^9\)

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\(^8\) Also see Carl Jung and Fred Dretske.

7) What is information?

(i) A ‘non-material’, ‘non-destructible’, ‘multiply realizable’ entity.

(ii) Non-material

(iii) Non-destructible

(iv) ________________________________

(a) Able to be instantiated in numerous objects or beings simultaneously.

   (i) Love

   (ii) Courage

   (iii) Passion

   (iv) Beauty

   (v) Colors

(b) Able to manifest in different forms or styles.

   (i) Beethoven’s 5th in written form on music sheets, in audio form (mp3, cd, 8 track, etc.), in visual interpretive dance form.

(c) The representation can be enhanced and thus can communicate the original information better.

   (i) Beethoven’s 5th played by children’s orchestra vs.
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Pacific Symphony.

(ii) Our resurrected bodies/minds

(d) The representation can be damaged and thus can communicate the original information worse.

(i) Books deteriorating

(ii) Our deteriorating bodies/brains

8) Where does information come from originally? 2 choices:

(i) ______________

(a) Chance

(b) Physical Necessity

(ii) ______________

(a) Human

(b) Alien

(c) Divine
x. Categories of theories for origin of life scientists:

1) **Chance.**

   (i) Consider the alleged pre-biotic soup of early Earth.

   (ii) Dawkins and other Naturalist argue that though it is improbable, eventually, rich molecules would have arisen.

   (iii) The formation of the first cell is difficult to understand and determining what life is and isn’t, is also challenging.

   (iv) There are some gray areas in terms of defining what is alive and what is not.

   (v) The criteria for life vs. non-life is not set by some governing institution and it is not generally agreed upon.

   (vi) A possible criteria for a living organism:

       (a) Nutrition

       (b) Respiration

       (c) Growth

       (d) Excretion

       (e) Responsiveness

       (f) Reproduction

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10 As previously mentioned, this entire section is heavily dependent on Stephen Meyer’s *Signature in the Cell.*
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(vii) But non-living organism’s can exhibit at least 1 of these and living organism’s do not necessarily exhibit all of these.

(viii) “…there is no single watertight criterion by which one can judge whether something is living or not.”¹¹

(ix) In the very distant past, in the primordial slime, the non-living materials developed themselves into primitive life forms (viruses, bacteria, etc.) bearing 1 of the criterion above.

(x) Then, after millions of years have passed the primitive life forms developed into something bearing more of the criteria.

(xi) So the transition from living to non-living is vague as the stages are indistinguishable, the transition is long, and the criteria is indistinguishable.

(xii) Eventually, we get a cell.

(xiii) Stanley Miller’s experiment

(a) In 1953, Miller tried created an experiment that resulted in the production of amino acids from random chemical reactions.

(b) Certain gases (ammonia, hydrogen, methane, etc.) were placed in a glass bulb and were shocked with electric voltages.

(c) These gases and energy inputs were to simulate the atmospheric conditions and lightning in the early Earth.

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(d) The slimey residue that collected on the surface of the glass were amino acids.

(e) This experiment was hailed as the triumph of naturalistic mechanism to produce the initial amino acids.

(xiv) Sidney Fox’s experiment

(a) Fox showed that poly-peptides formed on the clay surfaces after an evaporation of water with amino acids.

(b) This was to simulate conditions of a prebiotic soup in which water would wash off the clayey surface of the early Earth.

(c) Thus, there was a greater molecule (polypeptide) formed from amino acids by naturalistic processes.

2) **Response to the chance hypothesis:**

(i) Regarding Miller’s experiment,

(a) The ___________ used in his experiment in 1953 are not representative of the early earth’s atmosphere.

(b) Other gases, including oxygen were also present which would have oxidized chemicals and amino acids in a harsh atmosphere.

(c) Walter Bradley from Texas A&M University established that the early Earth’s conditions would have been hostile to forming

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12 As previously mentioned, this entire section is heavily dependent on Stephen Meyer’s *Signature in the Cell.*
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the building blocks of life – causing degradation and failure.\textsuperscript{13}

(d) Miller’s experiment has been repeated and tweaked over the years. Many researchers have had to \underline{___________} negative chemicals that formed as these would have just reacted with biologically relevant compounds forming a insoluble sludge.

(e) Also, researchers have to only use short wave length UV light, as long wave length UV light would degrade amino acids.

(f) Thus, in these 2 cases, researches are interferring to make the process work.

(ii) Regarding Sydney Fox’s experiment,

(a) The primitive early Earth’s pre-biotic ocean is now thought to be not \underline{___________} rich. The nitrogen content in such a pre-biotic soup was less than 0.015%.\textsuperscript{14}

(b) This has led Brooks to conclude that “\underline{there never was any substantial amount of} \underline{‘primitive soup’ on earth ...if such a soup ever existed it was only for a brief period of time.”}\textsuperscript{15}

(c) “\underline{If no such environment ever existed, then whatever specificity the chance hypothesis might have once had was now lost...Most of life researchers recognized that,}

\textsuperscript{13} Bradley, Thaxton, & Olsen, The Mystery of Life’s Origin’s; see also Jonathan Wells & William Dembski, The Design of Life.


\textsuperscript{15} Ibid.
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Even if there had been a favorable prebiotic soup, many destructive chemical processes would have necessarily been at work at the same time.  

(iii) But, set that aside and also set aside what the definition of life and non-life really is.

(iv) Now let us see if the chance hypothesis, explains the formation of a protein or a cell.

(v) According to Richard Dawkins: “Measuring the statistical improbability of a suggestion is the right way to go about assessing its believability.”

(vi) What is the ____________ that a single functional protein in 1 cell would have arisen?

(vii) Since amino acids form proteins, we consider them to make this calculation.

(viii) Note that changing 1 amino acid at 1 site can result in a loss of protein function as the sequence changed.

(ix) Considering the probability of forming a 150 long amino acid chain (which is a rather small length) to form a single functional

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protein by random interactions.\textsuperscript{18}

(a) Probability of incorporating only \_____________________: \( p = 1 \) chance in \( 10^{45} \).

(b) Probability of incorporating only \____________________ amino acids: \( p = 1 \) chance in \( 10^{45} \).

(c) Probability of achieving functional amino acid sequencing for functional proteins in information rich DNA molecules among all the possible combinations of amino acids: \( p = 1 \) chance in \( 10^{74} \).\textsuperscript{19}

(x) The probability of achieving 1 functional protein comprised of a 150 amino acid chain = \( p = 1 \) chance in \( 10^{45} \cdot 10^{45} \cdot 10^{74} = 1 \) chance in \( 10^{164} \).

(xi) When I punched this into my engineering calculator that I use in my work, the calculator will not even calculate it!

(a) Side note: to give a sense of scale of what this number means: Because there are only \( 10^{80} \) elementary particles (protons, neutrons, and electrons) in the known universe, the odds of us finding a specifically marked particle is \( p = 10^{80} \).

(b) So, \( 10^{164} \) is 84 orders of magnitude smaller in terms of

\textsuperscript{18}There are 20 different types of amino acids. For DNA, if there are 150 sites with 20 amino acid possibilities for each site = \( 20^{150} \cdot 10^{195} \). So the probability of getting any 1 particular sequence is 1 chance in \( 10^{195} \). Note that this may not even result in a functional protein sequence.

\textsuperscript{19}Doug Axe, CalTech, “Site Directed Mutagenesis” referenced by Stephen Meyer: The combinatorial space (the space of possible arrangement of given amino acids) was very infrequently populated by functional combinations.
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probability than finding a specifically marked particle in the universe. That is, the chance of achieving a single function protein is trillion, trillion, trillion, trillion, trillion, trillion, trillion, times smaller than finding a specifically marked particle in the universe.

(xii) Remember that the ________________ of the entire known universe (as calculated above in the introduction to ID section) = $10^{150}$. That is, this is the universal probability bound – beyond which chance cannot be said to have caused it as it exceeds the possibilities opportunities for this universe.

(xiii) Note that this ________________ is generous as other calculations by non-ID theorists consider it to be at $10^{120}$. Meyer uses the universal probability bound = $10^{140}$.

(xiv) The difference is $10^{164} / 10^{140} = 10^{24}$.

(xv) “When combining this insight, with a number of other factors that are relevant to computing the probability of generating a single protein by chance, you come to this startling result: If every event from the beginning of the universe till now was designated to searching for one of these functional combinations, among of all the possibilities, you would not have time to search more than about a trillion trillionth ($10^{24}$)
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

_of all the possibilities._”

(xvi) “If every event in the universe over its entire history were devoted to producing combinations of amino acids of the correct length in a prebiotic soup, the number of combinations thus produced would still represent a tiny fraction (roughly 1 out of a trillion trillion = 10^{24}) of the total number of events needed to have a 50% chance of generating a functional protein...by chance alone.”

(xvii) That is, even if we combine every opportunity and resource of this actual universe from the big bang till now, the chances that a single functional protein would have emerged from the random interactions in the early Earth’s pre-biotic soup is still p = 1 chance in 10^{24} (1 in a ________________).

(xviii) Thus, it is not rational to infer ________________ as a hypothesis when considering the formation of the 1st proteins on the early earth.

(xix) Now let’s ask, “Can chance alone find the functional sequences of proteins for 1 entire cell?”

(xx) So, consider not just 1 functional protein, but the minimum amount of functional proteins required for a minimally complex cell = 250 proteins!

20 Stephen Meyer: lecture to a UK audience.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(a) In order to get 250 functional proteins in the same cell, the same probabilities would be used for the 1 cell but 250 times. In calculating probabilities, this would require the $10^{164}$ number to be multiplied by itself 250 times.

(b) $p = 1 \text{ chance in } 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} \times 10^{164} = 10^{164}$

(c) Thus, $p = 10^{164}$.

(xxi) This is incredibly, astronomically ______ probability of chance producing a single cell.

(xxii) Scientist started grappling with these improbabilities and realized that it was vastly more improbable that chance could get the job done (finding the right functional combination); so they began to reject it and look for other approaches to the origin of life.

(xxiii) The scientific community does not consider the chance hypothesis to be adequate.

(xxiv) But Darwinian approach doesn’t actually rely on chance alone.

(xxv) In a recent debate, Dawkins declared that chance alone is not what Darwin proposed nor is it the only part of the theory of evolution.
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(xxvi) Darwinism joins random variations/mutations and chance events with the lawlike properties of the process known as natural selection.

(xxvii) So early on scientists invoked this conjoining of random mutations and chance with natural selection to overcome the great improbabilities to the origin of information.

(xxviii) But with pre-biotic natural selection, we have the logical fallacy of begging the question:

(a) We are trying to answer the question of how life originates.

(b) Natural selection is only operative or relevant once the organism exists because natural selection requires the organism to self-replicate and the occurrence of self-replication to operate.

   (i) It is a process that occurs as the organism is copying itself and creating new life with different varieties.

   (ii) If the organism doesn’t copy itself, than natural selection cannot occur.

   (iii) Natural selection presupposes the ability to reproduce.

   (iv) But, reproduction is a function of life.

   (v) So we are back to the question of how life originates, where did the origin of information necessary to
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produce life come from? – thus, this question takes us back prior to natural selection.

(c) In order for any organism to reproduce or self-replicate, it requires information from sequence specific, information rich DNA and proteins.

(d) So by invoking natural selection one would be invoking the very thing he is trying to explain in order to explain it.

(i) We are invoking natural selection to explain natural selection.

(ii) Biochemist Christian de Duve: Theories of pre-biotic natural selection, “need information which implies they have to presuppose what is to be explained in the first place.”

(e) So pre-biotic natural selection is begging the question and
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

should be rejected.

(xxix) RNA also presupposes information to get the primitive molecular replicator going and doesn’t account for the origin of information.

3) **Physical Necessity: Self-Organizational hypothesis**

(i) 1\textsuperscript{st} proposed in the 1960’s/early 1970’s.\textsuperscript{22}

(ii) This is the approach of necessity or law.

(iii) This theory gained traction in the late 1970’s by Dean Kenyon who 1\textsuperscript{st} termed it “Biochemical Predestination.”

(iv) Consider again the alleged “pre-biotic soup” of the early Earth.

(v) Is it possible that proteins arose directly from the pr-biotic soup due to inherent properties in the biomolecules?

(vi) Perhaps biomolecules can be likened to something like a crystal where the force of attraction between the constituent parts would determine the order of the chemical constituents of the molecule to form a self-orderly crystal lattice.

(vii) It was first thought that amino acids had bonding affinities which could explain the rise of functional proteins as they are based on an adequate sequence of the bonded amino acids.

\textsuperscript{22} As previously mentioned, this entire section is heavily dependent on Stephen Meyer’s *Signature in the Cell*. 
(viii) They thought that this would explain the sequence specificity of proteins.

(ix) If it could, this would explain the 1st proteins and the origin of the information.

(x) This is “Biochemical Predestination”\(^{23}\): the structure of the protein is pre-determined by biochemical attraction between constituent parts.

(xi) That is, biochemical necessity of self-organizing amino acids was thought to explain the information of DNA.

(xii) In 1994, this criticism of the developing ID movement was put forward by Eugenie Scott the Executive Director of the National Center for Science Education. She references a leading scientist Stuart Kauffman. She states: “The study of how life originated is an active area in science today.”

(xiii) The "primal soup" theory, the formation of replicating molecules on crystalline clay substrates, and the seeding of amino acids and other components of life from comets and meteors (in which these molecules form spontaneously in space), and other ideas are under consideration.

(xiv) Meyer's contention that life is too complex to form naturally ignores research exploring the possibility that life is actually self-organizing.

\(^{23}\) Dean Kenyon & Gary Steinman, *Biochemical Predestination*
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(xv) Combining the tools of mathematics, physical properties of matter, and information theory, this field has its roots in the work of Nobel Laureate Manfred Eigen, and has been expanded by Peter Schuster, Bernd-Olaf Kuppers, and in the US by several investigators including Stuart A. Kauffman, whose newest book, The Origins of Order: Self-organization and Selection in Evolution was just published in 1993.

(xvi) These investigators observe that the building blocks of life (amino acids and other compounds known to form spontaneously) can link together, and some of the compounds formed are "autocatalytic": they cause other amino acids to link up.

(xvii) Something like a primitive metabolism emerges in these models -- and scientists are testing these models in laboratories. Exciting developments in the production of something very close to RNA, a major chemical of life, have recently been announced.

(xviii) If life is capable of self-organization, the criticisms raised by Meyer against "primal soup" biochemistry are irrelevant."24

(xix) Stuart Kauffman’s book The Origins of Order: Self Organization and Selection in Evolution proposed a self-organizing process that was thought to bypass the need to generate genetic

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Information.

(a) A group of “low-specificity” catalytic peptides and RNA molecules could be enough to build a metabolic system…some proteins known as proteases and trypsin are able to make peptide bonds at a single amino acid site.

(xx) Recently, a leading scientist at NYU, Robert Shapiro, has also has recommended ‘metabolism first models’ be the subject of ongoing research.²⁵

4) **Response to the physical necessity (self-organizational) hypothesis.**²⁶

(i) Could the origin of life be explained by “self-organization” due to deterministic chemical or physical forces/processes?

(ii) Regarding Dean Kenyon,

(a) In the early 80’s, Dean Kenyon’s view became widely popular, however, he began to doubt it.

(b) Dean Kenyon wound up refuting his own theory of “Biochemical Predestination.”

(c) They found that there were slight differences in amino acids bonding affinities, but that none of them coincided with the order of the actual amino acids found in known cells.

(i) That is, these amino acid bonding affinities do not

²⁶ As previously mentioned, this entire section is heavily dependent on Stephen Meyer’s Signature in the Cell.
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explain the specific sequences of the amino acids actually found.

(ii) Some still argue and experiment to show that the 1st protein did organize from the amino acid bonding affinities.

(iii) But even if the 1st protein could have formed this way, it is clear that the evidence for the formation known proteins is based on the DNA code.

(iv) Since known proteins are produced from DNA code, one must still explain the origin of the DNA information for sequencing amino acids.

(d) Later, it was observed that the flow of information is from stable DNA double helix template to the proteins not the other way around.

(i) Each triplet of DNA bases specifies information to the RNA codons for exactly one amino acid during transcription and translation.

(ii) Proteins cannot be unwound to give sequences like DNA can.

(iii) If proteins are unwound they either react with other items in the cell, are destroyed, or lose their function without the ability to regain it (as their shape is lost).
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(iv) Thus, it doesn’t make sense to say that proteins store their own information.

(e) So, they abandoned their self-organizational approach.

(f) Kenyon now holds to an Intelligent Design view as this view is the best explanation of the rise of information in the cell.

(iii) Regarding Kauffman’s work,

(a) He transfers or presupposes the explanation to self-reproducing metabolic cycles. Other scientists have made similar criticisms. Kauffman realized there was a deficiency and proposed newer research but this still fails. Overall, he displaces the problem of accounting the origin of information by introducing new unexplained phenomena.

(b) Meyer claims that these models are bad abstract analogies that don’t really match the actual cell.

(c) Robert Shapiro has acknowledged that so far we “have not yet demonstrated the operation of a complete [metabolic] cycle or its ability to sustain itself and undergo further evolution.”

(iv) Regarding the information and self-organization:

(a) DNA is a communication system that can’t be reduced to just physics and chemistry.

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(i) Newspapers communicate with ink, which is physics and chemistry.

(ii) But the ink cannot determine the order of the words.

(iii) Physics and chemistry cannot sequence words on the paper.

(iv) In the same way, physics and chemistry cannot determine the sequences of amino acids.

(b) Information in DNA is a transcending order distinct from physics and chemistry.

(c) DNA nucleotides couldn’t have bonding affinities (as some amino acids do) as that would create repeated patterns.

(d) This would determine the output of amino acids as repeated sequence – which would not give enough variety for the different proteins required for the vast range of cells.

(e) This would effectively cause total loss of information as the sequencing would be stuck in a repeat pattern like a record repeating a sound.

(f) DNA sequences must be physically indeterminate.

(g) The information is exemplified and conveyed by precise sequencing of matter (nucleotides)

(h) This implies that it cannot originate in matter.
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(i) Information is outside of matter.

(v) Regarding bonds of the nucleotides:

(a) Magnetic Board with Magnetic Letters example.

(b) There are no longitudinal bonds between nucleotides.

(i) no forces

(ii) no predetermined order

(iii) no bonding affinities

(iv) That is, there is no attracting force drawing nucleotides to the DNA backbone in an order that is based on nucleotide attraction.

(v) Its not that there are not bonds of differing strength there, there are no bonds at all! - in the most important location – the axis that gives the codal sequencing.

(vi) It could be any nucleotide there.

(vii) Thus, there is no physical explanation for the ordering of the base sequences.

(c) There are no bonding affinities from the sugar phosphate backbone of the double-helix to the nucleotides.

(i) All of the bonds from the double helix backbone to
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the nucleotides are the same.

(ii) No nucleotide is favored.

(iii) That is, there is no attracting force drawing nucleotides to the DNA backbone in an order that is based on the DNA backbone bond attraction.

(iv) It could be any nucleotide there.

(v) Thus, there is no physical explanation for the ordering of the base sequences.

(d) With these 2 features of the double-helix DNA molecule, there is absolutely 0 evidence that the nucleotides self-organized to the double helix due to physical causes.

(e) There is not a physical force of attraction or any other necessary bonding to explain the specific information of the genetic code.

(f) The certain combination required for a functional protein will not necessarily obtain just because there is a pre-biotic soup on the early Earth’s surface – as such an alleged inevitable attraction completely lacks evidence.

(g) The properties of biological building blocks (nucleotides and the sugar-phosphate DNA backbone) do not determine their own arrangement.
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(h) Bricks do not just build a castle based on their own material properties.

(i) Likewise, biological building blocks do not just self-assemble.

(j) A vast ensemble of possible combinations are available with the biological building blocks.

(k) Specification is needed to place them together in a way that creates function.

(l) Based on these 2 features, we see that this specification is not “self-organized” or pre-determined based on the inherent internal properties of DNA.

(vi) Regarding Bernd-Olaf Kuppers (whom was mentioned as a leading researcher in Eugenie Scotts article quoted above):

(a) “The properties of nucleic acids indicate that all the combinatorially possible nucleotide patterns of a DNA are, from a chemical point of view, equivalent.” 28

(vii) Transferring the problem of the origin of information does not solve the problem.

(viii) Information cannot be reduced and any attempts to do so will necessarily fail as it must presuppose the nature of specified-information.

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(ix) “…new laws will never explain the origin of information because the processes that laws describe necessarily lack the complexity that informative sequences require.”

(x) Christian De Duve (leading scientist and also a Naturalist):

“Cells are so obviously programmed to develop according to certain lines…that the word design almost unavoidably comes to mind.” Then he goes on to say that it can’t be designed based on his Naturalism. Apparently, De Duve agrees with Meyer on the fact that the origin of information is yet to be explained as he mentioned this to him in a conversation after one of their talks.

(xi) The information is extrinsic to the physics and chemistry…it is independent of it and comes from outside of physics and chemistry.

(xii) Physics and chemistry do not determine the messaging.

(xiii) If it were physics and chemistry, we would get just repeating messaging in the sequence, we would get a molecular repetitive message (ABC ABC ABC). Information Theorist call this redundancy. There would be no variation as well.

5) **Design**

(i) So where did the information come from?

(ii) Can the design hypothesis be formulated into a rigorous scientific argument?

(iii) Inference to the best explanation: what best explains the data?

(iv) Posit causes which could explain it, than infer the one that explains it best.

(v) What does it mean to be the best explanation?

(a) It would be a cause of some kind.

(vi) But the other inferences, chance and necessity and the combination of chance and necessity fail to explain the origin of information.

(vii) “**Creation of new information is habitually associated with conscious activity.**” Henry Quastler, Information Scientist to molecular biology.

(a) Is this true? Yes, any new information is traced back to its source of a mind, not an undirected material process.

(b) E.g., Search engine optimization: requires quality new information for a site to be top ranked in the search results, not just random information repeated or generated from a blind

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31 As previously mentioned, this entire section is heavily dependent on Stephen Meyer’s *Signature in the Cell*. 
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

computer program blog generator. New information can only be generated if I sit down and blog – providing my own thought to the text. This results in high SEO results.

(c) When information is traced back to its source, we always come to a mind not natural forces.

(d) This idea uses the uniformitarianism of Darwin, Lyell, etc.

   (i) Method of multiple competing hypothesis

   (ii) Method of inference to the best explanation.

(e) Since the other explanations are incapable, they can be rejected.

(f) So easily we can infer an intelligent mind is behind the information of DNA, specified complexity.

(viii) The best inference, then is to the intelligent design best explains the origin of specified complexity, digital code, and information in the cell.

(ix) The case for intelligent design is based on molecular biology 101.

(x) But another analogy can be derived from computers.

   (a) Computers are developed obviously from the human mind.

   (b) They have these systems:
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(i) Operating System

(ii) Automated Error Creation.

(iii) Digital storage and retrieval.

(iv) Files and folder hierarchical filing system.

(v) Nested coding information.

(xi) This is exactly what happens in the cell. The cell has all of these same systems.

(a) These are the information processing systems of life.

(xii) So again, present knowledge of how systems work inform us of our past, uniformitarianism.

(a) Knowledge of computers, which are designed by an intelligent mind, are keys to help us understand other similar data we come across.

(xiii) Thus, using the same scientific method of Darwin, we can arrive at intelligent design as a solid scientific theory that appears to be the best theory.

y. Note responses to Stephen Meyer’s book *Signature in the Cell* and counter responses by Meyer’s team can be found at this footnote.$^{32}$

Scientific Apologetics – 8th Outline for 3-13-2013

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

i. Irreducible Complexity shows intelligent design in the cell.
   a. College Biology textbook: “Even the simplest living thing is composed of a fantastically ordered arrangement of complex molecules.”¹
   b. In 1996, biochemist Dr. Michael Behe from Lehigh University wrote a groundbreaking and impactful new book *Darwin’s Black Box.*²
   c. This book continues to influence the creation vs. evolution debate.
   d. Behe takes on Darwin’s unknowable “black box” which was the cell. Because Darwin didn’t have the tools we do today, he couldn’t make describe or include the cell into his theory.
   e. Darwin knew that there was something of interest there but couldn’t figure out what it was or the significance of it.
   f. But, since the 1960’s we have been able to make significant progress in the field of biochemistry (the branch of biology that studies the molecules that constitute cells and catalyze reactions in the cellular level) with the invention of the transmitting electron microscope (TEM) and the x-ray crystallography technique.
   g. The results of the 1950’s and 1960’s shows that the cell is not simple as once thought. On the contrary, the cell is composed of an extraordinarily complex system of parts and machines.
   h. Behe states that this complexity and elegance “should have been the end of

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

Darwinian’s strong claim right there.  

i. During that time, James Watson and Francis Crick discovered the shape of the double helix DNA. “The genetic code was deciphered, showing that DNA actually carried information in the form of a code to specify all of the protein machinery that the cell contains.”

j. At the time, they were referring to it as information and intelligence.

1) information of DNA was transcribed to a language of RNA,

2) then translated to a protein language.

k. So even back then, the geneticist noticed this information and its significance.

l. Recently, even what was once thought to be junk DNA (useless results of the naturalistic evolution process) are now thought to be micro-RNA’s and regulate the activity of other parts of the genome, switching on and off other genes at the proper time and place.

m. Darwin’s Brilliant Challenge to Skeptics: “If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down.”

n. So, Behe found this statement and with the tools of modern biochemistry, he took on the challenge to refute the part of Darwin’s theory that deals with random mutation and show that there is design involved.

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3 Michael Behe, chapter “God and Evolution” in God is Great, God is Good (Downers Grove, IL: Intervarsity Press, 2009), page 82.
4 Ibid, page 82.
5 Ibid, page 83.
Scientific Apologetics – 8th Outline for 3-13-2013

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

1) Darwinism is a multipart theory.

   (i) Common Descent

   (ii) Natural Selection

   (iii) Random Mutation

   (a) This is the critical claim that Behe takes on in his 2nd book.

   o. In his book *Darwin’s Black Box*, Behe pointed out that the cell’s system is “Irreducibly Complex”, which means that some system or machine of an organism is composed of parts, which as a whole work together to perform a function, that if those parts were taken away from the whole they would have no purpose.

   p. “The machines of the cell contain separate components needed for them to work.”

   q. Behe explains that these parts have no purpose outside of their whole and would not have been a product of Darwinian evolution as there would be no survival benefit for each part.

   r. The work of the cell is like nano-technology of the computer with tiny circuits. But in the case of the cell it is more nano-machinery. These machines cannot even be seen with a microscope but they are like mousetraps, ballpoint pens, light bulbs, etc. that have an arrangement of parts that have no relevant function away from the whole. They do not function at all until they are put together in a particular manner.

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6 Ibid.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

s. “So natural selection has little to select, or is stuck selecting a property that has little or nothing to do with the final system.”

7

t. Behe argues that due to this irreducibly complex systems that were not the result of a slow gradual process of improvement “the prerequisite for (Darwin’s) theory is destroyed.”

8

u. Neo-Darwinists attempt to explain the origin of these complex machines that are irreducibly complex by evolution and natural processes. Behe claims that these are “quite unconvincing, and I think anyone with a modicum of skepticism will too.”

9

v. Intelligent Design offers a valid theory, that these complex machines are designed.

w. “Now after the hard work of many scientists, there is no longer any reason to think that (chance and natural selection explains the overwhelming appearance of design). The complex and elegant molecular machinery of the cell strongly proclaims its design…”

10

x. So this argument is at a stand still where one side says it can the other side says it can’t.

y. There is a plethora of criticisms of Behe’s book on the web and in print. Behe has attempted to respond to as many as he can. See the instructor for more information on criticisms and responses.

7 Ibid.
8 Ibid.
9 Ibid.
10 Michael Behe, chapter “God and Evolution” in God is Great, God is Good (Downers Grove, IL: Intervarsity Press, 2009), page 89.
Scientific Apologetics – 9th Outline for 3-13-2013

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

i. Evolutionary theory has unresolved problems that show its limitations when explaining the development of life.

a. Introduction

1) Charles Darwin: “As natural selection works solely by and for the good of each being, all corporeal and mental endowments will tend to progress towards perfection.”

2) Evolutionary Geneticist Jerry Cone author of Why Evolution is True: “Organisms evolved gradually over time and split into different species, and the main engine of evolutionary chance was natural selection. Sure, some of the details of these processes are unsettled, but there is no argument among biologists about the main claims.”

3) Evolution is a multipart theory.

   (i) Common Descent

   (ii) Natural Selection

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2 Jerry Cone, http://www.edge.org/3rd_culture/coyne07/coyne07_index.html
3 Common Descent may be held to by ID theorists biochemist Michael Behe and geneticist Michael Denton
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(iii) Random Mutation

4) The last 2 can be considered the “Darwinian mechanism.”

b. The process of Evolution\(^4,5\)

1) “\textit{Evolution can be defined as change in population through time}.”\(^6\) (this is a very broad and vague term).

2) “\textit{Inherited variation in a population arises by meiosis, crossing over, and the chance combination of gametes. New alleles are added by mutation.}”\(^7\)

3) Parental characteristics that are passed to the offspring are encoded in DNA molecules.

4) The code is the source of the physical characteristics that get passed down.

\(^7\) Ibid.
Scientific Apologetics – 9th Outline for 3-13-2013

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

5) New different codes develop in this copying process.

6) This leads to the different physical characteristics from parent to offspring.

7) Again, this difference is due to random variations in the copied DNA sequence between the original parent code to the offspring code.

8) This is a phrase that is often quoted by those who study evolutionary theory: Random variations give raw material for natural selection to act on.

9) The process of natural selection can go to work on these random variations in code causing random variations in physical characteristics – eventually morphing different creatures and allegedly revealing the process of common decent.

10) “The traits of the best reproducers tend to increase in the population.”

   (i) Cheetah example: If a certain random variation affects the ability of the cheetah to run faster or slower, the cheetah that runs faster will get the prey more often than the cheetah that runs slower. Thus, it is more likely that the faster cheetah will survive longer to mate and reproduce more fast cheetahs. Whereas, the slower cheetah will not be able to eat as much and thus not survive to reproduce.

11) Random variation and natural selection lead to adaptations through an overall non-random process – this is not exactly “by chance”…

   (i) “Such amazing adaptations clearly did not come about "by chance." They evolved via a combination of random and non-

8 Ibid.
random processes. The process of **mutation**, which generates **genetic variation**, is random, but selection is non-random. Selection favored variants that were better able to survive and reproduce (e.g., to be pollinated, to fend off pathogens, or to navigate in the dark). Over many generations of random mutation and non-random selection, complex adaptations evolved. To say that evolution happens "by chance" ignores half of the picture.”

12) “If environment changes, variation is advantageous because it increases the chances that some individuals survive and reproduce, leaving offspring that also fare well under the new conditions….favoring certain phenotypes as the population conforms to new conditions.”

13) “Gradualism is the slow accumulations of small evolutionary changes over long time periods.”

(i) Darwin thought that as time passed, newer features would come about, and enough mutations would create a new species of animals. “Nature takes no sudden leaps.” – Charles Darwin

14) Other explanations: “Punctuated Equilibrium holds that long periods pass in which life forms change little, followed by intermittent periods of rapid change.”

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9 http://evolution.berkeley.edu/evolibrary/misconceptions_faq.php#a8
10 Ibid.
11 Ibid.
12 Ibid.
c. Criticisms: At this point, opponents of evolution present criticisms:

Note: Over 800 doctoral scientists have signed a public statement proclaiming, “We are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life.” Signers of the list include members of the national academies of science in the United States, Russia, Poland, the Czech Republic, and India (Hindustan), as well as faculty and researchers from a wide range of universities and colleges, including Princeton, MIT, Dartmouth, Ohio State, Tulane, and the University of Michigan.\(^\text{13}\)

1) Criticism #1: Evolution doesn’t pertain to the origin of life as it deals with the change in organisms as they reproduce. Most origin of life science does not address reproducing. When it tries to include it, it still fails to adequately show how the 1\(^{\text{st}}\) complex molecules and cells were developed and formed and has failed to account for the origin of information.

(i) Note that this Criticism, its responses, and counter-responses were addressed above.

\(^{13}\) http://www.dissentfromdarwin.org/scientists/
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

2) Criticism #2: Minor changes over time have not been seen to cause a new ‘in between’ species to emerge. That is, the evidence of macro-evolution is unavailable. Thus, the process of natural selection based on random variations is not supported by scientific evidence.

(i) Response by Evolutionist:

(a) The evolutionist typically responds 1st with a clarification that the process is not random even though the variations that are passed are random.

(b) The process itself is “selective” because it selects which characteristics due to random variations will endure.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(c) The criteria for selection is: which characteristic will bring about reproduction and survival.

(d) The random variations that are advantageous for survival will endure and the disadvantageous variations will not endure.

(e) Likewise, the species with the disadvantageous characteristics will become extinct and the species with the most good ones will survive.

(f) “In this way it is wrong to object to evolution on the grounds that it is all down to chance. It is not.”\(^{14}\)

(g) Richard Dawkins and others claim that organisms develop from simple to complex.

(h) With slow gradual steps up a long stair case, one could easily climb an improbable mountain.

(i) Every single step of the stairs represents a slight random variation change causing tiny modifications that are ever so slightly more complex than the variation before.

(j) Step by step, the tiny changes contribute to very gradual change.

(k) Thus, the single steps of the stairs is how the organisms can develop as they climb mount improbable.

(l) Richard Dawkins “To begin with, an ancestor like an ordinary squirrel, living up trees without any special gliding"

membrane, leaps across short gaps. [It could leap further if it had something to slow a fall.] So natural selection favors individuals with slightly pouchy skin around the arm or leg joints, and this becomes the norm. . . . Now any individuals with an even larger skin web can leap a few inches further. So in later generations this extension of skin becomes the norm, and so on. . . . It is easy to imagine true flapping flight evolving from repetition of the muscular movements used to control glide direction, so average time to landing is gradually postponed over evolutionary time.”

(m) Finch beaks

(i) Similar as Peppered moth story below.

(n) Fruit Flies in Hawaii.

(i) Similar as Peppered moth story below.

(o) Peppered moth story:\n
(i) Around 1800, England’s countryside had white and black colored moths.

(ii) When soot from the nearby upcoming industrial plants polluted the countryside, the lighter moths were more apparent to predator birds as they did not hide well on the soot covered trees.

(iii) Darker colored moths survived longer in industrial

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areas as they were more camouflaged than the lighter colored moths.

(iv) The birds would then not be able to find the dark ones and eat only light ones.

(v) The darker moths reproduced more offspring than the lighter ones and eventually the lighter ones started towards extinction whereas darker ones comprised 98% of the population.

(vi) Thus, there was an “evolution” from white to dark moths…a complete change in color due to environmental pressures.

(vii) (Note: the white moths didn’t actually become extinct as later regulation controlled soot pollution and now the white and black moths are both thriving).

(viii) According to Darwinists, for this example, random changes caused minor changes in the kind of the moth over time to the point where the original kinds were almost extinct and the newer different kind thrived.

(ii) But, this response is unsatisfactory.

(a) This typical response just describes and explain macro-evolutionary theory as it gives alleged examples of the morphing species into others and an illustration of how this could be thought to have occurred.

(b) So we have received, explanations, clarifications, illustrations,
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and alleged examples.

(c) We have not received evidence.

(d) Peppered moth example refutation:

(i) All that is shown in this example is the proportion of white colored moths in the population decreased and the proportion of dark colored moths increased.

(ii) White colored moths never actually evolved into dark colored moths.

(iii) All that could be said is there was more overall reproduction of black moths by black moths and less overall reproduction of white moths by white moths.

(iv) This is not at all evidence of the power of natural selection and random mutation to produce macro-evolution change!

(v) Even if it did reproduce with variation, this would still be an inspecies micro-evolutionary variation. They are using this to claim that it macro-evolved to a new species. So the claim isn’t even relevant to the story because reproduction with darker variation didn’t occur and even if it did it would be inspecies not “in-between.”

(vi) This doesn’t stop the college biology text book from incorrectly asserting: “The transition, then, from the light to the dark form was virtually completed in
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only 50 years

(e) The Finch beaks and Fruit Flies have similar explanations, yet these are still used in Biology texts.

(f) The Darwinist does not have qualified evidence for this macro-evolutionary change.

(g) Nor do they show evidence for an in-between species.

(h) Note that everyone across the creation evolution spectrum including young earth creationists agree on the fact of micro-evolutionary variations, bacteria evolving resistance to antibiotics, and virus evolving resistance to antiviral materials or being able of escaping the immune system of the host (as in HIV). This is evolution happening at the micro-level. But, ID proponents and other non-Darwinian scientists would disagree that macro-evolutionary changes occur from species to species.

(i) It’s easy for the evolutionist to just assume macro-evolution is the case based on micro-evolution. They want to extrapolate cases of micro-evolution to macro-evolution. But can the examples and experiments performed showing micro-evolution be extrapolated to show macro-evolution? Where is the evidence for this extrapolation?

(j) Micro-evolution within a single kind is nothing when considering the entire range of life.

(k) In terms of the extrapolation, if they could show evidence to

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17 Ibid, page 177.
18 http://www.reasonablefaith.org/media/craig-vs-ayala-indiana-university
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explain the Darwinian mechanism produced the bat and it produced a whale, that would be very awesome.
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But, the bat and the whale are both mammals so this is trivial compared to a bat and a sponge, which is even more of a substantial difference. So, this would even be more of an extrapolation.
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(m) The extrapolation is so great that when one studies the entire evolutionary tree, all animals and plants are just 2 twigs of the entire tree. The whole animal and plant kingdom are said to have been contained in and generated from these twigs. The extrapolation of the Darwinian mechanism from Finch beaks, Peppored moths, Fruit Flies, etc. to the production of every living thing is an extrapolation of gargantuan proportions. 19

(n) Again all of this macro-evolutionary extrapolation is based on false evidence of micro-evolution (Finch beaks, Peppered moths, etc.) and micro-evolutionary evidence from bacteria and viruses.

(o) According to William Lane Craig, this represents an enormous

19 http://www.reasonablefaith.org/media/craig-vs-ayala-indiana-university
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‘Leap of Faith’.

(p) Regarding the illustrations by Dawkins, one asks: “Is Dawkins following the evidence wherever it leads in claiming that gradualism is actually what occurred in the alleged climbing of Mount Improbable by small steps up a staircase? Or is he storytelling?”

(q) John Barrow and Frank Tippler conclude each of the steps in the evolutionary course to create humans would be so improbable that before it would happen the sun would have already gone through its stellar life and burn up the earth. It is so improbable that it is unlikely to have occurred in any other planet in the universe. But one asks, why are we to think it is probable on this planet?²⁰

(r) “...a storyteller can always invoke concepts like “preadaptation” to bolster the materialist faith that a Darwinian solution is somewhere out there. Fervent statements of faith aren't science, however, and fact-free science doesn't (usually) get published in biochemical journals...there are no papers in scientific journals which set out detailed, testable scenarios...[showing]...Darwinian-style processes. The very few papers that even attempt to speculate about this subject rely heavily upon what scientists call “hand-waving.” The journals of molecular evolution are full of papers documenting sequence comparisons, showing closer or more distant relationships between molecules. What they don't contain is papers documenting the existence of a

²⁰http://www.reasonablefaith.org/media/craig-vs-ayala-indiana-university
3) Criticism #3: There are too many gaps in the fossil record for evolution to show any transitional life forms. Fossils from transitional life forms are necessary evidence to prove evolution but these fossils are inadequate in quantity and quality.  

(a) The fossil record does not look like we would expect it to look if evolution was the only process.

(b) Every time there is biological innovation, it seems to happen all at once the origin of life in the origin of:

(i) bacteria

(ii) eukaryotic (1 or more celled) organisms

(iii) animals

(c) If evolution is an accurate theory, the fossil record should not repeat itself since different outcome of variations and corresponding mutations is expected due to randomness.

(d) But, there is mounting evidence that it would have had to repeat itself for these periods with explosions of life and stages

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22 Dr. Fuz Rana podcast at Reasons to Believe: [http://www.reasons.org/rtb-101/theisticevolution](http://www.reasons.org/rtb-101/theisticevolution)
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of biological innovation.

(e) So evolution doesn’t account for these similar bursts of life.

(ii) Response from Evolutionists:

(a) It is not necessary for these transitional life forms to be apparent in the fossil record.

(b) We are bound to have gaps in the fossil record due to geologic phenomena.

(c) Tectonic plates submerge under the others (one of the causes of earthquakes around the Pacific Rim) and thus once buried fossils are now engulfed in lava as the tectonic plates submerge under the earth’s crust.

(d) Our DNA is 99% similar to primates and less similar to less developed species.

(e) If the changes in species were not gradual but came in bursts spaced out by long periods of time, then more bursts of change, then we would expect to see gaps in the fossil record. This is known as “punctuated equilibrium.”23 There wouldn’t be many transitional forms to find as the transitions occurred quickly and there were less of them.

(f) Punctuated equilibrium, then, accommodates these fossil record gaps by saying that the species do not evolve but remain in stasis between bursts of change.

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(g) Punctuated equilibrium is contrasted with the traditional view of evolution known as **phyletic gradualism** which states that evolution generally occurs uniformly and by the steady and gradual transformation of whole lineages (called **anagenesis**).²⁴

(h) Also, the *Archaeopteryx* and the mammal like reptiles are some example of transitional forms.

(iii) Is this response satisfactory?

(a) Regarding the DNA comment, note that this 99% is actually not accurate as recent research have shown that it is between 85% and 90%.²⁵ Moreover, this DNA comment doesn’t enlighten us to an explanation of the fossil record gaps – it is intended to be a ‘red herring’ argument where one is diverting attention to similarities between creatures. This sort of evidence may point towards Common Descent. But, it doesn’t


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help in explaining the changes in organisms over time and why there is not a consistent fossil record showing the intermediates.

(b) Fossil records are necessary to illustrate this crucial point of Darwinism.

(c) Buried fossils under lava is not basing science on evidence. This is explaining how the evidence disappeared. This does not answer the question of “Where is the evidence?” that is so often asked of the theist when justifying claims of the theistic worldview. Anyone can prove any point just by pointing to hidden evidence. So, this is not a trustworthy approach to science.

(d) When one points to the Archaeopteryx and the mammal like reptiles as example of transitional forms, we are presented with miniscule evidence compared to the millions of fossils that we should see covering all phylum, class, orders, family, genus, and species of the animal kingdom.

   (i) Reasons for suspicion of even these few transitional forms:

   (ii) Sequence problems

   (iii) Size problems

   (iv) Time problems

   (v) Archaeopteryx is an extinct bird – not a half-bird or half-reptile.
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(e) Darwin waived past this lack of evidence in the fossil record although he realized it was a problem.

(f) “The fossil record, seemingly so important for anyone advocating evolutionary modification through time, was no very kind to Darwin’s cause. As a result he ignored it; the fossil record certainly did not make him alter his theorizations or expectations. In fact, what he often saw was stasis.”

(g) Punctuated equilibrium does not appear satisfactory. If it is an accurate theory, it still removes the gradual transition of animals which is a core component to Darwinian evolution. It may align with neo-Darwinian model but it is unclear that certain life forms can quickly evolve in a short duration of time.

(h) What is very clear is what all paleontologist find in the fossil record: a “stasis” of life, a stability in the biological forms over time. That is, animals fossils remain stable.

(i) “Instead of finding the gradual unfolding of life, what geologists of Darwin’s time, and geologists of the present day actually find is a highly uneven or jerky record; that is, species appear in the sequence very suddenly, show little or no change during their existence in the record, then abruptly go out of the record…Darwin was the consummate theorist, a scientist of the highest stature who did not let data stand in the way of his

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ideas."\(^{27}\)

(j) Now this last bit starts to sound like an ad hominem attack. But, the author is accurately describing Darwin’s awareness of the lack of fossil evidence.

(k) Charles Darwin: "Not one change of species into another is on record ... we cannot prove that a single species has been changed."\(^{28}\)

(l) Charles Darwin: "The number of intermediate varieties, which have formerly existed on the earth, (must) be truly enormous. Why then is not every geological formation and every stratum full of such intermediate links? Geology assuredly does not reveal any such finely graduated organic chain; and this, perhaps, is the most obvious and gravest objection which can be urged against my theory."\(^{29}\)

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\(^{28}\) Charles Darwin, *My Life & Letters*

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be urged against my theory."\(^{30}\)

(n) Charles Darwin: “Nature may almost be said to have guarded against the frequent discovery of her transitional or linking forms.”\(^{31}\)

(o) "The fossil record has always been a problem."\(^{32}\)

(p) "As is well known, most fossil species appear instantaneously in the fossil record."\(^{33}\)

(q) “If Evolution were true, we should find literally millions of fossils that show how one kind of life slowly and gradually changed to another kind of life. But missing links are the trade secret, in a sense, of paleontology. The point is, the links are still missing. What we really find are gaps that sharpen up the boundaries between kinds…As a matter of fact, there are gaps between each of the major kinds of plants and animals. Transition forms are missing by the millions.”\(^{34}\)

4) Criticism #4: The Cambrian Explosion challenges the traditional idea of gradual transition of animals because all of these new life forms appear at the roughly the same time (10 million year period = 10 minutes out of 24 hour period. This is so short that it is below a “resolution of the fossil


\(^{33}\) Tom Kemp, Oxford University Paleontologist

\(^{34}\) Dr. Gary Parker, Biologist/paleontologist and former ardent Evolutionist.
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record” by Scientist Jonathan Wells).\(^{35}\)

(a) The Cambrian animals are shallow sea creatures.

(b) The Cambrian explosion is estimated to have occurred 530 million years ago.

(c) The duration of the explosion is also estimated to be a minimum of 2 million years long. 2 or 10 is no difference it is still a very short time.

(d) But, the more research is conducted, the more we realize that the Cambrian explosion time period is shorter and shorter than once thought. This challenges the evolutionary mechanism of gradual modifications over time.

(e) Here we have an explosion of new creatures that do not have a clear prior ancestor.

(f) These creatures can be best seen in the very well preserved Cambrian fossils that were found in the Burgess Shale of British Columbia, Canada over 150 years ago. These shallow sea creatures are now extinct.

(g) The best current research is being done in the Maotianshan shales of Chengjiang, China. These Chinese researchers are challenging the Darwinian model directly. The fossils they found in southern China are the best preserved in the world.

(h) These are soft bodied creatures. It was once thought that the soft bodied animals were too soft to be preserved – until this

\(^{35}\) Darwins Dilemma DVD; [http://www.darwinsdilemma.org/](http://www.darwinsdilemma.org/)
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fossil find.

(i) So again, there is no clear gradual development with the Cambrian fossils as there are too many.

(j) The traditional evolutionary tree is more like a lawn36 whereas all of these fossils have the same short appearance with no deep roots in the anatomical/biological/genealogical structure.

(k) “The extreme speed of anatomical change and adaptive radiation during this brief time period requires explanations that go beyond those proposed for the evolution of species within the modern biota.”37

(l) “My main conclusion is that the Cambrian explosion is a real event” & “the massive burst of diversification we see in the Cambrian itself is a real event.”38

(m) Darwin realized the suddenness of the Cambrian explosion:

(i) “…species belonging to several of the main divisions of the animal kingdom suddenly appear in the lowest known fossiliferous rocks.”39

(n) Darwin hoped that later the gaps in the fossil record would be filled in by later scientists.

(o) He thought that the lack of ancestral forms was a valid counter-argument.

36 Dr. Fuz Rana podcast at Reasons to Believe: www.reasons.org
39 Charles Darwin, Origin of Species.
(p) Over 150 years have passed and the evidence is still lacking.

(q) “ID proponents observe that there are no clear evolutionary precursors to the Cambrian fauna, where nearly all of the major living animal phyla appear in an abrupt fashion without any evolutionary antecedents. That the precursors to the Cambrian groups are indeed missing from the record is widely accepted among paleontologists; thus, this is not the controversial aspect of the ID position.”

(r) This is common knowledge and is not just held by the ID proponents.

(s) It’s widely accepted by Paleontologists who confirm the missing fossils of the pre-Cambrian groups.

(t) So again, Darwin’s wish for the future wasn’t such a good one.

(ii) Response by the Evolutionist:

(a) The fossil record is incomplete and damaged to provide us with a complete picture.

(b) This poor record does not include transitional forms.

(iii) But this response is unsatisfactory because:

(a) even the soft bodied creatures are preserved.

(b) the worldwide Cambrian fossil record corresponds from continent to continent and is in fact fully framed out.

40 “Questions about the Cambrian Explosion, Evolution, and Intelligent Design” Document available from website; Darwins Dilemma DVD; http://www.darwindsdilemma.org/cambrian-explosion.php
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(c) each fossil category of the Cambrian period includes the newer finds in China and other continents.

(iv) On another note,

(a) recent research has shown that the pre-Cambrian biota were actually plants and were not animals as previously thought. This is a very controversial claim but it is published in a peer reviewed academic journal *Nature*. The researcher has analyzed Ediacaran biota and has determined that they have been misinterpreted by the scientific community. He concluded that these biota were actually living on the land and were more than likely plants, fungi, etc. not animals.

(b) The Ediacara biota consisted of enigmatic tubular and frond-shaped, mostly sessile organisms which lived during the Ediacaran Period (ca. 635–542 Ma). Trace fossils of these organisms have been found worldwide, and represent the earliest known complex multicellular organisms.41

(c) This claim supports the idea that the Pre-Cambrian “organisms” were not something of which the Cambrian animals could have evolved from as they were plants not animals and they were on the land not in the water where the Cambrian explosion animals were. So this new find, if accurate, casts further doubt on the idea that organisms of the Cambrian explosion evolved from the Pre-Cambrian animals.

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5) Criticism #5: In the Cambrian Explosion we see a certain skeleton and biological structure of animals (feet near legs & fins, eyes near mouth, digestive system near backside) that arose rather suddenly during this explosion period. Additionally, the complexities of the cells in these Cambrian phyla are orders of magnitude higher than simpler structures that predate them.

(a) This is a top down architecture that persists in the phyla. The phyla are the creatures that exhibit this complex structure that appears as if the structure was formed with a purpose. This is opposed to the bottom up architecture that Darwin proposed (structure is created due to randomness).

(b) These new creatures show that massive amounts of new information that has been added to the genes. Evolution cannot explain where this new information comes from.

(c) Darwin was caught in the grip of a deep dilemma of this fossil record. The fossil record still presents a problem for Darwin’s idea today because these sudden complex structures are unexplained by natural processes.

(ii) Response by the Evolutionist:

(a) Richard Dawkins explains that given enough time “the mountain” can be climbed with evolutionary mechanisms of natural selection on random variations.

(iii) Is this response satisfactory?

(a) No because there is not enough time to create cells 10 orders of
6) Criticism #6: Recall that evolutionary theory states that random variations gives material for natural selection to operate on. Allegedly, this gives rise to the beneficial features of life as generations reproduce. But, now we have the capability to investigate which changes in DNA could result in beneficial mutations – this endeavor was supposed to help us understand which mutations provide a competitive survival advantage in a given species. Recently, the scientific research has shown that 99% of molecular changes in DNA are actually destructive at the biochemical level. These negative changes do not provide for genetic enhancements and beneficial features in species. Thus, the random mutation component of evolutionary theory is contradicted by the evidence.

(i) “Rather than mutations building up molecular machinery, improving an organism relentlessly, many mutations actually

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1 Doug Axe research referenced in Signature in the Cell by Stephen Meyer.
2 Michael Behe, chapter “God and Evolution” in God is Great, God is Good (Downers Grove, IL: Intervarsity Press, 2009), page 84-89.
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(ii) Random mutations destroy or cause ineffective molecular machines.

(iii) Types of DNA mutations:

(a) Substitution
(b) Deletion
(c) Insertion
(d) Duplication
(e) Transversions

(iv) The sickle cell is a random mutation.

(v) We can see that 2 copies of the sickle cell will kill the child 10 years old of sickle cell disease.

(vi) 1 copy of the sickle cell will protect against malaria.

(vii) Other mutations break functioning genes to resist malaria. Only incidentally does this breakage of the gene cause a beneficial result of resisting malaria – but the idea here is that the gene is still diminished, it just happens to have a positive effect for humans.

(viii) Some random mutations do good but this is indirect as the gene

3 Ibid.
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is actually broken apart. “The sickle cell mutation is a random change in another system that by happenstance did a bit of good.”

(ix) The results of the years of research into malaria show that random mutations are reductive and damaging to the functioning features coded for the human genome.

(x) This is incoherent breakage of genes by random mutations. “…it makes changes in genes that help, no matter whether the changes add up to any “system” or not.”

(xi) This does not show a process that would cause the development of the organism with integrated complexity in the cell and increasing beneficial features.

(xii) Random mutations break genes rather than makes them. “Like a bull in a china shop, random changes of delicate structures are unlikely to help, and if they do they are likely to be crude, quick fixes for an urgent problem.”…as seen in the 1 sickle cell helping to resist malaria.

(xiii) Can we expand this result in the form of a lab experiment?

(xiv) Humans and other animals do not generate fast enough to determine if our genes cause beneficial mutations upon which natural selection can act. For humans, it takes too long to perform an experiment with in a lab.

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4 Ibid.
5 Ibid.
6 Ibid.
7 Ibid.
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(xv) But, a generation time is < 1 day with bacteria. So, we can study the variations in thousands of generations of bacteria to see if they evolve.

(xvi) Yes, if we had bacteria in flasks in a lab, we could see if this damage to the genes is consistent for other bacteria.

(xvii) This experiment was performed in a 30 year lab experiment by Richard Lenski, Distinguished professor at Michigan State University. He published his results in 2007 in the highly respected scientific journal Nature.

(xviii) He has produced 40,000 generations of bacteria with a population size of 100 trillion!

(xix) The results of the 30 year experiment: 4 bad gene/DNA effects.

(a) Lost ability to make a component of RNA (sugar ribose)

(b) Deleted genes responsible for metabolism

(c) Damaged ability to repair DNA

(d) Lost ability to metabolize sugar maltose

(xx) All involved the loss of genetic information or protein function.

(xxi) They saw, evolution of bacteria caused genes for ribose to be deleted, destroyed, and/or thrown out.

(xxii)“Expression of both the ribose operon and the maltose regulon decreased after 20,000 generations of experimental evolution. These changes may therefore reflect beneficial mutations in these
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regulons. Indeed, deletions of the rbs operon were found previously in all 12 of the evolved populations...“

(xxiii) In conclusion, even in the beneficial mutations we see:

(a) Incoherent mutations
(b) No theme among mutations
(c) Scattered mutations in different genes
(d) No process of building a new system in the cell
(e) Only reproduced more rapidly

“...the incoherent breaking of genes by random mutation shows the pitiful limits of the ability of unguided processes to fashion life.”

(xxiv) This is a consistent result with what is scene in malaria.

(xxv) It turns out that these damaging results are also seen in the HIV virus.

(xxvi) So, in 3 different fundamental forms of life, we have the same effects of Darwinian mechanism: negative effects.

(a) Eukaryotes: Malaria
(b) Virus: HIV

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8 Multiple Authors, “Parallel changes in global protein profiles during long-term experimental evolution in Escherichia coli” (Genetics 173: pages 1851-1869), 2006.
9 Michael Behe, chapter “God and Evolution” in God is Great, God is Good (Downers Grove, IL: Intervarsity Press, 2009), page 89.
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(c) Prokaryotes: E. Coli

(xxviii) This is a direct observation of what Darwinian evolution does do not what we theorize it does. This is direct evidence!

(xxix) Response from the Darwinists:

(a) The 1% of the mutations are beneficial to the organism.

(b) Drug resistance is a clear indicator of beneficial mutations.

(xxx) Response by Critics

(a) Even the 1% were degrading in nature with losses in ability.

(i) There is no indication that they were on their way to building new complex systems.

(ii) Even the beneficial mutations break genes or degrade functions like a bull in a china shop.

(iii) In a large volume of tries, the effects are minor mostly degrading and no new complex systems, like the molecular machinery that fill the cell.

(b) Drug resistance is easy for bacteria to develop resistance to because it requires only simple single point mutation but the malaria bacteria has never been able to overcome sickle hemoglobin as this requires multiple mutations or a sequence of mutations occurring blindly and this is too improbable.

(c) This is hard evidence that random mutations are incoherent and
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degrade a genome. There is no evidence it can build the molecular machinery that fills the cell. We no longer have to imagine what random mutations can do, we now know. Even the positively selected beneficial random mutations are degrading.

(d) In related research, scientists have attempted to understand the potential for random mutations to provide a convergent evolution.

(i) Convergent evolution: independent traits of evolution (eyes, sonar sense, etc. in different species) appear to have emerged independently (eyes are present in both octopus and humans and sonar sense in bats and dolphins) from different starting points.

(ii) Dawkins takes these convergent features of the animal kingdom as striking evidence for evolution.

(iii) Dawkins attributes this to luck in his 2006 book *The God Delusion*.

(iv) Is is possible that random mutations in DNA have independently produced the same features in different creatures spanning across the planet?

(v) No.

(vi) Gerald Schroeder: “Convergent evolution by random mutations of the DNA nucleotides becomes statistically so highly improbable as to be functionally
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impossible...Convergent traits among animals of different phyla have challenged the very basis of evolutionary theory...(it) did not happen by independent, random reactions. It could not have happened by random reactions. It must have been preprogrammed.”

(vii) Journal Science: “The concept that the eyes of the invertebrates have evolved completely independently from the vertebrate eye has to be reexamined.”

(viii) Journal Physics Today: “The probability that at ordinary temperatures a macroscopic number of molecules is assembled to give rise to the coordinated functions characterizing living organisms is vanishingly small. The idea of the spontaneous genesis of life in its present form is therefore improbable, even on the scale of billions of years.”

(ix) Journal Science: “Did Darwin get it Right?”: “No.”

7) Criticism #7: Evolution cannot account for existential features of human existence such as desire for religion, art, higher intelligence, etc.\(^\text{14}\)

(a) **SEE PREVIOUS REFUTATION OF NATURALISM FOR MORE ON THIS CRITICISM.**

(b) **SEE CHAPTER IN *GOD IS GOOD, GOD IS GREAT* BOOK**

(c) **SEE PAGE 52-57 OF LENNOX’S BOOK *GOD’S UNDERTAKER.***

(ii) Response by the Darwinist:

(a) “God is an artifact of the brain”\(^\text{15}\) – Neuroscience professor Dr. Michael Persinger

(b) “…the irrationality of religion is a byproduct of the built in irrationality mechanism in the brain.”\(^\text{16}\) – Richard Dawkins

(c) Common ancestors with those capacities for innate beliefs had an advantage.

(d) There is a gene that causes the need for these features.

(e) Evolution has shaped our mind because it brought a competitive survival advantage.

(f) The evidence that religion is hard-wired into the human mind by evolutionary caused traits known as

\(^{14}\) This entire discussion can be found in Michael J. Murray’s article “Evolutionary Explanations of Religion” in *God is Great, God is Good* (Downers Grove, IL: Intervarsity Press, 2009), page 90-104.

\(^{15}\) Ibid.

\(^{16}\) Ibid.
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(i) Adaptations: religion is necessary to survive in the face of disunity amongst a community. So religion is an adaptive feature of evolution as unity gives a survival tactic and advantage. Groups are necessary for an evolving society. People who go against the group out to be punished. Groups that engage in religion will be able to survive despite environmental pressures and reproduce. We make up God because it helps keep everyone in line in the group. We join religious groups to signal or show that we are all in – even if it costs us all that a religion demands.

(ii) Spandrels: religion is a byproduct of other adaptive traits. In evolutionary theory, some random traits are necessary and some are byproducts. Good ideas of culture are transmitted but can get screwed up in the process. Some ideas catch on and stick. Religious beliefs are those that just caught on and stuck. Religious beliefs are byproducts that won’t go away.

(iii) Exaptations: religion is a spandral that became important. Religion is a byproduct that turns out to have some later useful function or a harmful effect (this is what the new Atheists believe).

(g) Overall, it is reasonable to think that human minds are predisposed to have a natural affinity for religion.

(iii) Response by the critics of evolution:

(a) Grant that this is true for the sake of argument...a natural
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disposition to believe something does not make that belief incorrect.

(i) That is, a logical fallacy known as genetic fallacy which says that it is illogical to reject a proposition based on the method of the origin of that proposition.

(ii) For example: if a dog were to make howling noises that somehow sounded out as $2 + 2 = 4$. One should not reject the truth of the proposition just because it came from a untrustworthy audible noise. The proposition still may be true based on other reasons.

(iii) Another example: if a cloud formation spelled out “an apple a day keeps the dr. away”. One should not reject the truth of the proposition just because it came from a untrustworthy visual display. The proposition still may be true based on other reasons.

(iv) There is sound evidence and reason for belief in God and minds can and do consider this then believe.

(v) So the origin of the belief in this respect does not matter.

(vi) One must show that the proposition is false or incorrect with evidence and reason. Or one can show that the proposition is true with evidence and reason.

(b) Moreover, innate beliefs of other things aren’t bad just because they are innate.
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(i) We innately believe that other people have minds.

(ii) We innately believe that $2 + 2 = 4$.

(iii) We innately believe that agents can be causal.

(iv) So why is innate belief in God not acceptable?

(v) Natural belief in God is natural.

(vi) Theologian John Calvin agreed in this awareness of Divinity.

(vii) It is acceptable to believe that God created minds to believe in God.

(c) The science of adaptations and spandrels is an extrapolation from micro-evolution conjoined with a Neo-Darwinist paradigm for understanding human behavior. This is more speculation than science.

8) Criticism #8: The Evolutionist’s implication of the Darwinian mechanism is that God is not real as we have an alternative explanation of life’s origination/development. Criticism #8 of this implication: Even if the Darwinian mechanism exists, this does not replace the Agent.\footnote{John Lennox, \textit{God’s Undertaker: Has Science Buried God?}, (Oxford: Lion Publishing, 2009); see also John Lennox debate with Richard Dawkins at the Natural History Museum in Oxford on October 21, 2008 and Lennox subsequent lectures.}

(a) The existence of a mechanism does not replace an Agent designing or causing the mechanism.
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(b) Agent is an explicator in a way that mechanism cannot be.

(c) We cannot go around and say that we see a mechanism so we don't have an agent. Looking at a car engine of a Ford F150 truck (best selling truck in the last decade), then realizing the process known as an assembly line, one does not conclude that there was no Henry Ford who designed the engine and the process of the assembly line for the Model T.

(d) An agent is easily inferred as designer of the process of evolution and creator of it. This view is known as theistic evolution which will be discussed in detail below.

(e) While this isn’t a criticism of evolution, it shows that even if evolution did cause the species, etc. It doesn’t show that an Agent didn’t design and create the mechanism.

(ii) Response by the Evolutionist (Richard Dawkins)

(a) The whole idea of evolution is that it explains the process without the need for a Creator/Designer. This is a superfluous idea and is not necessary.

(b) When one notices an apple fall from the tree and discovers it did so due to the cause and mechanical force of gravity, one doesn’t infer an invisible agent pushed it down.

(c) Who created God? The explanation that God did it is too complicated for Dawkins and Atkins. According to them, God is an extraordinarily complex being. Dawkins wants to follow Okham’s razor (do not multiply entities unnecessarily) here.
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and state that God is an non-necessary entity thus he is not needed in the explanation. It turns out that this is Dawkins best objection to the whole design hypothesis.

(iii) Response by the critic of evolution (John Lennox and William Lane Craig):

(a) Yes, but the process doesn’t rule out an Agent designer/creator.

(b) The process points more clearly to their being a designer/creator than a natural cause of the design/creator.

(c) “Atkins and Dawkins fail to distinguish between mechanism and agency. In philosophical terms they make a very elementary category mistake when they argue that: because we understand a mechanism that accounts for a particular phenomenon, there is no agent that designed the mechanism.”

(d) Lennox goes on to say that just as the words Henry Ford wouldn’t be written in a purely scientific description of the laws of internal combustion, so we wouldn’t expect “God” to be written in a purely scientific description of a scientific law or mechanism. But this does not imply that Henry Ford did not exist. Neither does it imply that God doesn’t exist.

(e) Just because we can understand the mechanisms without making reference to God doesn’t mean he didn’t create the mechanisms. God is an agent, which is an entirely different entity than a mechanism. So an assertion to non-existence, is non sequitur (does not follow).

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(f) God is an uncreated being! He is eternal and has always existed. To create, he must have been beyond time.

(g) If the evolutionist claims that the universe created himself, than one can easily ask “What created the universe?” This is the point as their question: “Who created God?”

(h) At this point, the discussion shifts into astrophysics – which we will get into below – where the Naturalists attempt to explain the origin of the universe by natural unguided causes/processes.

(i) But, “in order to recognize the explanation as the best you don’t need to have an explanation of the explanation.”¹⁹

(j) Okham’s razor does not apply because an explanation is required and is not multiplying entities unnecessarily. God is a single entity and is an explanation.

(k) Also, Okham’s razor is to be applied as a common sense tool to explain things, not show the truth of 1 view over another.

(l) Dawkins and Atkins state that because God is (allegedly) complex, that this explanation is not really an explanation. But, this doesn’t follow. Just because an explanation is just as complex as the process of evolution (which I thought was a simple explanation), doesn’t mean it lacks explanatory power and explanatory scope.²⁰

¹⁹ William Lane Craig, “Richard Dawkins on Arguments for God”, God is Good, God is Great (Downers Grove, IL: Intervarsity Press, 2009).
²⁰ Ibid.
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(m) God is not a complicated being. Theology teaches us of the doctrine of divine simplicity.\(^{21}\)

(n) So, the response by the evolutionist fails to dismiss an Agent who may have designed and created the process of evolution (which as noted above has several other unresolved criticisms).

ii. Conclusion to the validity of evolutionary theory: It seems that Darwinian evolution has its issues and the responses from the evolutionist are lacking.

   a. It does not account for all of the appropriate features of life and the origin of life.

   b. It does not adequately account for the Cambrian Explosion.

   c. Therefore, evolution is insufficient as a robust or holistic theory.

iii. Conclusion:

   a. The theory of evolution has problems that show it is unsatisfactory.

   b. Based on the evidences of specified complexity and irreducible complexity in the cell, we can logically infer design!

\(^{21}\) Ibid.
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<td>Other Precambrian Periods</td>
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1. **ID is inferred in Classical Physics when observing the transparency and beauty of the universe.**

   i. Introduction: When considering the universe, one is called upon to continue to ask questions. How? How? How?

      a. This is the industry of physics.

      b. In physics, we ask and seek to understand how the universe works.

      c. So over time, we have asked the how questions and have discovered fascinating answers!

      d. As time passes and physics continues to reveal a world to us that is awe-inspiring, we have forgotten the 2\textsuperscript{nd} question of the curious mind:

      e. We have asked:

         1) ‘What naturally causes the physical features of the universe?’

      f. We have forgotten to ask:

         1) ‘Are the physical features of the universe only natural?’

      g. It seems that the curious types would be intellectually unsatisfied to stop at the 1\textsuperscript{st} question.

      h. Could anything else be said of physical reality that does not describe it in natural terms, but is still true of nature itself?

      i. That is, what non-natural descriptions, if any, are true of the physical universe?

      j. Another way to ask this is: What properties does the physical universe exemplify that are non-natural?
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k. Physics reveals and describes nature, but is there more to nature that physics cannot reveal and describe that is still true of the nature?

ii. Yes, there are in fact properties true of the physical universe that are non-natural but still true of the natural state of affairs.

iii. What we find is that “Science does not explain the mathematical intelligibility of the physical world.”

a. Quantum Physicist John Polkinghorne says this non-natural property that science cannot describe is “Mathematical intelligibility” which will be referred to as the transparency of the universe.

b. Transparency could be thought of as:

1) comprehensibility

2) rational intelligibility

c. That is, the universe is transparent, comprehensible, and rationally intelligible to us.

iv. Another non-natural property of the universe is its beauty.

a. Beauty can be said to ‘emerge from’ or ‘supervene on’ the physical universe.

b. That is, beauty is not something that physics can describe but is based on the same physical universe.

v. Both transparency and beauty are true of the physical features of the universe but are non-natural properties.

vi. Overall, the physical state of affairs of the universe possesses the non-natural

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properties of beauty and transparency.

vii. So far, I have only just asserted these non-natural properties are in the universe. I still need to argue that this is the case.

viii. Goal: We are seeking to answer these questions:

a. Is the universe transparent?

b. Is the universe beautiful?

c. If so, what theory best explains the cause of the transparency and beauty of the universe.

ix. The argument is simply this:

a. The universe is transparent.

b. The universe is beautiful.

c. Intelligent Design is inferred as the best explanation (as other explanations are inadequate) of these features of the universe.

d. In Naturalism, one would not expect to find that the universe is transparent or beautiful.

x. Background: Getting Familiar with Physics

a. Physics is something from everyday life. It’s everywhere:
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1) Magnets on fridge.
2) Car’s heat and sparks.
3) A.C. units.
4) Every structure.
5) Light from the tv.
6) Sound from our boom box.
7) My job.

b. Interestingly, we can realize the parallels between physics and the supernatural realms.

1) Forces from supernatural realm move us spiritually.
2) Forces from natural realm move us physically.

c. Branches of physics

1) Classical physics: what we experience everyday. Constant properties, normal behavior, etc.
2) Microscopic physics: behavior of particle change from the classical notion.
3) Cosmological physics: behavior of fields, space, time, etc change from the classical notion.

d. Specific areas of physics are:

1) Mechanics
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(i) Motion

(ii) Work & Energy

(iii) Momentum

(iv) Fluid Mechanics

2) Waves

(i) Wave motion

(ii) Sound waves

(iii) Superposition and standing waves

3) Thermodynamics

(i) Temperature & heat changes & 1st law of thermodynamics.

(ii) Kinetic theory of Gases

(iii) Entropy & 2nd law of thermodynamics.

4) Electromagnatism

5) Relativity theory

6) Quantum physics

xi. The universe is transparent (comprehensible and intelligible).
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a. Albert Einstein “The most incomprehensible thing about the universe is that it is comprehensible.”

b. It turns out that we can formulate mathematical equations to describe the behavioral phenomena of the world/universe.

c. These are the equations of physics.

d. These equations are models of what is happening in the actual universe.

e. “As the example of Newton’s theory shows, it is not only the fact that the universe is intelligible which is amazing; it is the mathematical nature of that intelligibility which is remarkable.”

f. They are a window to the mechanisms and systems of the natural order.

g. Newton's law of universal gravitation (Isaac Newton)

1) \[ F = \left( \frac{G m M}{r^2} \right) e, \]

2) where \( m \) and \( M \) are the masses of the two bodies, \( r \) is the distance

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between the two, and \( \mathbf{e} \) is a unit vector directed from the test mass to the second.

h. **Newton's laws of motion (Isaac Newton)**

1) *Newton's first law of motion*

   (i) A body continues in its state of constant velocity (which may be zero) unless it is acted upon by an external force.

2) *Newton's second law of motion*

   (i) For an unbalanced force acting on a body, the acceleration produced is proportional to the force impressed; the constant of proportionality is the inertial mass of the body.

3) *Newton's third law of motion*

   (i) In a system where no external forces are present, every action force is always opposed by an equal and opposite reaction force.

i. **Maxwell's equations (J.C. Maxwell; 1864)**

1) Four elegant equations which describe classical electromagnetism in all its splendor. They are:

2) *Gauss’ law*

   (i) \( \text{div} \, \mathbf{E} = \rho \),

   (ii) where \( \rho \) is the charge density.

3) *Gauss’ law for magnetic fields*

   (i) The magnetic flux through a closed surface is zero; no magnetic
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charges exist. In differential form,

(ii) \( \text{div } B = 0 \).

4) **Faraday's law**

(i) Integral \( E = -\frac{dB}{dt} \),

(ii) where \( \frac{d}{dt} \) here represents partial differentiation.

5) **Ampere's law, modified form**

(i) Integral \( H = J + \frac{dD}{dt} \),

(ii) where \( \frac{d}{dt} \) here represents partial differentiation.

j. Faraday's laws of electromagnetic induction (M. Faraday)

1) Faraday's first law of electromagnetic induction

(i) An electromotive force is induced in a conductor when the magnetic field surrounding it changes.

2) Faraday's second law of electromagnetic induction

(i) The magnitude of the electromotive force is proportional to the rate of change of the field.

3) Faraday's third law of electromagnetic induction

(i) The sense of the induced electromotive force depends on the direction of the rate of the change of the field.

k. **Einstein field equation**

1) The cornerstone of Einstein's general theory of relativity, relating the
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gravitational tensor $G$ to the stress-energy tensor $T$ by the simple equation

2) $G = 8\pi T$.

1. Event Horizon

   1) The radius of the event horizon, $r$, for generalized black holes (in geometrized units) is

   2) $r = m + (m^2 - q^2 - s/m^2)^{1/2}$,

   3) where $m$ is the mass of the hole, $q$ is its electric charge, and $s$ is its angular momentum.

m. These equations are our view of the world/universe and give knowledge of the universe.

n. YES! The world/universe is transparent to us and not closed off from our grasp.

o. We actually have the capabilities to know it and understand it for some reason…

p. We are on a privileged planet to view the world/universe.

q. We can view it.

r. This is itself amazing.

s. What would a closed universe look like? Let’s consider a closed opaque universe:

   1) One would never seem to get far in his research…after the thousands of years of humanity, we would most likely be stuck in what we would consider pre-historic times still playing with fire.

   2) So our technology that we enjoy so much (e.g., the atheist rocking out to his music on his ipod at the gym), is dependent on the fact that the
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universe is not closed.

t. There have been many physicists who have come along and made scientific breakthroughs because they were able to reach into the universe and pull something out.

u. So, we can say that we have access to see and understand the universe through physics. Thus, it is transparent to us.

xii. The universe is beautiful (objectively recognizable).

a. I have yet to come across a person who thinks the world/universe is not beautiful.

b. Beauty is all around and can be said to ‘emerge from’ or ‘supervene on’ the universe.

   1) Beauty is an objective property of the universe.

   2) The universe possesses the objective property of beauty.

   3) Something is objectively beautiful when there are no minds that consider it or view it, its beauty is still there.

   4) In other words, objective beauty is not dependent on personal or subjective judgments but is true of the phenomena.

   5) In this sense, beauty is not in the eye of the beholder.

   6) Entities are objectively beautiful because they exemplify the universal property of beauty.
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7) This beauty seems to point to something beyond ourselves as we are not the givers of the beauty but the discoverers of it.

8) Not all parts of the universe are objectively beautiful and not all parts or creatures of the earth are objectively beautiful, but as a whole, one could say that the universe exemplifies beauty.

   (i) Some say that bugs or sea creatures are ugly and disgusting.

   (ii) But this is much less than 1% of the universe.

c. Who denies the beauty? I have never met anyone.

   1) When considering reality as a whole, people agree that the universe is beautiful.

   2) This lack of denial speaks loudly to the fact that the beauty is powerfully present and well understood.

d. We also see beauty in another aspect as beauty is in the physics that reveals the beauty of the world. (Note that only some apologists argue this and others do not)

   1) Beauty is also found in the equations of physics, which are in fact a window to the beautiful world.

   2) The equations are beautiful in form and function, in arrangement and effectiveness.

   3) They possess an intrinsic qualities satisfying the beauty criteria.

   4) Physicists actually have a method in their research to try to find the most beautiful equation or the simplest equation. Not only because it is elegant as a simple entity but the beautiful equations have proven over time to yield the most fruitful results that explain reality the best. So physicists
look for beauty and simplicity.

5) Beauty Criterion (Paul Dirac 1902 –1984)

(i) The idea that the more aesthetically pleasing a theory is, the better it is. Naturally this criterion does not stand up to the real test - whether or not predictions of a given theory agree with observational tests - but considering that it is a purely aesthetic quality that is being tested, many of the most successful theories (special relativity, general relativity, quantum electrodynamics, etc.) match the criterion particularly well.

6) Occam's razor (William of Occam 1340)

(i) The suggestion that the simpler a theory is, the better. If two theories predict phenomena to the same accuracy, then the one which is simpler is the better one. Moreover, additional aspects of a theory which do not lend it more powerful predicting ability are unnecessary and should be stripped away.

7) And it turns out that gravity is in fact a beautiful formula rather than a long equations full of awkward terms and fudge factors.

8) If long and containing many fudge factors it would lose the property of simplicity and represent chaotic developments of the universe rather than order.

9) It would seem that it is just a bunch of junk that we discovered and would make scientific progress extremely difficult.

10) But could we even have discovered something so splattered and funky? Probably not….so it seems that there is a connection with beauty and recognizability.
11) That is, **something is usually recognizable when it is beautiful**.

12) E.g., symmetry is recognizable and something that is symmetric is also usually beautiful.

13) E.g., a painting: Classical art as opposed to modern art reflects clear lines and edges and realistic expressions on people’s faces can be noticed. People, places, objects, such as a sitting Mona Lisa, or a Divinci’s last supper gathering of men at a Table, or a Rembrandt’s prodigal son, can be noticed and pointed to and identified and categorized and when there are clear depictions of reality. This easily recognizable art can be easily said to be beautiful.

14) Whereas modern art seems to be more open to interpretation where there are distorted faces perhaps painted in only a couple colors or a depiction of a sunset with abstract colors that don’t relate to a sunset at all and could look like anything at all. In this sense, the modern art seems unrecognizable and is usually ugly.

15) The same is true for the math of physics, it describes what is real in a **recognizable** way to us and this same math is also said to be beautiful.

16) Interestingly, it seems that what is recognizable is beautiful.

17) Beauty is recognizable and what is recognizable is beautiful.

18) This recognizability points to an intriguing feature in us and in the world.

   (i) Feature #1: beauty is a contingent (non-necessary) property of the universe.

   (a) It didn’t have to be this way. It could have been ugly.
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(b) Ugly and randomness seems to be expected if Naturalism is true.

(ii) Feature #2: we have the contingent (non-necessary) ability to recognize beauty.

(a) We can see things with eyes, eyes that are not necessary.

(b) We can make the connection with a processing capability in our minds, which is also not necessary.

e. Overall, in 2 different respects, we recognize beauty

1) in the physical universe.

2) in the math of physics.

xiii. What is the best explanation of the cause of the transparency and beauty in the universe?

a. What we have shown is that the universe is transparent and the universe is beautiful.

b. The logical question is “How did this come to be this way?”
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c. Famous cosmologist Roger Penrose: “There must be instead some deep underlying reason for the accord between mathematics and physics.”

d. What is the best explanation?

e. Possible inference options:

1) Physical Necessity: natural causes

2) Chance: natural causes

3) Intelligent Design

f. We are arguing that the inference to intelligent design is a valid inference in explaining these features.

g. Additionally, we are arguing that the inference to physical necessity or chance are inferences but are inadequate in comparison.

1) “Physical necessity”

(i) This view states that as natural causes created the physical universe, these properties were determined. That is, they must have existed out of necessity.

(ii) But, it doesn’t seem to be very rational to conclude that 2 contingent features of the universe are necessary.

(iii) That is, it could have been otherwise. The universe could have been opaque and ugly. These are contingent (non-necessary) properties.

(iv) So, to conclude that 2 contingent features are necessary is

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contradicting one-self - as if someone is saying that bachelors are married.

(v) Contingent properties are not necessary.

(vi) Thus, physical necessity is not a valid inference.

2) “Chance”

(i) This chance explanation states that there is a chance that these features of the universe exemplify the properties of transparency and beauty as a result of physical processes alone.

(ii) But, it seems highly improbable that transparency and beauty would be found all over the universe.

(iii) If only certain parts of the universe are transparent and beautiful, this explanation would seem more feasible.

(a) That is, if say 50% of the universe is transparent and beautiful, than the probabilities are higher that natural causes alone would create physical conditions that would exemplify these properties here and there throughout the universe.

(b) But, if 99% of the universe is transparent and beautiful, than the probabilities are much lower that natural causes alone would create physical conditions that would exemplify these properties all over the universe.

(c) The more universe we see that is transparent and beautiful, the less of a chance that it was caused by natural processes alone.

(iv) As physics progresses, we are finding that all parts of the
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universe are transparent and beautiful.

(v) So, it is possible but highly improbable that transparency and beauty is caused by natural processes as it is exemplified everywhere.

(vi) Thus, the chances of transparency and beauty happening all over the universe are extremely low.

(vii) The lower the probability of a cause producing an effect, the less that explanation satisfies.

3) So far, out of the options available to us:

(i) Physical Necessity: invalid.

(ii) Chance: possible but highly improbable.

(iii) Intelligent design: best.

h. Intelligent design.

1) Transparency and Beauty in the universe point towards **intelligence** and **design**.

2) Intelligent design makes sense of the transparency (comprehensibility and rational intelligibility) and beauty (objectively recognizable) in the universe.

3) It seems that one can infer that the transparency (comprehensibility and rational intelligibility) and beauty (objectively recognizable) found in the universe are grounded in the nature of a transparent (comprehensible and rational intelligible) and beautiful (objectively recognizable) mind that created them.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

4) Physics and the real universe which physics describes can be traced to an originating intelligence that created both the universe and the mind to know it.

5) If the Christian worldview were true, we would expect to see God create a beautiful universe endowed with all sorts of amazing properties.

6) What do we find when we observe the universe?

7) Exactly that. A beautiful universe endowed with all sorts of amazing properties.

8) That is, the beauty we see is evidence of what the Christian worldview predicts.

9) This satisfaction of the prediction, lends additional credibility to the idea that the Christian worldview describes reality accurately.

xiv. Conclusion:

a. The chance and physical necessity explanations are inadequate to explain the transparency and beauty in the universe when compared to intelligent design.

b. Thus, one can conclude - based on the comparative explanations - that intelligent design is the best explanation.
1. **ID is inferred in Astrophysics when observing the finely tuned universe.**

i. In terms of the spread of human existence across time, only just recently have we been able to see the details of what the universe has been showing this whole time.

ii. Those alive right now, at this moment in history, are alive at a time when we can finally see the universe transparently and know the cosmos beyond the mythical projections of primitive cultures. The physics we have at our disposal have allowed this.

iii. **The initial conditions of the universe at the event of the big bang were so precise and perfect that certain features would obtain. This is called the fine tuning of the universe.**

   a. If you can think of the operation of a car, it needs to have a certain gear shaft, pistons, transmission, spark plugs – they all have to be firing at the right frequencies…if the timing of the firing of the spark plugs and the transmission is off, the car will mis-fire. So the car is considered to be out of timing and we need to get the timing belt adjusted. Thus, it is out of tune.
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

b. A more easy example is a guitar. They come out of tune all the time…in fact, if you left a tuned guitar to sit for a year or 2, like mine has, the guitar will not over time become more in tune. If it is out of tune during the moment of a concert, the people will notice that this is not right and it will clash with the other instruments. That is, in order for the guitar to sound good, the strings need to be pulled to such a tension that when they are struck, they actually oscillate at a frequency that makes it easy to listen.

iv. So it is the same with the universe. The physics mentioned before must be in place for a tuning to the key of life, if you will.

a. Without this tuning, other features would clash and thus create conditions where life is unbearable or impossible.

b. It seems as if the universe and Earth were finely tuned to a perfect setting. It was tuned to be in perfect resonance and harmony with all other interacting phenomena (like with other instruments in a concert).

1) When tuning a guitar, you can buy a cheap tuner and spend 30 seconds tuning it. Or you can get a good tuner, and spend the time to get it just right.

c. As we will see, the precision of the tuning of each and every feature is incredible.

v. Fine-Tuned Universe

a. Fine-Tuned Universe: The universe has a large number of parameters with values and observed features that are finely tuned to accommodate life.

b. Cosmological Constants

1) The actual values assumed by the constants are such that small deviations
from those values would render the universe life-prohibiting.

2) The actual values of the constants could have been otherwise, that is these are contingent features of this universe and they are not necessary to this universe. They could have been different, say 1% higher or 5000% lower than what they are.

3) Here are some:

(i) Gravitational constant

(a) If the gravitation constant were slightly larger, stars would be too hot and burn too quickly for life to form.

(b) If slightly smaller, stars would be too cool to produce nuclear fusion which would prevent the production of the heavy elements necessary for life.¹

(ii) Isotropy: uniform matter & anti-matter in space

(iii) Velocity of light: amount of radiation

(iv) Electromagnetic force: chemical bonding

(v) Strong nuclear force & Weak nuclear force: atom/element building

(vi) Expansion rate of universe: galaxy/star formation

(a) A life-bearing universe should not expand too rapidly or too slowly.

(b) The universe we find has been expanding and at a rate that was

Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

greater than the acceleration of gravity but not at a rate so fast that the planets would not orbit around stars and receive heat.

(vii) Mass density of the universe: expansion/crunch

4) There are 7 of them in this list.

5) Astrophysicist Hugh Ross documented 140 cosmological constants.

6) That is, if any of these 140 cosmological constants of the universe were slightly different, life would be impossible.²

c. Observed Features of the universe and our planet.

1) Ross individually describes the effects of varying any single observed feature of the universe or features of the earth.³

2) He describes 402 observed features of the universe and our planet such as:

(i) the distance from parent star,

(ii) parent star magnetic field,

(iii) date of star formation shutdown in the galaxy,

(iv) amount of buildup of heavy elements in the galaxy,

(v) flux of cosmic ray protons,

(vi) rate of atmospheric dust deposition into the oceans,

² E.g., the tuning was to a resonance at precisely the right energy that allows the addition of the next alpha-particle to take place so quickly, catching the beryllium before it disappears. If the laws of nuclear physics were a little different, the resonance would be at the wrong energy. Deviating slightly would disrupt the continuing constants of the universe which allowed life to obtain.
³ Hugh Ross, Why the Universe Is the Way It Is, Appendix C
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(vii) quantity of soil sulfur,

(viii) etc. to 402.

3) If any of these 402 were different, we wouldn’t have a planet capable of sustaining life.

vi. Features of the Earth allowed life

a. We have an extremely unique Earth.

b. Our planet is still very unique even though over 600 extra solar planets have been discovered.

c. Considering our relationship to the sun, only 10% or more of sun-like stars that are out there could even support planetary systems. So, we have a unique position next to a life supporting star.

d. The best planet to be on is ours - because it’s the only one with the right life-sustaining features:

1) Distance from Sun, temperature ranges are perfect for life.

2) Size, gravity

3) Water cycle: vapor, liquid, solid

4) Thickness of crust

5) Rotation rate

6) Axial tilt, seasons

7) Magnetic field
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8) Moon

9) Atmospheric pressure and composition

e. Again, different features of our Earth would make life impossible.

vii. What best explains this fine-tuning and observed features of the universe?

a. Design

   1) This is the best explanation.

b. Physical Necessity

   1) Can’t be this because it could have been otherwise. That is, the observed features of the universe and the cosmological constants are contingent.

c. Chance

   1) We will examine chance now.

d. Other options:

   1) Changing Parameters over time

   2) Multiverse

   3) Bounce Hypothesis

   4) Black Hole Created Universe

   5) Boundless Finite Universe

   6) We will examine these after we look at the chance hypothesis.
viii. **What are the chances of getting a planet like ours? – Chance Hypothesis**

a. All of our space exploration has shown that our neighbors in space are not remotely capable of sustaining life of any complexity.

b. The probability for 9 life-supporting design characteristics existing in one of the traditional 9 planets of our own solar system: 1 in 50 million. So, other solar systems will have this same improbability to beat.

c. Astrophysicist Hugh Ross has spent decades documenting all of the variables of the universe and the conditions required for life to obtain. In his calculations, he references over 650 scholarly academic journal articles and books.⁴

1) How probable is a planet capable of sustaining bacteria?

   (i) 501 parameters relate to the probability that bacteria can be sustained for a few months on a planet.

   (ii) Based on the probability that each of the 501 individual parameters falls within its required range for this occurrence, the chance that ALL parameters occur exactly in their required range: \( p = 1 \text{ chance in } 10^{311}. \)

   (iii) That is, there is 1 chance in \( 10^{311} \) that a single planet anywhere in the universe would be able to sustain bacteria for a few months.

2) How probable is a planet capable of sustaining a cell?

   (i) 676 parameters relate to the probability that unicellular life can be sustained for 3 billion years on a planet.

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⁴ Hugh Ross, *Why the Universe Is the Way It Is*, Appendix C
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(ii) Based on the probability that each of the 676 individual parameters falls within its required range for this occurrence, the chance that ALL parameters occur exactly in their required range: \( p = 1 \text{ chance in } 10^{556} \).

(iii) That is, there is 1 chance in \( 10^{556} \) that a single planet anywhere in the universe would be able to sustain unicellular life for 3 billion years.

3) How probable is a planet capable of sustaining advanced life?

(i) 816 parameters relate to the probability that intelligent physical life in a globally distributed high-tech civilization can be sustained.

(ii) Based on the probability that each of the 816 individual parameters falls within its required range for this occurrence, the chance that ALL parameters occur exactly in their required range: \( p = 1 \text{ chance in } 10^{1032} \).

(iii) That is, there is 1 chance in \( 10^{1032} \) that a single planet anywhere in the universe would be able to sustain intelligent physical life in a globally distributed high-tech civilization.

4) How probable is a galaxy cluster that can meet the requirements to sustain advanced life?

(i) 99 parameters \( \Rightarrow p = 1 \text{ chance in } 10^{53} \) that this type of galaxy cluster exists.

5) How probable is a galaxy that can meet the requirements to sustain advanced life?
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

(i) 200 parameters \(\Rightarrow p = 1\) chance in \(10^{135}\) that this type of galaxy exists.

6) How probable is a star that can meet the requirements to sustain advanced life?

(i) 140 parameters \(\Rightarrow p = 1\) chance in \(10^{108}\) that this type of star exists.

7) How probable is a planetary system that can meet the requirements to sustain advanced life?

(i) 137 parameters \(\Rightarrow p = 1\) chance in \(10^{112}\) that this type of planetary system exists.

8) How probable is a planet that can meet the requirements to sustain advanced life?

(i) 268 parameters \(\Rightarrow p = 1\) chance in \(10^{281}\) that this type of planet exists.

9) How probable is a planet’s surface that can meet the requirements to sustain advanced life?

(i) 137 parameters \(\Rightarrow p = 1\) chance in \(10^{106}\) that this type of planet’s surface exists.

10) How probable is a planet’s ecosystem that can meet the requirements to sustain advanced life?

(i) 159 parameters \(\Rightarrow p = 1\) chance in \(10^{390}\) that this type of planet’s ecosystem exists.

d. Overall, we see that to get a planet like ours, in a planetary system like ours, in a
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

- galaxy and galaxy cluster like ours, is very very very low.
- It is highly unlikely that we are the result of chance.
- Much more easily inferred is that we exist and are sustained due to a divine mind.

ix. Many famous Astronomers and Astrophysicists agree that there is fine tuning:

a. “A superintellect has monkeyed with physics, as well as with chemistry and biology” – Sir Fred Hoyle, astronomer, *The Universe*

b. “As we survey all the evidence, the thought insistently arises that some supernatural agency—or rather Agency—must be involved.” – George Greenstein, theoretical astrophysicist, Amherst College, *The Symbolic Universe*

c. “The impression of design is overwhelming...It seems as though somebody has fine-tuned nature’s numbers to make the Universe.” – Paul Davies, physicist, *The Cosmic Blueprint*

d. So, we see fine-tuning of the universe is also agreed on by top-notch secular scientists.

x. What is the anthropic principle?

a. There is a long and growing list of universal parameters (by some accounts, over 300) whose magnitudes must fall within a very narrow range of values in order for life to exist anywhere in the universe. These contingent cosmological constants could be anything within any wide range of values. They could have been slightly off the numbers that they are. There is no scientific or necessary reason why the way they are.
b. The critic of I.D. or the naturalists says that nothing forced them to be these particular numbers, they just happened to be that way. We were in a sense lucky to be alive in such a universe.

c. The I.D. person would say that yes they could have been different but the fact that they are not different is too uncanny. It seems someone set them at their values to allow life.

d. What we are getting into has been categorized and defined as anthropic principle.

e. That the cosmos was pregnant with the potentiality for life at the big bang.

f. But, not only life in a primitive life form sense, life of the advanced kind.

g. That is, the conditions were so perfect that intelligent rational creatures would be able to thrive and advance.

h. It seems that intelligent life who could observe the universe was ‘in mind’ at the initial creation event and in the expansion of the universe.

i. Atheists can’t explain why it is possible for us – how we got an intellectual ability, prime location, perfect conditions - to understand the universe.

j. Whereas, Christians have a great explanation for our ability to understand, a supreme intellect designed and fine-tuned a universe and earth to allow advanced life.
k. Our planetary location is prime to make these observations.

1) When we say prime location, we are referring to the location of our privileged planet to view the universe on the arms of the solar system, not blocked by space dust and other meteors.

2) This is referring to our intriguing position to study the universe and be amazed at its beauty. A position that allows us to see just how privileged and unique we are.

3) So, again we can ask: how did we get on this planet that is positioned so perfectly to realize our perfect position?

4) It seems clear that we were the planet was placed in this location and we are alive today because of a purpose.

l. The anthropic principle can be sometimes confusing depending on who you read.

m. Intelligent Design version of the Anthropic Principle:

1) We are surprised to learn that the conditions necessary for life are so vastly improbable. It is pure design that our universe has these precisely perfect conditions for life.

2) One should be surprised, because if these conditions weren’t precisely perfect, we wouldn’t be alive to wonder about it.

3) It is surprising that such an anthropic universe exist at all.\(^5\)

a. Naturalist versions of the Anthropic Principle:

1) Naturalists hold that we are products of the universe, “animated stardust.”¹

   (i) “*We, who are children of the universe – animated stardust – can nevertheless reflect on the nature of that same universe, even to the extent of glimpsing the rules on which it runs.*”²

2) The Naturalists hold that we are able to grasp secrets of the Universe and crack its cosmic code but are inescapably and intimately linked to it.

3) However, it is clear that even if we are a product of the universe, we are still in some way and somehow better than it. This was clear several hundred years ago to Christian philosopher and mathematician Blaise Pascal,

   (i) “*Man is the feeblest reed in existence, but he is a thinking reed...though the universe were to destroy him, man would be more nobler than his destroyer, for he would know that he was dying while the universe would know nothing of its own achievement.*”³

4) This concept of the Universe birthing us still must account for our ultimate superiority over matter...which it doesn’t seem to do.

5) But the Naturalists form the following versions of the anthropic principle:

   (i) If the universe were not fine-tuned to allow for life, then humans would not be here to observe it. Thus, they claimed, the fine-

² Ibid.
³ Blaise Pascal, *Pensees* 1:6
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tuning requires no explanation.

(ii) If our universe is special, it is only special to the point that we exist as privileged observers, but beyond that, it is not special.

(iii) “Features of the universe which appear to us astonishingly improbable, a priori, can only be judged in their correct perspective when due allowance has been made for the fact that certain properties of the universe are necessary if it is to contain carbonaceous astronomers like ourselves.” (Weak Anthropic Principle)

(iv) Our universe only appears special and the unique. It only seems this way to us. But the specialness and uniqueness we observe are explained away (allegedly) by the following theories…

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Weak Anthropic Principle: The conditions necessary for the development of intelligent life will be met only in certain regions that are limited in space and time. That is, the region of the Universe in which we live is not necessarily representative of a purely random set of initial conditions; only those favorable to intelligent life would actually develop creatures who wonder what the initial conditions of the Universe were, and this process can only happen at certain times through the evolution of any given universe. Strong Anthropic Principle: It implies that if the laws of the Universe were not conducive to the development of intelligent creatures to ask about the initial conditions of the Universe, intelligent life would never have evolved to ask the question in the first place. In other words, the laws of the Universe are the way they are because if they weren’t, no intelligent beings would be able to consider the laws of the Universe at all. Final Anthropic Principle: “Intelligent information-processing must come into existence in the Universe, and, once it comes into existence, it will never die out.”
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

ii. Multi-verse

a. Britain’s Astronomer Royal, Martin Rees has proposed that the Universe is just one of many Universes. There is actually an ensemble of universes, a multiverse. He says, “Countless others may exist in which the laws are different…Once we accept this, various apparently special features of our universe – those that some theologians once adduced as evidence for Providence or design – occasion no surprise.”

b. If there are $10^{229}$ Universes, it’s not highly probable that you get a universe that has the perfect conditions for life.

c. It is the predictability of chance that a universe like ours, one that has the precisely perfect conditions for life, will eventually come about. One should not be surprised that these conditions are precisely perfect for us to be alive to wonder about it.

d. It basically claims that a universe like ours is highly probable to come about eventually. So, it’s not surprising that we our here observing it.

e. It is like winning the lottery. Eventually, chance will make you a winner if you

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keep playing. Winning just happens to someone who plays.

f. Being alive in a universe like ours just happens – we are the lotto winners and no design is required to explain winning the lottery.  

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g. A refutation can be seen by understanding the lottery.  

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h. For the lotto winner to claim a ‘random chance’ win in the lottery, there needs to be other players who could also win.

i. Without the existence of other lotto players, the lotto winner is the sole player and he will win by default, not chance.

j. If there were thousands of other universes out there, than this explanation of the anthropic principle would make sense.

k. But, without the existence of other possible universes, there is no way to claim that we are alive in the one possible universe that allows life out of the many possible universes out there.

l. Since there is no evidence for other possible universes, we cannot claim they exist. Thus, we cannot reasonably compare ours to something that doesn’t exist and claim a random win!

m. Thus, we can reject this high probability anthropic principle.

n. Another famous cosmologist Lee Smolin rejects this view saying that “it makes it possible to explain almost anything, for among the universes one can find most of the other equally unlikely possibilities. To argue this way is not to reason; it is

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Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

simply to give up looking for a rational explanation.”

Also in this view, when it is drawn out fully, confuses the following:

1) True claim: it’s highly probable that observers observe constants in the universe they’re in to be finely tuned.

2) False claim: it’s highly probable that a universe exists with the appearance of fine-tuning that includes observers observing fine-tuning.

That is,

1) It’s true to claim that the observers probably will see fine-tuning for their existence.

2) It’s false to claim that the universe in which anthropic conditions are present is probable to exist.

Thus, this formulation of the anthropic principle confuses the probability of our observation with the probability of the universe. So, this is another reason to reject it.

iii. Changing Parameters Over Time.

a. Perhaps in 1,000,000 years the parameters will change and the conditions for life will no longer be present due to some unknown physical process already at work.

b. Smolin: “it seems nevertheless to be our best hope for a completely rational understanding of the universe, one that doesn’t rely on faith or mysticism.”

c. But again we have no evidence for this.

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9 William Lane Craig, Reasonable Faith, (Wheaton: Crossway, 2008)
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d. Also, there is no explanation of our origins.

iv. Theory of Everything

a. One forthcoming theory that combines electromagnetism, gravity, general relativity, quantum mechanics, etc. will explain physical phenomena we currently observe.

b. A mathematical formula expressing currently understood physics in a way that combines other formulas, doesn’t give an explanation of the origins of the universe.

c. A possible candidate theory is known as the M-theory.

1) “There seems to be no single mathematical model or theory that can describe every aspect of the universe. Instead…there seems to be a network of theories called M-theory. Each theory in the M-theory network is good at describing phenomena within a certain range. Wherever their ranges overlap, the various theories agree.”

2) M-theory is not a single theory of everything as expected but ‘overlapping’ theories that can be grouped together whereas each theory describes and predicts reality within its own scope and fits well within an overall framework (naturalism, etc.).

3) M-theory can include everything even the multi-verse hypothesis:

   (i) “M-theory predicts (includes in its range of theories) that a great many universes were created out of nothing. Their creation does not require the intervention of some supernatural being or god. Rather, these multiple universes arise naturally...”

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Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

from physical law. They are a prediction of science.”

v. Bounce Hypothesis

a. Expansion of the Universe will start to decrease and eventually slow down. Over time the Universe will begin contracting. Eventually, the universe will crash in on itself to an infinitesimal point of infinite density. As such, another big bang will occur. This cycle repeats itself ad infinitum.

b. But again we have no evidence for this.

vi. Black-Hole Created Universes

a. What happened before the big bang? Were there any physical processes or laws at all?

b. Within a universe, black holes suck in stars and a big bang results generating another universe. Each black hole is a potential location for a big bang.

c. Each created universe then creates over time other black holes which suck in their own stars, creating another universe. This process continues forever and universes are generated within and without other universes.

d. Each universe provides its own set of physical natural laws. Thus, the laws of nature are contingent and are mutable depending on what universe you are in.

e. This view was proposed by cosmologist Lee Smolin.

f. “We live instead in a continually growing community of ‘universes,’ each one of which is born from an explosion following the collapse of a star to a black hole...So there never was a God...All there is of nature is what is around

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Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

us...All we have of natural law is a world that has made itself.”

But again we have no evidence for this.

Mathematician and Philosopher David Berlinski, Senior Fellow at the Discovery Institute (the so-called “Hub of the Intelligent Design movement”), rejects Smolin’s theory as a preposterous cosmological myth based in speculative metaphysics with no evidence and will always be unobservable.

1) Belinski says this isn’t science, as science is concerned with truth, not myth.

2) “What law of nature could reveal that the laws of nature are contingent?...when Smolin’s theory is self-applied it self-destructs.” says Berlinski.

3) He says that other physicists like Alan Guth, Roger Penrose, and Martin Rees who applaud these theories are careless and taking their social privileged position too far.

vii. Boundless-Finite Universe

a. Historian of science, Richard Olson at Claremont Colleges says that the optimism of the big-bang creationists “was dealt a substantial blow by Stephen Hawking.” Olson says Hawking’s “argument” differentiates between “large-scale physical phenomena from traditional supports for notions of a transcendent God.”

b. So does Hawking’s theory demolish the idea of a creator behind the big bang

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14 David Berlinski, Was There a Big Bang, Commentary, 105.2 (February 1998)
singularity?

c. World-renowned eminent cosmologist Stephen Hawking proposes that the initial conditions only appear to come from a singularity or boundary. This may be true in real time, however, in imaginary time there is no boundary. When combined with the principle of uncertainty in quantum physics, one can see how the complex entities of the universe are explained.\(^{16}\)

d. Basically Hawking proposes a combined general relativity theory with quantum mechanics.

e. So, he is proposing a finite universe that has no boundary (no beginning or end) as the space time surface is more spherical (finite surface with no boundary) rather than a finite straight line.

f. There are no spatial or time boundaries.

g. Hawking states: *“So long as the universe had a beginning, we could suppose it had a creator. But if the universe is really completely self-contained, having no boundary or edge, it would have neither beginning nor end: it would simply be. What place, then, for a creator?”*\(^{17}\)

h. But even Hawking admits this is just a proposal and must be subjected to verifiable observations to which he states *“This, however, is difficult to determine in the case of quantum gravity...and even then, the problem of extracting predictions remains a formidable one.”*\(^{18}\)

i. So, this theory as well as the possible universe theory have similar challenges, namely, that there is no empirical data available – as Hawking himself


\(^{18}\) Ibid.
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acknowledges. Thus, we can reject this proposal as there is no evidence and it remains conjecture.

j. Additionally, Cosmologist Paul Davies expresses that there are still unresolved issues and questions with Hawking’s theory. His theory falls short of explaining our origins: “for one can still ask ‘Why that loop?’ or even ‘Why does any loop exist at all?’”\textsuperscript{19}

k. Mathematician Berlinski criticizes this as an “absurd scheme to model time on the basis of the complex numbers.”\textsuperscript{20}

1) He calls this an unhappy example of a cosmologist who says anything that pops into his head. “The Physicists carry on endlessly because they can.”\textsuperscript{21}

2) He criticizes Hawking as well as others for not being honest and true to the data that we have. Instead of making up myths, he wants physicists to admit that we just don’t know the secrets of the Universe.

2. \textbf{Conclusion, Intelligent Design is easily inferred in Biochemistry, Classical Physics and Astrophysics.}

i. Thus, one is still intellectually justified in holding that there is intelligent design in the fine tuning of the universe and the atheist’s alternative theories explaining away

\textsuperscript{19} Paul Davies, \textit{The Mind of God: Science and the Search for Ultimate Meaning}, (London: Simon & Schuster,1992). Davies argues that science and human reason fail us. A mystical (non-scientific) experience is required for getting to the Ultimate and have answers to the ultimate questions we ask. Davies has written volumes so it is not easy to pinpoint his thoughts. But, Davies does go on to say that the Universe created us and became alive in us. It generated consciousness and self-awareness. “I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history...We are truly meant to be here.”

\textsuperscript{20} David Berlinski, \textit{Was There a Big Bang}, Commentary, 105.2 (February 1998)

\textsuperscript{21} Ibid.
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the ID version of the anthropic principle as merely appearances fall short.

ii. It turns out that God is the best explanation of the finely tuned universe.

iii. He has the most explanatory power and scope to make sense of the data.

iv. We find so much order, beauty, elegance, and harmony in the universe – and the fact that life exists – this only makes sense when one thinks of a Creator God. These great features of the universe is what we would expect to find and what we’d expect to discover if God exists.

v. Additionally, the fact that we can discover this order, beauty, and harmony seems to imply that it was meant to be discovered.

vi. It seems to be meant for us – at this time in history – for us to see that he is the reality that the equations point to and he is reality that the beauty flows from.

vii. He is the eternal fountain of physics and life.

viii. In this sense, his universe, his earth, is that one in which we live and move and have our being.

ix. So if God exists in the certain ways that Christian Scripture tells us he does, an ordered God and a beautiful God, we ought to be able to confirm it by looking at Creation.

x. So we go look for evidence of his existence. And what have we found? We find evidence of order and beauty.

xi. Just like the Scriptures say he is: ordered and beautiful. He is truly a being of such great mind and power.

a. He surely did not just scribble around with a few colored crayons drawing random
Premise #3: Intelligent Design is inferred as the most plausible explanation of scientific observations.

scratch marks and hope it worked out.

b. No, in terms of art, he is more like a Davinci or Rembrandt than a toddler.

xii. So we are here reminded of the these thoughts:

a. One must ask as Newton did: “Whence arises all that order & beauty we see in the world?” – Isaac Newton, 1650

b. “The heavens are telling the glory of God; and the firmament proclaims his handiwork. Day to day pours forth speech, and night to night declares knowledge.” – King David, Psalm 19:1-2

c. “Ever since the creation of the world his eternal power and divine nature, invisible though they are, have been understood and seen through the things he has made. So they are without excuse…” – Apostle Paul, Romans 1:20
Premise #4: Biblically based Christian views are harmonious with scientific observations.

A. **Premise #4: Biblically based Christian views are harmonious with scientific observations.**

Disclaimer: The instructor of this class may or may not hold to any of these views. You are to be the judge of these views with your rational mind and your abilities. I encourage you to investigate these further and start a life long journey into the Creation account.
1. Old Earth Creationism is a valid position.

i. Introduction

   a. According to this view, the Earth and Universe are very old (several billions of years).

   b. The creation account in Genesis is somehow not completely literal in every aspect.

      1) *Yom* (Hebrew word for day) doesn’t mean a literal 24 hours, rather it is an age or an epoch of time.

      2) A “Day” in Genesis may represents billions of years.

      3) Old Earth Creationism is sometimes referred to as OEC or “Day-Age Views”

   c. This view typically includes these key components:

      1) the Big Bang occurred

      2) God caused the bang as his initial act of creation

      3) God continued to create over time as described in Genesis

   d. Proposed timeline of the Old Earth View:¹

      1) The big bang occurred 13.7 billion years ago

      2) The Earth was formed 4.5 million years ago.

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3) Single celled or very primitive life forms (bacteria) formed 3 billion years ago.

4) Modern Humans were formed less than 100,000 years ago.

e. Scientific support for this view is taken from:

1) Astronomy/Cosmology

2) Chemistry
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3) Geology

4) Biology

   (i) Note that this view doesn’t necessarily entail a belief in evolution.

f. Astronomy/Cosmology

   1) All Old Earth theories agree that the findings of modern astrophysics and astronomy are accurate descriptions of the universe and the widely held position of the scientific community on the age of the universe (14 billion years old) is correct.

   2) Proponents point to the age of individual stars.

   3) Proponents point to the following observations by Edwin Hubble (1889-1953) to help understand the age of the universe.

      (i) Uniformity in the cosmos: observable region is isotropic and homogeneous.

      (ii) When observing distant galaxies from a massive telescope, Hubble observed that a color shift occurs from red to dark red for the fainter galaxies. That is, “red-shifts increase with the apparent faintness.”

      (iii) Fainter galaxies implies farther galaxies. So, “red-shifts increase with distance.”

      (iv) This relationship is linear. The more the red-shift, the further the

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Premise #4: Biblically based Christian views are harmonious with scientific observations.

distance.

(v) He interpreted this red-shift as motion. Red to a violet color meant that it was coming closer and red to a darker red meant that it was receding.

(vi) With a little reserve, he stated: “The nebulae are supposed to be rushing away from our region of space, with velocities that increase directly with distance.”

(vii) Since the universe is uniform, it is reasonable to conclude that red-shifts occur throughout the universe, and that motion of galaxies is occurring throughout the universe.

(viii) Later we stated this phenomena as Hubble’s Law: red-shifts are linearly proportional to its distance and inversely proportional to its apparent brightness.

(ix) Astronomers can quickly point to many places in space where this occurs.

(x) A standard resource for this source of information is in G. O. Abell’s Catalog of Bright Cluster Galaxies.

4) The following observations by Georges Lemaitre (1894-1966) advanced Hubble’s finds.

(i) Lemaitre further developed and advanced Hubble’s findings into a full theory of cosmic expansion.

(ii) The motion of the galaxies that are very far represent an old

3 Ibid.
universe - as motion relates to time.

(iii) It appears that the motion is expanding from an origination point.

(iv) But if it is expanding, what is it expanding from? There must have been a time when it was in a more contract state.

(v) It follows that there must have been an even more contract state.

(vi) So the further back we go, the more mass is concentrated in a tighter region.

(vii) He proposed an original “primal atom” that contained “the whole matter of the world.”

(viii) This atom exploded and the expanding universe is what followed.

(ix) Lemaitre: “*We can conclude that any general process of condensation, occurring in a world where the kinetic energy does not vanish, must induce expansion.*”

(x) This theory became known as the Big Bang Theory.

(xi) It is not necessary to adopt big bang theory for one to be an old earth creationist, however, one must provide an alternative view that explains:

(a) How the universe came to be

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4 Georges Lemaitre, *The Beginning of the World from the Point of View of Quantum Theory*, Nature 127.3210 (May 9, 1931)

5 Ibid.
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(b) The observations of astrophysics and astronomy in relation to this view.

5) Since it is difficult to provide a qualified alternate view, old earth creationists easily adopt the Big Bang Theory.

6) The dominant view for the last 2,500 years was that the universe was eternal. The change in views around 1960 to a Big Bang model represented a seismic shift in the scientific community.

7) Many in the scientific community didn’t want to accept the Big Bang because they didn’t want to accept that the Universe had a beginning as this would leave them with a Beginner.

8) But the evidence for the standard Big Bang model was so compelling and obvious it eventually won the scientific community over.

9) “The shift in scientific opinion, after millennia of opposition, represents the most significant change science can ever make toward biblical philosophy.”

10) Now much of the scientific community and the people on the street attempt to postulate alternative ways the universe may have begun (see last class notes) to avoid the “Problem of Genesis.”

g. Chemistry

1) Radiometric dating: A method of dating geological specimens by determining the proportions of particular radioactive isotopes present in a sample.

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2) Carbon 14 dating has revealed an old earth as it has dated fossils back as far as 1 billion years.\(^7\)

3) In a completely separate test, isotope separation mass spectrometers help measure the radiation decay of Uranium-Thorium.

4) Other dating techniques are in use today such as Potassium-Argon.\(^8\)

h. Geology

1) Geology uses radiometric dating.\(^9\)

2) The widely used and referenced United States Geological Survey (which has the world’s most advanced knowledge base of seismic and geologic activity) website states: “The ages of Earth and Moon rocks and of meteorites are measured by the decay of long-lived radioactive isotopes of elements that occur naturally in rocks and minerals and that decay with half lives of 700 million to more than 100 billion years to stable isotopes of other elements.”

3) “The best age for the Earth comes not from dating individual rocks but by considering the Earth and meteorites as part of the same evolving system in which the isotopic composition of lead, specifically the ratio of lead-207 to lead-206 changes over time owing to the decay of radioactive uranium-235 and uranium-238, respectively.”\(^10\)

4) Other methods:

\(^7\) Carbon 14 dating is suspicious and may not be helpful as it may only be able to date 3500 years ago. Also, it relies on constant cosmic radiation smashing into nitrogen at the top of the earth’s atmosphere – as this produces radioactive carbon. But there is evidence that this has not been constant during the previous several millennia.

\(^8\) Some argue that this has a 50% probability of error.


\(^10\) http://pubs.usgs.gov/gip/geotime/age.html
Premise #4: Biblically based Christian views are harmonious with scientific observations.

(i) The global uniform sedimentation rate is used to extrapolate back to the formation of rocks about 600 million years ago.

(ii) Uniform deposition of uranium salts into the oceans is used to extrapolate back to the oceans being over 1 million years old.

5) While these sedimentation/deposition rate dating techniques do not speak of the age of the earth being 4 billion years old, they do tell of an old earth.

i. Biology

1) Evolutionary theory suggests an old earth. However, evidence for macro-evolution has been refuted above.

j. Old Earth theories differ with respect to the creation activity or lack thereof on the earth.

ii. Less Popular Old Earth Theories

a. Deistic Creation

1) God was active in his supernatural act of creation only at the very beginning of the universe.

2) He set up laws and let the universe unfold according to his plan.
Premise #4: Biblically based Christian views are harmonious with scientific observations.

3) He was done creating after the initial event.

4) He was not involved in further developments…

5) Evolution was programmed into the initial creation event or God may have created the process once the earth was formed.

b. Gap Theory\textsuperscript{11}

1) Also known as:

   (i) Restitution Theory

   (ii) Progressive-Creative-Catastrophism

   (iii) Creation-Ruination-Recreation

2) Adherents to this view include Thomas Chalmers, Cyrus Scofield, Donald Barnhouse, Erich Sauer, and Harry Rimmer.

3) God created the earth perfectly but due to the catastrophe caused by Satan, God had to remodel the earth in 6 literal days. There was a large gap of time (several billions of years) between the catastrophe and the remodeling where the geologic and other physical changes in the earth took place.

c. Pictorial Day Theory\textsuperscript{12}

Premise #4: Biblically based Christian views are harmonious with scientific observations.

1) Also known as:
   (i) Framework Hypothesis
   (ii) Revelation Day
   (iii) Moderate Concordism

2) Adherents to this view include J.H. Kurtz, Hugh Miller, and Bernard Ramm.

3) The 6 days of Genesis 1 are really the 24 hour periods in which Moses received the revelation from God concerning what took place during the origin of the universe and creation of man.

4) The 6 days do not relate to the time it took God to create (whether short or long), but just the timing of the revelation Moses received.

5) That science reveals an old universe and earth is irrelevant to the fact that the days in Genesis do not relate to creation event periods.

6) So, science will always be compatible and the authority or integrity of the Bible are not in question.

7) Based on this position, the religious and theological intent of the Genesis account is held in high regard.

8) The whole Genesis account is not to be understood as conveying scientific descriptions of the sequence or details of creation events. It was presented by Moses for theological and devotional purposes only.

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d. Local Creation Theory\textsuperscript{13}

1) Also known as the Eden-Only Theory

2) Adherents include John Pye Smith and John Sailhamer.

3) The events described in Genesis 1 only pertain to the Garden of Eden and do not relate to the rest of the earth.

4) That science reveals an old universe and earth is irrelevant to the fact that the account in Genesis only relates to the Garden of Eden – which is now gone.

5) So, science will always be compatible and the authority or integrity of the Bible are not in question.

iii. Theistic Evolution\textsuperscript{14}

\textsuperscript{13} House, Wayne and Holden, Joseph, Charts of Apologetics and Christian Evidences (Grand Rapids, Michigan: Zondervan, 2006).

\textsuperscript{14} The following section is based on Dembski’s chapter 21, Stannard’s chapter 9 and 10, Reasons to Believe, Biologos, House and Holden’s Tables 61-68.
Introduction

1) In the past, “Theistic Evolutionist” was a term that was used for any Christian who believed the earth was old.

2) Asa Gray was a scientist and a contemporary of Darwin who first proposed a form of this view when he discussed with Darwin if God could have used evolution to develop the diversity of species.

Christian Proponents of Theistic Evolution:

1) Biologos Organization

2) American Scientific Affiliation (professional society of Christians who are scientists)


4) Calvin College undergraduate teaches this view (but the Seminary at Calvin College is critical of this view). Other Christian colleges are starting to teach this.
Premise #4: Biblically based Christian views are harmonious with scientific observations.

5) Many of those who hold this view are mainline evangelical protestant Christians who hold to all of the specific and particular tenants of the same faith I enjoy.

6) Many of these folks are brothers and sisters in the faith and have a heart to serve the Lord Jesus Christ with all of their being.

7) Other Christians who hold this view are more liberal in their theology and are not evangelical.

c. Main View

1) God continues creation through indirectly guiding all life forms through the process of evolution (natural selection on random mutations).

2) The Biblical account of creation (special revelation) is figurative and in this sense it is compatible with the scientific account of creation (general revelation).

d. Varying positions of Theistic Evolution

1) There are varying positions within the theistic evolution view but all views share these beliefs:

   (i) It is essential to stick with the majority scientific opinion of the origin of the Universe and the origin of life on earth.

   (ii) Common descent from a common ancestor.

2) “Fully Gifted Creationism”

   (a) Proponents include physicist Howard Van Til at Calvin College.
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(b) When God created the universe, he gifted the initial creation with all the physics, chemistry, and biology that would produce everything that he wanted to produce.

(c) This version of theistic evolution seems to be like Deistic Creation when defined this way.

3) “Evolutionary Creation”

(i) Proponents include Francis Collins (Human Genome Project), Karl Giberson, and Darrel Falk at Biologos in San Diego, CA

(ii) God worked through gradual natural processes of evolution (not the view of evolutionism as a form of scientism) to create and develop all life but this gradual natural process is a supernaturally led process.

(iii) In this view, evolution describes how life forms and Christians should understand it because that is how we can study God’s created order.

(iv) The Bible teaches truth and is compatible with Science. The proponents of this view are Christians who hold that the Bible is the fully inspired word of God.

(v) Darwin’s natural selection is not contrary to Theism.

(vi) Proponents fully embrace this process as God’s method and take no exception with it.

(vii) Evolution, both micro-evolution and macro-evolution, is a God-
Premise #4: Biblically based Christian views are harmonious with scientific observations.

ordained process.

(viii) “We marvel at its beauty and are in awe that we have the privilege of experiencing it.”\(^{16}\)

(ix) Proponents hold to a form of Intelligent Design but do not reject evolution as some ID proponents do.

(x) This equates to Evolutionary Creationists believing that God caused evolution to produce life according to his design. This could be thought of as “Intelligent Causation.”

(xi) Learn more from their website and their books: Saving Darwin by Karl Giberson and The Language of Science and Faith by Karl Giberson and Francis Collins.

4) Another form of Theistic Evolution:

(i) God works through gradual natural processes of evolution that isn’t supernaturally led or God ordained.

(ii) But, God did very infrequently supernaturally intervene at just a few (perhaps 5 or so) major moments (e.g., Cambrian Explosion, Adam and Eve, etc.).

e. Key Features of the Theistic Evolution

1) Evolution is true and compatible with Christian theism and the Bible.

   (i) God exists and is the Creator.

\(^{16}\) http://biologos.org/questions/biologos-id-creationism
Premise #4: Biblically based Christian views are harmonious with scientific observations.

(ii) The problem of suffering and the Fall of humans into sin is accounted for.

(iii) The figurative reading of Genesis is the appropriate one and compliments the evolutionary development of all living creatures.

2) Humans are not unique from primates but have only continued to develop beyond our primate relatives.

(i) Humans have the same mental faculties and capacities as primates only with increased capacities in linguistics, mathematics, and psychology.

(ii) There is no difference in kind only difference in degree.

(iii) When Genesis speaks of “according to its kind” it is figuratively referring to the work of evolution producing categories of animals or its referring to the categorical in kind reproduction of animals after natural selection has run its course to distinguish them from other creatures.

3) The “bad designs” of this world are not God’s fault but are just unintended bad output of the process of evolution.

(i) Eye

(ii) Human jaw shape

(iii) Narrownness of the birth canal

(iv) Human backbone is strangely shaped
Premise #4: Biblically based Christian views are harmonious with scientific observations.

4) God is not responsible and cannot be attributed with making bad products which assist in the suffering of man.

5) This upholds God’s omnipotence and omniscience as a perfect Creator.

6) As a result, Christians can feel more competent in defending a perfect Creator instead of defending a Creator who makes bad designs (if one holds to a direct Creation at once view).

f. Theistic Evolution and Collaboration with the Bible:\(^{17}\)

1) Theistic Evolutionists argue that the figurative reading of Genesis 1 to 3 is the correct interpretation.

2) The account is “mythical” in that it was a story meant to convey deeper truths or principles that can be passed on from generation through oral communication as their writing was not available.

3) The style of the narrative is not the genre of a modern scientific research paper. Therefore, we cannot read it with a modern science perspective.

4) Other people groups of the time actually did not have the robust creation story that the Hebrews did. The Hebrews creation story was drastically different in many ways, but namely

   (i) that God created *ex-nihilo*

   (ii) God was apart from his creation

i. The Hebrew word for Adam is actually means man

Premise #4: Biblically based Christian views are harmonious with scientific observations.

ii. The figurative ancient-near-east story/narrative reading can still teach and make sense of: ¹⁸

(a) marriage

(b) stewardship

(c) original sin

(i) Evolution is said to help us understand why everyone eventually is selfish and self-centered.

(ii) As pre-human species developed, the ones with the most selfish instincts survived during the struggle for food.

(iii) So the ones with the DNA that led to a quicker instinctive reaction to kill, usually got the food.

(iv) This was the adaptive survival characteristic that led to a successful species which eventually led to us.

(v) In our DNA, we carry the selfish gene.

(vi) This makes sense in light of how our DNA is influences our behavior traits too.

(vii) So evolution claims to help us understand our selfish (sinful) selves due to the mechanism of survival.

(d) God as the Creator

Premise #4: Biblically based Christian views are harmonious with scientific observations.

(e) creation is separate from the creator

(f) creation is good

(g) human free will

(h) human responsibility

(i) order in creation

g. Theistic Evolution and Humans

1) Eventually human like creatures (hominids), greater in form and function than primates, but lesser than homo sapiens, are developed.

2) Hominids reproduced to increase the population of living Hominids.

3) Hominids do not have a soul, they are just body or “monads” (monism is the view that these creatures have 1 life form, as opposed to 2 natures, body and soul in dualism).

4) At some point in history, Hominids entered the Garden of Eden and were given the image of God, rationality, and moral consciousness when God breathed life into them (they were given a soul).\(^{19}\)

5) This advances them into homo sapiens (human beings).

6) The Hominids were not necessarily the 2 people Adam and Eve; that is, in reading Genesis figuratively, Adam and Eve could be taken to be representations of multiple male and female Hominids who entered the garden.

\(^{19}\) Note that Christian philosopher Nancy Murphy at Fuller Seminary holds that human beings do not have a separate soul and are also monads.
Premise #4: Biblically based Christian views are harmonious with scientific observations.

7) The hominids turned humans, knowing moral right and moral wrong, sinned after being tempted.

8) This is the Fall.

9) As a consequence, they were forced to live in the harsh and cruel competitive world with struggle and suffering.

10) This is the world where they came from before the garden and is a world that created them, however, only until after the Fall that they “realized” the sufferings in the world as a result of their sin.

h. Strengths of Theistic Evolution

1) They argue that it aligns with the overwhelming evidence for common descent and it is the theory that the evidence points to.

2) They contend that evolution is an established fact like general relativity is an established fact.

3) Allows perfect harmony between science and Christianity. There is no science vs. religion as religions agrees with science.

4) Removes all arguments and points of contention between the Christian scientist and secular scientist.

5) Evangelicals can be competitive in the schools and job marketplace if we accept this theory of evolution.

6) Christian colleges and professors do not have to be shunned in the academic community.

7) There is a simplicity and elegance to the Theistic Evolutionary model.
Premise #4: Biblically based Christian views are harmonious with scientific observations.

8) When compared to a purely Naturalistic framework, it has more explanatory power and scope as it can explain the origin of life and scientific features such as intelligent design, information, human mind and acquiring knowledge, and even suffering.

9) God is not just tinkering and bumbling around to correct his previous mistakes over time.

(i) It seems more impressive that God, as the perfectly competent engineer, would design and create an initially perfect universe that could essentially create & adapt itself as time passes.

(ii) Contrast this with a creation in which he would have to later on supernaturally intervene and continue to create or else his final goal of human life would not obtain.

(iii) Such a continued intervention and progressive creationist approach means that God would have not created the universe as best as it could be at the beginning, but chose to create a lesser quality creation.

(iv) The Theistic Evolutionist can criticize the progressive creationist position that holds that God continues to create as time passes.

(v) (Interestingly, evangelical theistic evolutionists would accept as fact that Jesus came and intervened and performed miracles…but more liberal Christian theistic evolutionists would probably reject this.)

i. Problems with Theistic Evolution
Premise #4: Biblically based Christian views are harmonious with scientific observations.

1) It is difficult to read theistic evolution into Genesis when approaching Genesis with the appropriate hermeneutical principles.
   (i) Historical/Sociological/Cultural Context
   (ii) Grammatical/Literary considerations
   (iii) Intended Audience

2) It is difficult to see that God is still not responsible for bad designs as he originally and intentionally designed the process of evolution to produce unintended bad designs in nature.
   (i) Ultimately, the buck stops at the Creator of the process even if the initial Creation act did not produce the bad designs at that moment.

3) Atheists reject the idea that a perfect God created the inherently cruel, harsh, and wasteful process of evolution as it is a struggle between entities to survive over time against extinction and suffering. This is not something that God would create.

4) Also, theistic evolutionists would say that God is guiding the process, so how does one differentiate between guiding macro-evolution but not continuing creation. It seems that macro-evolution and continued creation.

5) Theistic evolution doesn’t seem to take into account the other scientific disciplines of astrophysics as the progressive creationist position does.

6) Evolution has its weaknesses as noted in the above section on evolution.
   (i) Criticism #1: that these minor changes over time are not going to
Premise #4: Biblically based Christian views are harmonious with scientific observations.

cause a new ‘in between’ species to emerge nor will it cause a single celled amoeba to morph into a human. That is, there is no evidence of macro-evolution.

(ii) Criticism #2: How can life come from non-life? Life cannot emerge from inanimate matter. Evolution does not account for the origin of life.

(iii) Criticism #3: There are too many gaps in the fossil record for evolution to show any transitional life forms. Fossils from transitional life forms are necessary evidence to prove evolution.

7) Overall, it doesn’t avoid the problems it wants to avoid and creates other theological and Biblical problems.
Premise #4: Biblically based Christian views are harmonious with scientific observations

a. **Strengths of Theistic Evolution**

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an established fact.

3) There is a simplicity and elegance to the Theistic Evolutionary model.

4) When compared to a purely Naturalistic framework, it has more
explanatory power and scope as it can explain the origin of life and
scientific features such as:

   (i) intelligent design

   (ii) information

   (iii) human mind and acquiring knowledge

   (iv) suffering.

5) God is not just tinkering and bumbling around to correct his previous
mistakes over time.

   (i) It seems more impressive that God, as the perfectly competent
   engineer, would design and create an initially perfect universe
   that could essentially create & adapt itself as time passes.

   (ii) Contrast this with a creation in which he would have to later on
   supernaturally intervene and continue to create or else his final
goal of human life would not obtain.
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Premise #4: Biblically based Christian views are harmonious with scientific observations

(iii) Such a continued intervention and progressive creationist approach means that God would have not created the universe as best as it could be at the beginning, but initially chose to create a lesser quality creation.

(iv) The Theistic Evolutionist can criticize the progressive creationist position that holds that God continues to create as time passes.

6) Allows perfect harmony between science and Christianity. Christianity agrees with the evolutionary results of science.

7) Removes all arguments and points of contention between the Christian scientist and secular scientist.

8) Evangelicals can be competitive in the schools and job marketplace if we accept this theory of evolution.

9) Christian colleges and professors do not have to be shunned in the academic community.

10) Biggest strength of this view is that it allows the Christian to adopt, for the sake of furthering the conversation, the same view the non-Christian holds. This inevitably will allow the conversation to be steered into the direction of the gospel and not be hung up on whether or not Christianity conflicts with evolutionary theory.

11) Remember that our goal is to win the hearts and minds of people (including ourselves) not strive to win arguments.
b. Problems with Theistic Evolution

1) It is problematic to read theistic evolution into Genesis when approaching Genesis with the appropriate hermeneutical principles as God appears to be directly creating (rather than guiding nature).
   
   (i) Historical/Sociological/Cultural Context

   (ii) Grammatical/Literary considerations

   (iii) Intended Audience

2) It is difficult to see that God is still not responsible for the alleged “bad designs” as he originally and intentionally designed the process of evolution to produce “bad designs” in nature.
   
   (i) Ultimately, the buck stops at the Creator of the process even if the initial Creation act did not produce the bad designs at that moment.

   (ii) So the view would reveal God as an incompetent Creator.

3) Atheists reject the idea that a perfect God created the inherently cruel, harsh, and wasteful process of evolution as it is a struggle between entities to survive over time against extinction and suffering. This is not something that God would create. So even atheists find this idea to be incompatible with Christian doctrines of God.

4) Theistic evolution doesn’t seem to take into account the other scientific disciplines of astrophysics as the progressive creationist position does.

5) Macro-Evolution has problems that have not been overcome. See section in previous notes. Theistic Evolution inherits these same problems as it
admits Macro-Evolution in its entirety.

6) Overall, it doesn’t avoid the problems it wants to avoid and creates other theological and Biblical problems.

ii. Progressive Creation

a. Introduction

1) “Progressive Creation” is a broad term that sometimes includes theistic evolutionary views.

2) It could be a confusing term if it is tossed around in conversation without first clarifying.

b. Christian Proponents of Progressive Creation

1) Charles Lyell, Millard J. Erickson, Norman Geisler, Robert Newman, John Mark Reynolds.

2) Also, Hugh Ross, Fuz Rana, and the other scholars at Reasons to Believe
Premise #4: Biblically based Christian views are harmonious with scientific observations

in Glendale, CA hold to a form of this view.

c. Main View

1) Progressive Creationists hold God does use certain natural processes but also freely/supernaturally/miraculously intervenes at significant moments (maybe frequent moments) throughout billions of years.

2) God uses a combination of miraculous interventions and natural processes.

d. Varying positions of Progressive Creationism

1) Day-Age Theory

   (i) Also known as Divine Day and Concordism

   (ii) Adherents to this particular form of Progressive Creation include: John William Dawson, James Dwight Dana, Gleason Archer, William Bell Riley, and William Jennings Bryan.

   (iii) Alleges that God, in successive acts corresponding to 6 metaphorical days in Genesis 1, continuously creates the earth over long eras of time where each day was continuous with the day before and creation continues in an uninterrupted manner according to the sequence described in Genesis 1.¹

2) Reasons To Believe Position (RTB Model)

   (i) Adherents to this particular form of this view are noted above.

   (ii) A good summary of the Reasons Model of progressive creation is in their recent book More Than a Theory which summarizes all

Premise #4: Biblically based Christian views are harmonious with scientific observations

of the other previous 10 books they published in the last 20 years. Their website provides a wealth of resources.

(iii) Position is explained more here but differs from the Day-Age Theory in the sense that in the RTB Model God creates in intervals spread apart by vast eras of time where God’s intervention is not continuous.

e. Key features of Progressive Creationism

1) God created all of the universe directly over long eras of time.

2) God was directly involved in the sense that each act of creation was due his own intervening power, whereas if he didn’t intervene, the cosmos and the earth would not have continued to developed into a state habitable for life and advanced life.

3) In the act of the Big-Bang, God created ex-nihilo (out of nothing; i.e., not using existing materials) in the cosmos and on the earth.

   (i) Each act of creation (in cosmos or on earth) may have been millions of years apart.

   (ii) New stars and other cosmic phenomena were brought into existence by God’s direct creation.

   (iii) New life forms, animals, plants, etc., were brought into existence by God’s direct creation.

4) The Flood that Noah endured was a local flood to the Mesopotamian region of the earth.

   (i) It was not a global flood.
Premise #4: Biblically based Christian views are harmonious with scientific observations

(ii) It occurred 20,000 to 40,000 years ago when Noah lived.

(iii) It was universal in the sense that it destroyed all of humanity (except Noah’s crew).

5) God designed processes like Micro-evolution (in-species variation developments) and this occurs after his direct acts of creation. Thus, in this view Micro-evolution is accepted and Macro-evolution is rejected.

6) This continued creation (or progressive creation) continued to the time of Adam. God stopped creating after Adam.

7) God made man completely and separately from primitive species (Neanderthals, Hominids, Homo erectus, chimpanzees, etc.) about 50,000 years ago.

8) All of creation was created with advanced human civilization in mind.

9) There are no apparent conflicts with current science (except Macro-Evolution).

(i) Astrophysical and biochemical phenomena are well accounted for and incorporated into this view.

(ii) Scientific observations (e.g., gaps in the fossil record, age of the earth, micro-evolution, etc.) fit perfectly within the scientific theory of Progressive Creationism whereas other theory (including naturalism) fall short of explaining the observations.

10) A legitimate exegesis of Genesis collaborates with Science.

(i) The passages of Genesis do in fact describe the historical/scientific events accurately where the account is not
Premise #4: Biblically based Christian views are harmonious with scientific observations

just another fictional or mythical ANE narrative.

(ii) Scientific observation supplements but does not require a certain interpretation of Scripture.

f. Progressive Creationism and Collaboration with the Bible

1) The Bible is held as the Word of God, Inspired, and Inerrant by the Progressive Creationists.

2) The same sense that the YEC proponents have of the authority and truth of the Bible, the Progressive Creationists share.

3) The appropriate reading of Genesis (interpreting Progressive Creationist) collaborates with other creation related passages in Scripture and with Science.

4) There is no theological doctrine or hermeneutical method that necessitates the whole creation account ending at the end of Genesis 2.

   (i) In fact, there are more creation texts in the Bible outside of Genesis 1-2.

   (ii) Job, Psalms, Isaiah, Romans, Corinthians 1 & 2, Colossians, and Hebrews contains more overall creation content than Genesis.

   (iii) These passages seem to include specific creation content.

   (iv) So, even a non-Christian holds that the Genesis account is pure myth, one still must deal with all of the other creation content.

   (v) CLASS ASSIGNMENT: find the creation content in the other parts of the Bible than Genesis.
Premise #4: Biblically based Christian views are harmonious with scientific observations

5) All creation passages in the OT and NT are collaborative and correlative.

6) The word “yom” could be understood to mean something other than a 24 hour time period.²

   (i) This different meaning is indicated in different passages in the Bible.

   (ii) The Genesis 1-2 narrative is unique to the rest of Genesis.

   (iii) The “7th day” ought to be thought of as a final time of non-creation, as 7 is thought of as the number of perfection and completion in the Bible. This is another indication that “day” throughout the creation account is figurative.

   (iv) Adam’s recognition of eve in Genesis 2:23 is better translated “here now at last” rather than “this is now”. This implies there was a long period of waiting and that it wasn’t a 24 hour period. That is, Adam may have waited 100 years until Eve came on the scene.

   (v) There may not have been enough time to name all animals on the 6th day. This implies that the 6th day was actually a long period of time.

7) A straightforward, chronological, and semi-figurative exegesis of Genesis 1-2 is still consistent with sound hermeneutical principles. (However, the YEC exegesis is slightly favorable when considering exegesis alone).

8) When was the sun made? Day 4 or Day 1?

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(i) According to the RTB Model, the sun and the rest of the stars were most likely made “In the beginning” (Day 1) when God created the heavens, rather than on Day 4 in verse 16-17:

(ii) Genesis 1:14-19: 

   And God said, “Let there be lights in the expanse of the heavens to separate the day from the night. And let them be for signs and for seasons, and for days and years, and let them be lights in the expanse of the heavens to give light upon the earth.” And it was so. 

   And God made the two great lights—the greater light to rule the day and the lesser light to rule the night—and the stars. And God set them in the expanse of the heavens to give light on the earth, to rule over the day and over the night, and to separate the light from the darkness. And God saw that it was good. And there was evening and there was morning, the fourth day.

(iii) Note that the highlighted bold text, this appears to be a parenthetical remark and may refer to the stars and planetary bodies he made “In the beginning” in verse 1.

(iv) The Hebrew verb asa is translated “made” indicated a completed action in the past. It can be taken to mean that the sun and moon were already existing before day 4. Day 4 was just the making of the light clear as God further cleared the atmosphere of the earth when he separated light from darkness causing a translucent atmosphere.

(v) Day 4 also meant that the “days” can now be measured (“And let them be for signs and for seasons, and for days and years”), whereas days 1, 2, and 3 had no way to measure days.
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(vi) Based on the stars and our sun being created at the initial creation event, it makes sense that the light (“let there be light” in verse 3) was sun penetrating the earth’s thick atmosphere. That is, the initial creation event included the sun, but the sun’s light couldn’t shine into the earth surface until God separated light from the darkness and made the thick layer of opaque darkness lifted off the planet (see also Job 38:9) creating a transparent atmosphere.

(vii) The sun being created at the initial creation event works well if the earth is billions of years old as the earth would need a sun for sustaining life over billions of years.

(viii) Thus, a ‘plain and simple reading of the text’ (that YEC proponents argue PC’s don’t use) does not actually show that the sun was created on the 4th “day”, but may show (simply by reference backward) that the sun was created on the 1st “day.” This reading fits the PC scientific view.

(ix) Thus, the Bible corroborates well with the PC view of the sun’s origination.

9) In-species micro-evolution is consistent with the design God gave to all of life to reproduce after their own kind.

10) The genealogies throughout the Bible are held to be abbreviated versions of the actual generations of the Hebrews. The definitions of the words for father and son (ab and ben, respectively) may refer to multiple generations, such as grandfather or great-great-great grandfather and grandson or great-great-great grandson. So, upon this understanding one can research all of the genealogies and estimate that the Adam and Eve
most likely were present around 50,000 years ago.

11) Man was made after God’s image and directly by God rather than macro-evolution or from a human like ancestor.

g. Progressive Creationism and Humans

1) Neanderthals

   (i) Different from Homo-Sapiens in DNA and is most likely an ancestor.

2) Homo-Erectus

   (i) Different from Homo-Sapiens in DNA and is most likely an ancestor.

3) Hominids

   (i) Different from Homo-Sapiens in DNA and is most likely an ancestor.

4) Homo-Sapiens

   (i) Have been created directly by God and have souls.

   (ii) Did not evolve from primitive species but are completely unique.

   (iii) There is difference in kind and difference in degree. Homo-Sapiens are not just an improved version of the above primitive species.

   (iv) Humans have the capacities in linguistics, mathematics, and psychology that the primitive species are not capable of
Premise #4: Biblically based Christian views are harmonious with scientific observations

obtaining in micro-evolutionary development.

(v) When Genesis speaks of “according to its kind” it rules out the genetic variations that can create homo-sapiens from the more primitive species as they are of a different kind.

h. Strengths of Progressive Creationism

1) Strong Collaboration with the Bible.

2) Corresponds well with the theological positions of God creating for a purpose and had advanced civilizations of humans in mind. (Note that all views, YEC and OEC share this strength).

   (i) That humans would find and know God more with scientific observations of intelligent design (refer to anthropic principle above).

   (ii) Fine-tuning of the universe and earth for advanced life shows all-good (omnibenevolent), all-powerful (omnipotent), all-knowing (omniscient) God.

3) Fully developed scientific position with much more research than YEC.

4) Does not have the problems that Evolution, Deistic Evolution, or Theistic Evolution have.

5) Strong Collaboration with Intelligent Design.

6) Strong Collaboration with Science.

   (i) Progressive Creationism account for all scientific observations (except for Macro-Evolution). Some observations, listed here, do
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not fit well with the YEC position:

(ii) Changing mass and luminosity of the sun.

(iii) Greenhouse gases are pulled out of the atmosphere so the temperature at the surface of the earth’s remains constant.

(iv) Changing surface of the earth’s geology and the producing of bio-deposits (iron, etc.) for advanced human technology.

(v) Moon is farther away

(vi) Earth’s rotation has changed.

(vii) Asteroids striking the earth from space phenomena

(viii) Species die out and God removes life from the planet and replaces it with life that is designed for the changing physics and chemistry of the solar system.

(ix) Need of homochiral amino acids and pentose sugars for life’s origin. God had to intervene to override the barriers and make homochiral acids and pentose sugars.

(x) Mitochondrial DNA and Y-Chromosome DNA studies confirm that the human species can be traced back to a single woman and single man who lived 40,000 to 60,000 years ago.

(xi) Much much more…

i. Problems with Progressive Creationism

1) Criticism #1: If God keeps creating, then it would seem his original creation wasn’t perfect enough or he wasn’t really powerful enough to
create a full creation.

(i) Response by Progressive Creationists: God works slowly according to his plans for many observed spiritual phenomena such as the development of our character. Why should it be different here?

2) Criticism #2: The Progressive creationist is reading into Scripture what he wants. He is bringing fallible science to bear on an infallible text. The meaning and truth of God’s word should not be compromised. The straightforward reading is the correct one.

(i) Response by Progressive Creationists: Based on Scripture alone (and not using science to bear on the passage), the interpretation is valid. The infallibility of God’s word, authority of Scripture, and meaning of the text is not compromised in the slightest degree with this understanding.

2. **Young Earth Creationism may be a valid Biblically based Christian worldview that may be harmonious with scientific observations.**

   a. Introduction

   1) Also known as, “Literal Day View.”

   2) Most Christians seem to hold this view.

   3) This view contributes to the alleged hostility between science and religion as many non-Christians perceive YEC Christians to dismiss modern scientific observations in favor of “4,000 year old book from a primitive
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culture.”

4) Many intellectual or academic non-Christians have a barrier to becoming Christian because this view presents an alternative perspective to the modern scientific establishment and ongoing scientific research.

5) Many label Christians radical Fundamentalist because of this view.

6) Does this view stand up to scrutiny in the public square? Is it true to science? Is it true to Scripture?

b. Christian Proponents of YEC

1) This view has proponents such as Duane Gish & Henry Morris (www.icr.org), Ken Ham & Jason Lisle (www.answersingenesis.org), Jonathan Sarfati (www.creation.com), Kent Hovind & Eric Hovind (www.creationtoday.org).

c. Main View

1) The Earth and Universe are very young (6,000 to 10,000 years old). We know this by the authority of God’s word alone.

2) The direct and simple reading of the Genesis Creation account is the appropriate hermeneutical reading. This means that a yom is a literal 24 hour day. The universe and earth were created in 6 contiguous 24 hour days (6,000 to 10,000 years ago).

3) God created directly and did not use indirect creative actions of nature to aid in his creation.

d. Varying positions of YEC
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1) Some argue that God may have caused the universe and earth to appear old as he made Adam in an adult stage. Others argue that the universe actually does appear young but scientists are just not observing it correctly.

2) Some argue that Science may not ever accurately report what the Bible has and always will show to be true. Others argue that Science will eventually come around to reveal the truth of the Bible.

e. **Key features of YEC**

   1) The authority of Scripture is held in highest regard.

   2) Science can be wrong but the Bible cannot. Anything that is contrary to the word of God is false.

   3) Science has been wrong before and the view that the Universe is 15 billion year old will be proven wrong eventually.

   4) The literal interpretation is the correct one unless hermeneutical context shows us otherwise.

   5) God created Adam and Eve directly. Adam and Eve were actual persons not representatives for all of mankind.

   6) The age of the universe can be dated back to the creation of Adam using the genealogies in the Bible.

   7) The genealogies in Genesis contain few, if any, gaps.

   8) All land animals today are descendants from those that survived on Noah’s ark.
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9) The sun was created on the 4th day (not the 1st) as the simple and plain reading of Genesis 1:14-19 is the correct.

10) Young Earth Creationists’ reject and accept the following:

- **YEC’s reject:**
  - Figurative interpretations of Genesis 1-3
  - Common ancestry and common descent with macro-evolution as described in Darwinian or Neo-Darwinian evolution.
  - Localized Flood occurring 30,000 years ago

- **YEC’s Accept:**
  - The literal interpretation of Genesis 1-3
  - Spontaneous creation of all living species in their current form with possible slight in-species variations occurring.
  - Global Flood occurring over the entire planet occurring 5,000 years ago.

f. **YEC and Collaboration with the Bible**

1) YEC collaborates somewhat easily with the Bible depending on one’s hermeneutical approach but does not necessarily collaborate well with science.

g. **YEC and Humans**

1) Adam and Eve were historical persons whose time on the earth could be traced.

2) In the past, many made efforts to determine the age of the earth based on the addition of the years of men’s ages, birthdates, and death dates as
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recorded in the genealogies of the Bible.  

3) Archbishop James Ussher (1581-1656) was one of the most famous chronologists. He put together a very detailed chronology that almost became canonized by the church.

4) He dated the creation of the world to be on October 23rd, 4004 B.C.

5) Neanderthals, Homo-Erectus, and Hominids are descendants of Adam and Eve. However, YEC proponents are skeptical to the legitimacy and accuracy of fossil identification.

h. Strengths of YEC

1) There could be scientific evidence for a young universe:

2) Astronomy

   (i) “The average lifetime of a comet is 10,000 years and since many comets still exist the solar system is probably less than 50,000 years old.”

   (ii) “The stability of Saturn’s rings indicates they are less than 100,000 years old.”

   (iii) “The depth of moon dust extrapolates back to a period of meteorite bombardment of less than 20,000 years.” Note that YEC proponent Jonathan Sarfati dismisses this as false evidence.

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4 Note the following positive evidence for a younger universe is taken from House, Wayne and Holden, Joseph, Charts of Apologetics and Christian Evidences (Grand Rapids, Michigan: Zondervan, 2006).
6 Ibid.
7 Ibid.
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(iv) Proponents of YEC criticize the astronomical evidence for the big bang and evidence ancient universe. All seem to argue that the Big Bang Theory should be rejected.

(a) YEC proponent Jonathan Sarfati wrote a book *Refuting Compromise* which directly attacks the books published by Hugh Ross and the Day-Age Views.

(b) In the 1960’s Maarten Schmidt found that the quasar color shifts were to the red.

   (i) When we understand Quasars (quasi-stellar-radio-sources) as the basis for the red-shift Hubble saw, the supposed phenomena of the galaxies moving away is illusory.

(c) Harten Arp points out that the relationship between redshift and distance fails.

(d) I.E. Segal holds that Big Bang cosmology is founded on the expansion principle which is based in a premature representation of the empirical data. He also charges it with circular reasoning and false assumptions.

(e) G. de Vaucoleurs survey of 10,000 bright cluster galaxies provides new data for similar observations that Hubble made.

(f) Segal determined that with this large sample, one cannot make a statistical inference to the increasing distance phenomena that Hubble based his expansion idea on. Rather it is only clear that red-shifts vary as the brightness is squared.
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(g) Mathematician and Philosopher David Berlinski, Senior Fellow at the Discovery Institute (the so-called “Hub of the Intelligent Design movement”), rejects the big bang theory.

(i) He criticizes Hubble’s Law and the evidence Hubble used for red-shifts stating that is was for only 20 galaxies – which is not a large enough of a sample.

(ii) Hubble’s law doesn’t explain the facts fully.

(iii) Inflation theories (Big Bang theories) are “nonsense” and “bizarre and ugly contraptions.”

(iv) Hubble and Lemaitre assumed ‘expansion of galaxies’ and thus they concluded ‘expansion of galaxies.’

(v) Many physicists use Abell’s Catalog of Bright Cluster Galaxies shouldn’t be used a standard resource to prove Big Bang theories as it assumes that redshifts are proportional to its distance.

(vi) Berlinski says this is circular reasoning and question begging. You cannot logically conclude what you assume.

3) Chemistry

(i) YEC’s criticize the results of radiometric dating.

(ii) “The influx of helium-4 into the atmosphere extrapolates back to

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a beginning of the atmosphere around 10,000 years ago.”

4) Geology

(i) “The amount of meteorite dust on the surface of the earth argues for an age of less than 100,000 years.”

(ii) “The volume of lava deposited on the earth’s crust and the rate of volcanic activity argue for an origin of earth 10,000 years ago.”

(iii) “High oil pressures in deep deposits require sudden burial less than 10,000 years ago.”

(iv) Some proponents argue that the explosion of fossil life, as in the Cambrian explosion, may support this view as it shows a direct and sudden created appearance of life. The common dating of the Cambrian explosion is not millions of years.

5) Physics

(i) “The present decay rate of earth’s magnetic field extrapolates back to a maximum age of the earth of 10,000 years.”

i. Problems with YEC

1) Scriptural Problems

(i) “Day” problems

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10 Ibid.
11 Ibid.
12 Ibid.
13 Ibid.
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Premise #4: Biblically based Christian views are harmonious with scientific observations

(a) YEC proponents argue that the sun was created on the 4th day.

(b) In the creation account in Genesis, “day” 1, 2, 3 are ahead of God’s creating the sun.

(c) So, if there is no sun until the 4th day, there can’t be a literal 24 hour day, because a literal 24 hour day is measured by our rotation around the sun.

(d) The word day appears in Genesis 1:5, 1:6, 1:13 (days 1, 2, 3) before the sun and the moon were created on the 4th day.

(e) So based on the Bible alone (without science in the picture), “day” cannot mean 24 hour day because there was no sun.

(f) Evening and morning are associated with the word “day” in these verses – but if there is no sun, these phrases must be taken figuratively or perhaps plural.

(g) “God called the light day” in Genesis1:5…but there was no sun yet…but God seems to define that “day” means light in contrast to darkness, or beginning and ending (its evening and morning). This definition of the word yom seems to be appropriate for the rest of the creation account after “day” 3.

(ii) OT figurative uses “day” problems

(a) 58 different senses “days” is rendered out of the 500 instances of the word day in the OT.

(i) “In the day of Abraham Lincoln” – this is a figurative usage of day that we use in our “day”.

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(iii) Interpretation problems

(a) The creation account is not a modern scientific research paper.

(b) The creation account is a narrative written to a non-scientific Hebrew audience who would have had no scientific background.

(c) The literal 24 hour day reading versus the figurative day reading investigation has been around for 2,000 years. Early Christian thinkers were investigating and debating this.

(d) “Respecting the length of the 6 created days, speaking generally, for there was some difference of views, the patristic and medieval exegesis makes them to be long periods, not days of 24 hours. The latter interpretation (literal 24 hour days) has prevailed only in the modern church.”

(e) So according to theologian W.G. T. Shedd, many if not most church leaders and theologians, from the early church through the medieval era, held to a non-literal day interpretation.

(f) Christian Philosopher and Theologian Augustine (354–430) in the 4th century, wrote about how the days in Genesis resemble the order of the created world figuratively. He wrote that the length of the days in Genesis aren’t to be understood by the length of our days. He calls them “God-divided days” rather than “sun-divided days.”

(g) Christian Philosopher and Theologian Anselm (1033–1109) in

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Premise #4: Biblically based Christian views are harmonious with scientific observations

the 11th century, discussed that there was a difference of opinion when he wrote on the meaning of the days in Genesis. He said that the majority of people then did not accept literal day as they held that the whole creation account could be thought to have taken place at one moment: “He who lives forever created all things at once.”

(h) So modern science is not necessarily what is being read into the creation account by current OEC’ as OEC’s seem to be in line with centuries of great Christian thought prior to the modern era.

(i) Thus, without regard to the modern science, the text alone has been read as non-literal with an Old Earth interpretation.

2) Science Problems

(i) Does not corroborate with the majority of scientific research, evidence, and the established theories of the universe/earth.

3. Overall, despite the weaknesses with each view, we can be confident that one of these Biblically based Creationist positions is a valid Biblically based Christian worldview that is harmonious with scientific observations.

a. Either approach to understanding the origin of the universe has merits and resolves many alleged contradictions.

b. The Biblical account is not contradictory and collaborates well with science.
c. Thus, the Christian can be intellectually justified in holding to the Creation account in Genesis.

d. (Note that those within the ID movement have differing views on the age of the universe.)

II. **Summary:**

A. **Premise #1:** Scientism and Naturalism are easily defeated and ought to be rejected.

B. **Premise #2:** Science and Christianity are not in conflict but are better understood as integrated sources of knowledge.

C. **Premise #3:** Intelligent Design is inferred as the most plausible explanation of scientific observations.

D. **Premise #4:** Biblically based Christian views are harmonious with scientific observations.

E. **Conclusion:** Science independently supports the Christian worldview.