LIBERTY UNIVERSITY

THE BLIND SCIENTIST: A CRITIQUE OF NEO-DARWINISM'S *A PRIORI* ASSUMPTIONS

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CHAPTER ONE – INTRODUCTION: THE RELATIONSHIP BETWEEN SCIENCE AND *A PRIORI* ASSUMPTIONS

"You cannot enter into an investigation with a philosophy that dictates the outcome."

— J. Warner Wallace, *Cold-Case Christianity*

When investigating anything, whether it is a cold-case homicide, discovering who stole your lunch at work, or determining the genesis of life, one must put aside certain presuppositions in order to adequately get to the truth. If these presuppositions are unsupported by a lack of corroborating evidence, it may result in undesirable consequences. For instance, if a detective assumes someone kills someone because they have the same complexion as the other killers he witnessed, it can result in ruining someone's life for something they did not do. Or, if you assume a particular co-worker ate your lunch because you think they are mean, it may result in you making a false accusation about someone. Furthermore, if scientists assume the origin of life must come about via natural means because they do not want God to exist, they may misrepresent scientific truths.

These are examples of assuming something *a priori*. They presuppose something based on one's previous experience or presuppositions prior to evidence. Many *a priori* assumptions can go unverified, and this can be a problem, but not all *a priori* assumptions are innately wrong. In fact, theoretically, one can argue that no *a priori* assumptions are wrong, but only those that cannot withstand careful examination. To illustrate, it is understandable to assume *a priori* that all men are mortal, even if one never investigated every single person's death. One can make a deductive argument with the following syllogism:

1. All men are mortal
2. Socrates is a man
3. Therefore, Socrates is mortal

A scientific *fact* is based on deductive theory, which is when the premises guarantee the truth of their conclusions.[1] The above example demonstrates this. A scientific *theory*, however, is based on inductive theory, which is when the premises render the conclusion more *probable* than its competitors.[2] This can be seen in the following example:

1. All the cars I have seen in America have four wheels
2. Therefore, all cars have four wheels

Here, it is easy to see how assumptions play a larger role in the process of making an inference to the best explanation.

Respectively, this thesis will discuss what assumptions in the world of science can or cannot withstand careful examination. Specifically, the *a priori* assumptions that are necessary to arrive at neo-Darwinian conclusions. This statement is quite charged. It can presuppose that 1) neo-Darwinism is not based solely on empirical data; 2) that assumptions shape the conclusions of neo-Darwinism; 3) that there is debate on the veridicality of neo-Darwinism. This may sound like *heresy* since neo-Darwinism is a scientific theory and is pontificated as a scientific fact among many scientists, but consequently, all of science relies on some *a priori* assumptions. The question is, which ones are scientific?

Science and Assumptions

Science is derived from the Latin word, *Scientia*, which means "to know something." The modern name of science can appropriately mean the philosophy or study of nature. It entails observation, and it deals with what can be tested via experiments.[3] However, there are other less

[1] James Porter Moreland, *Philosophical Foundations for a Christian Worldview*, 2nd Edition (Downer's Grove: IVP Academic 2017), 28.

[2] Moreland, *Philosophical Foundations*, 28.

[3] John Staddon, *Scientific Method: How Science Works, Fails to Work, and Pretends to Work* (New York 2018), 1.

conclusive ways to obtain scientific knowledge.[4] The category of science will dictate its level of dependency on *a priori* assumptions based on its deductive or inductive nature. This can be *loosely* bifurcated into two types of sciences: quantitative and qualitative.

Quantitative science—hence its name—is quantifiable, meaning it can be measured and tested mathematically. This secures much more veridicality since mathematics is axiomatic, meaning self-evidently true. Sciences that fall into this category are chemistry and physics, although there are no absolutes. It is important to note that much in chemistry and physics is quantitative, but parts are also qualitative. However, for most of their studies, one can continually test these sciences and achieve the same results 100% of the time.

For example, the constant of gravity has always been tested to be 6.67×10^{-11} Newtons kg^{-2} m^2, or the boiling point of water at normal atmospheric pressure has always been 100° Celsius/212° Fahrenheit. These laws of nature must be assumed *a priori* when conducting experiments. The chemist does not test and retest the water's boiling point to ensure it does not change when conducting an experiment. Furthermore, physicists assume *a priori* that mathematics works all the time when doing their calculations. However, since mathematics can be empirically verified, the real *a priori* assumption here is that truth remains true all the time.

Qualitative sciences are less quantifiable. These are biology and the social sciences like psychology, sociology, and even history. Like its name (the social sciences), these rely on qualities. However, even though they would be considered qualitative science, many parts of these sciences are quantifiable.

The qualities these sciences rely on can be derived from concepts, appearances, experiences, and symbols. For example, a case study for determining which exercise produces

[4] Staddon, *Scientific Method*, 1.

the best results for jumping ability would be qualitative in nature while using quantitative features like the measurement of gravity to test the results. However, the conclusions derived from the results are based on the concepts and correlations found from the study. There is much more nuance. This, by nature, makes qualitative studies rely more on philosophical principles to interpret the data, which is completely appropriate. So, not all *a priori* assumptions are bad. They are necessary to do science. The question now comes, what *a priori* assumptions are bad?

One can encapsulate this by understanding falsifiability. They must have the ability to be proven false. This comes down to the reality that most things cannot be proven with 100% certainty. For example, the laws of nature cannot be proved but are identified and formulated through constant observation.[5] The constant of gravity has never been proved, because it is just as unprovable as all other laws of nature. So, why is it universally valid? It is because it has been shown to be true in millions of experiences within reality.[6]

Therefore, a theorem must be formulated in such a way that it could be proven false.[7] For example, the law of gravity could easily be refuted if things started to randomly float at inconsistent times. Hypotheses, then, are assumptions based on the facts established by these theorems. If any part of that hypothesis contradicts the known theorems (laws of nature), then the hypothesis should be rejected.[8] Respectively, a paradigm is when a system of hypotheses pervade an entire scientific era.[9]

Now, if this paradigm has been derived based on *a priori* assumptions dictated by a specific worldview, it renders it difficult to reconcile it with today's known facts.[10] For example,

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[5] Werner Gitt, *In the Beginning Was Information* (Bielefeld: Christliche Literatur-Verbreitung, 2001), 27.
[6] Ibid., 27.
[7] Ibid., 31.
[8] Ibid., 23.
[9] Ibid., 23.
[10] Ibid., 23.

the scientific paradigm of geocentricity that Copernicus refuted.[11] The geocentric model provided great explanatory power for what Aristotle observed in addition to his worldview. Suppose the gods created the heavenly bodies and man. In that case, it can explain why Aristotle observed that the sun and planets appeared to be revolving around the earth and concluded with the geocentric model. This demonstrates how one's worldview can shape the assumptions used to do science. This leads to the discussion of science and faith.

Science and Faith

Everyone has a worldview. Whether it is Christian, Jewish, Islam, Hindu, Buddha, Agnostic, or Atheist, everyone has a lens through which they view the world. Each worldview has its own answer to these questions: Who am I? Why am I here? How did I get here? In addition, everyone has faith. The Theist has faith, the Polytheist has faith, the Pantheist has faith, the Agnostic has faith, and the Atheist has faith. They all consist of something they trust that dictates how they live their lives.

Faith is not simply a belief in something which is not seen; it is an action taken on the evidence one derives from her surroundings. For example, if one sees a chair and says they believe it will hold them up, their faith is not revealed until the person takes action to sit in the chair. Coincidentally, the evidence that the chair looked sturdy, and the *a priori* assumption that most chairs do not collapse on impact, made the person trust in sitting in the chair. This parallels science because even science relies on faith. In the book, *Scientific Method: How Science Works, Fails to Work, and Pretends to Work* by John Staddon, he states, "Faith in the invariance of natural laws is essential to science. But it is faith, just like belief in transubstantiation or the afterlife."[12]

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[11] Gitt, *In the Beginning Was Information*, 23–24.
[12] Staddon, *Scientific Method*, 28.

Can there be faith in science? Of course, because as it was mentioned in the above section, even the laws of nature cannot be proven with 100% certainty. Therefore, scientists must believe that the laws of nature will not change in the future and have not changed in the past. This is called the Principle of Uniformity.[13] Scientists then work out this faith by trusting this principle to do science. Clearly, there is immense empirical evidence for scientific conclusions, and equating those empirical findings to the same hierarchal level of faith as believing in the afterlife would be fallacious.

The question this thesis will attempt to answer is whether there are unscientific, faith-based, presuppositions generated through an atheistic lens that are used to support the *a priori* assumptions necessary for neo-Darwinian conclusions. If there are, it will show that neo-Darwinism is not as scientific as the world thinks. Before diving into this, however, a brief history of what we call neo-Darwinism must be surveyed.

A Brief History: Darwinism to Neo-Darwinism

Charles Darwin and Alfred Wallace would be considered the major contributors to the theory known as Darwinism. In fact, it was Alfred Wallace who came up with the well-known term today, natural selection. In 1859, Charles Darwin published his first book on evolutionary biology named, *On the Origin of Species*, which revolutionized the world of science. In his book, Darwin argued for more of a compound theory with many sub-theories but nonetheless, it made the case that all life has descended from one ancient but unseen parent and, consequently, has inherited something in common by way of natural selection.[14] Yet, Alfred Wallace, even though

[13] Victor Joseph Di Fate, "Arguing for Uniformity: Rethinking Lyell's Principles of Geology," *Perspectives on Science* 19, no. 2 (Summer 2011): 137.

[14] Charles Darwin, *On the Origin of Species* (Minneapolis: Lerner, 2017), 384.

he had a significant contribution to this theory, eventually denounced the theory of evolution via natural selection. Wallace states,

> There are certain purely physical characteristics of the human race which are not explicable on the theory of variation and survival of the fittest. The brain, the organs of speech, the hand, and the external form of man, offer some special difficulties in this respect.[15]

What seemed to be the issue here was that there needed to be more evidence to consider certain Darwinian conclusions veridical. Certain things were presupposed to be true to dictate the outcome of Darwinism. Additionally, Harvard geologist and paleontologist Louis Agassiz, pointed out that the sudden appearance and disappearance of unrelated different species shown in the fossil record did not support Darwin's claims.[16] In response, Darwin wrote,

> If my theory be true, it is indisputable that before the lowest Silurian [Cambrian]stratum was deposited, long periods elapsed, as long as, or probably far longer than, the whole interval from the Silurian age to the present day; and that during these vast, yet quite unknown, periods of time, the world swarmed with living creatures. To the question why we do not find records of these vast primordial periods, I can give no satisfactory answer.[17]

This means that if numerous species came to life all at once, then, by Darwin's standard, it would thwart his original theory. However, unlike today, Darwin and Alfred did not have the knowledge of genetics, which is crucial for the neo-Darwinian paradigm.

Seven years after Darwin's *Origin of Species*, German monk and geneticist Gregor Mendel proposed a theory that genetic material is transmitted as units, known today as Mendelian genetics.[18] Mendel's research remained obscure for about three decades where its

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[15] Alfred Wallace, "Sir Charles Lyell on Geological Climates and the Origin of Species," *Quarterly Review* (1869): 391.

[16] "How Darwin Failed His Own Test," *Explore God*, para 3 https://www.exploregod.com/articles/how-darwin-failed-his-own-test.

[17] Charles Darwin, *On the Origin of Species*, 286.

[18] "Philosophy of Genetics: Neo-Darwinism and the Modern Synthesis - Document - Gale In Context: Biography," para. 4, https://go-gale-com.ezproxy.liberty.edu/ps/i.do?p=BIC&u=vic_liberty&id=GALE|CV2433500379&v=2.1&it=r&sid=summon.

"rediscovery" challenged the acceptance of Darwinism.[19] The Russian-born American naturalist and experimental geneticist, Theodosius Dobzhansky, synthesized these Mendelian genetics with Darwinian evolution.[20] This is where we get the term Modern Evolutionary Synthesis aka neo-Darwinism.

Unlike original Darwinism, here, selection is introduced after heredity.[21] This does not mean that selection is less important as a mechanism, but it has a different logical position in the neo-Darwinian theory.[22] Today, neo-Darwinism can be defined as "life evolving to its present state of complexity and diversity via a purposeless material mechanism of random genetic change and natural selection."[23]

There are four assumptions within this one statement: 1) life evolved; 2) this evolution is purposeless; 3) the process uses random genetic changes; 4) the process uses natural selection as a mechanism for only promoting more offspring. Here, God is unnecessary for this process, so a theistic evolutionist like Francis Collins or Alister McGrath would not be considered a neo-Darwinist. Consequently, since the origin of life is a type of forensic science and cannot be tested in a lab, theoretically, only God would *know* how it all happened. However, if neo-Darwinism provides an adequate explanation for the origin and mechanism of life without needing to posit God, what is then necessary to support its conclusions?

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[19] "Neo-Darwinism and the Modern Synthesis," para 4.
[20] "Neo-Darwinism and the Modern Synthesis," para 7.
[21] Michael Ruse, *Charles Darwin* (Hoboken: John Wiley & Sons, 2008), 87.
[22] Ruse, *Charles Darwin*, 87.
[23] Phillip E. Johnson, "Introduction," in *Darwinism, Science or Philosophy? Proceedings of a Symposium Entitled "Darwinism, Scientific Inference or Philosophical Preference?": Held on the Southern Methodist University Campus in Dallas, Texas, March 26-28, 1992*, ed. Jon Buell et al. (Presented at the Darwinism, scientific inference or philosophical preference symposium, Richardson: Foundation for Thought and Ethics, 1994), 1–3.

Neo-Darwinism and Its Assumptions

Five concepts must be true for neo-Darwinism to be true. These are gradualism, the tree of life hypothesis, the evidence of micro-evolutionary change accounting for macro-evolutionary change, time and chance, and methodological naturalism. Gradualism is the notion that all life has evolved via a long process of small and minute steps in the direction of simple to more complex. The tree of life hypothesis hypothesizes that all life came from a single-parent organism, and that lineage can be traced via an interconnected tree of life. The micro-evolutionary to macro-evolutionary assumption is that the empirical evidence we observe within species c.f., adaptability and change over time, can further correlate to the transitioning of species c.f., from sea creatures to land animals. The time and chance assumptions simply assume that with enough time there is a plausible chance that neo-Darwinism is true. Lastly, methodological naturalism is the notion that all scientific theories *must* explain any and all phenomena via material causes.

Prima facie, these *a priori* assumptions seem to have tremendous explanatory power. They provide the "Ah, that explains why we observe this" moment—especially in Darwin's findings with the finches on the Galapagos islands. Yet, when looking at the evidence for these five concepts, it appears that all five are unsupported, unconvincing, and seem to be held onto due to individual biases. If this is true, then it creates immense problems for the pontification of neo-Darwinism as an intractable fact. What will be discovered in this thesis is that like the introductory quote by J. Warner Wallace: all five of these concepts seem to be used to dictate the outcome of neo-Darwinism rather than letting the evidence speak for itself. Interestingly enough, the *a priori* assumptions for neo-Darwinism have created a schism in the world of science and philosophy. Therefore, a review of this contention will be discussed next.

CHAPTER TWO – A BRIEF REVIEW OF THE SCHOLARLY CONTENTION REGARDING NEO-DARWINISM'S *A PRIORI* ASSUMPTIONS

The following literature review explores the different schools of thought within the professional scientific and philosophical world about neo-Darwinism, scientific theory, and the *a priori* assumptions needed to arrive at neo-Darwinian conclusions. The sections will be divided up into four sections. The first will be Christian scholars who disagree with neo-Darwinism. This includes theistic evolutionists since neo-Darwinism in this context is an atheistic postulation. The second is non-Christian scholars who disagree with neo-Darwinism; the third is non-Christian scholars who see some problems with the neo-Darwinism, and the fourth is non-Christian scholars who strongly hold to neo-Darwinism.

Christian Scholars That Disagree with Neo-Darwinism

John Lennox is a mathematician and bioethicist Emeritus Professor at Oxford University. He believes that the nature of science makes it hard to consider most scientific theories as intractable facts. John Lennox is convinced that there is no one scientific method that is completely agreed upon in the scientific community.[24] This is due to the nature of science itself.

Lennox believes that different sciences carry more authority than others. He writes, "Scientific theory that is based on repeated observation and experimentation is likely to, and should, carry more authority than that which is not."[25] He believes that scientific theories should be abandoned if the facts defy every rational explanation.[26] The problem Lennox sees within the scientific community is an inappropriate equivocation of "rational explanation" and "natural

[24] John Lennox, *God's Undertaker: Has Science Buried God?*, New updated edition (Oxford: Lion, 2009), 39.

[25] Ibid., 39.

[26] Ibid., 34.

explanation."[27] He calls this, "At best an indicator of a strong prejudice, at worst a category mistake."[28]

This is where he rejects neo-Darwinism because it holds to an *a priori assumption* called methodological naturalism, which is the ground rule of modern science. This is also where scientists seek explanations of only natural causes. Lennox concludes this to be unscientific and rather more of a philosophical discourse or even a faith commitment.

This is demonstrated in a remark by evolutionary biologist, Richard Lewontin:

> It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.[29]

Lennox responds, "It is a tautology to say that 'materialists cannot allow a Divine foot in the door.' Materialism rejects both the Divine foot and, come to think of it, the door as well."[30] Lennox notices that there is evidence that gives a better reason to postulate the non-material rather than the material. The primary evidence in his book, *God's Undertaker*, is that the cause of information, precisely in DNA, is better explained by a mind rather than material causes. Since whenever one sees information, one always postulates a mind behind the message; therefore, Lennox concludes that it is plausible to conclude that the message of DNA is from a mind rather than a natural, random, mindless process.

Philosopher of Science for a former geophysicist, Stephen Myer, would consider Lennox's thoughts to be correct. Like Lennox, he believes that there is not a defensible definition

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[27] Lennox, *God's Undertaker*, 34.
[28] Ibid., 34.
[29] Richard Lewontin, "Billions and Billions of Demons," *The New York Review*, January 9, 1997, para. 25, https://www-nybooks-com.ezproxy.liberty.edu/articles/1997/01/09/billions-and-billions-of-demons/.
[30] Lennox, *God's Undertaker*, 36.

of neo-Darwinian science.[31] Myer distinguishes the authoritative differences based on the inductive nature of some sciences. He believes that there is a coherent distinction between historical and non-historical science (inductive).[32]

In addition, Myer rejects methodological naturalism because it is not within the scientific frame of its science category. In the context of neo-Darwinism and the origin of life, Myer writes, "The historical question about biological origins is not 'Which materialistic scenario will prove adequate?' but 'How did life as we know it actually arise on earth?'"[33] Myer believes that the answer to this question can be argued based on evidence of the Cambrian period's fossil record.

In *Darwin's Doubt*, Myer explains that the missing fossils in the Precambrian era and the explosion of new life forms in the Cambrian era discovered in the Burgess Shale creates great problems for neo-Darwinian *a priori* assumptions (called gradualism). Myer writes, "The problem posed by the Burgess Shale is not the increase in complexity, but the sudden quantum leap in complexity."[34] Myer finds this to be a problem for neo-Darwinian conclusions because one of the main assumptions for Darwinism was a gradual mechanism of evolution. Myer argues that the findings in Burgess Shale as evidence for the "explosion" of new life forms coincide with the Genesis account and, therefore, can be a plausible postulation for an Intelligent Designer.

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[31] Steven Meyer, *Darwin's Doubt: The Explosive Origin of Animal Life and the Case For Intelligent Design* (Seattle: Harper Collins, 2014), 309.

[32] Stephen Myer, "Laws, Causes, and Facts," in *Darwinism, Science or Philosophy? Proceedings of a Symposium Entitled "Darwinism, Scientific Inference or Philosophical Preference?": Held on the Southern Methodist University Campus in Dallas, Texas, March 26-28, 1992* (Richardson: Foundation for Thought and Ethics, 1994), 32.

[33] Myer, *Laws, Causes, and Facts*, 34.

[34] Myer, *Darwin's Doubt*, 36.

In addition, like Lennox, Myer talks about the problem with DNA. He gives a scientific and mathematical explanation for the improbability of DNA mutating via a random, unguided, and mindless process. Myer utilized molecular biologist, Douglass Axe's, estimation that the classical model of gene evolution is about 10^77.[35] Myer argues, "The classical model of gene evolution, random mutations must thrash about aimlessly in immense combinatorial space, a space that could not be explored by this means in the entire history of life on earth, let alone in the few million years of the Cambrian explosion."[36] Myer is saying that chance and time is not enough for neo-Darwinian conclusions.

In correlation to chance, mathematician and philosopher, William Dembski, makes an argument against inferring scientific facts based on chance. In Dembski's, *The Design Inference,* he argues that inferring design can be a more logical method of inference than chance when it comes to a mystery about something, since design inferences are used to elicit insight to solve the mystery.[37] Dembski argues that many scenarios used the design inference. Patent offices, copyright offices, insurance companies, actuarial firms, statistical consultants, cryptographers, forensic scientists, and detectives all use design inference and are considered logical.[38]

The design inference can be defined as eliminating the regularity of chance to limit explanatory options. It has to do with events conforming to patterns; however, "It does not entail a causal story, much less an intelligent agent."[39] However, Dembski notes that routinely, the reason an event conforms to a pattern is that an intelligent agent arranged it so.[40] The design

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[35] Myer, *Darwin's Doubt*, 203.
[36] Ibid., 203.
[37] William A Dembski, *The Design Inference: Eliminating Chance Through Small Probabilities* (Cambridge: Cambridge University Press, 2006), 24.
[38] Ibid., 22.
[39] Ibid., 226.
[40] Ibid., 227.

inference's main importance is detecting and measuring *information.*[41] Like Lennox and Myer, Dembski considers the nature of the information to be logically inferred via Intelligent Design.

With the mathematical model, geneticist and Professor at Cornell University John C. Sanford argues that more time and chance would actually elicit more genetic extinction rather than life. His coined term, "genetic entropy," argues that "mutational entropy appears to be so strong within large genomes that selection cannot reverse it. This makes eventual extinction of such genomes inevitable."[42]

Engineer, Werner Gitt, concurs with Lennox, Myer, and Dembski about the postulation of information plausibly coming from a mind. In his book, *In the Beginning Was Information*, Gitt argues for information and how information always postulates a mind behind the message. He argues that when scientists look at the five levels of information, statistics, syntax, semantics, pragmatics, and apobetics, they can know which levels of information contain a message caused by a mind. He argues that when as one looks at DNA, it contains the most complex level of information—pragmatics and apobetics.

With this, Gitt notes that information is not material but needs a material medium. He says that information is not life, but the information in cells is essential for all living beings.[43] Therefore, information is a necessary prerequisite for life and that life is nonmaterial, but it is also not information, but matter and information, are essential for life.[44] Gitt writes, "Information requires matter for storage and transmission, life requires information, biological life requires matter as necessary medium, and information and matter fall far short in describing life, but life

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[41] Dembski, *The Design Inference*, 228.

[42] John C. Sanford, *Genetic Entropy & the Mystery of the Genome: The Genome Is Degenerating* (Lima: Elim, 2005), 144.

[43] Gitt, *In the Beginning Was Information,* 81.

[44] Ibid., 81.

depends on the necessary conditions prevailing at the lower levels."[45] With this, he concludes "The information present in living organisms requires an intelligent source. Man could not have been this source so that the only remaining possibility is that there must have been a Creator."[46]

Alister McGrath is a theistic evolutionist who draws a dichotomy between Darwinism as a science and Darwinism as an ideology. He notes that the variable factor has to do with falsification. McGrath notes that Darwinism as a scientific theory is open to falsification. However, he believes Darwinism as an ideology is beyond scientific investigation because it is a creedal statement, not a scientific viewpoint. He says, "Ideologies are reinforced by social structures, which frequently use power as a means of reinforcing the regnant ideology and can be seen in the public school system, academic culture, and the media which we see today."[47]

On page one of McGrath's *Darwinism and the Divine*, he notes that the nature of science itself cannot answer every question but can raise questions that go beyond the realm of science.[48] He also talks about the nature of faith and science and how it deals with a presupposition or *a priori* assumptions demanded by the application the scientific method.[49] McGrath concurs with Lennox, Myer, and Gitt in that all science embraces certain *a priori* assumptions, but the importance is whether these assumptions are scientific. This is where McGrath seems to press on methodological naturalism being one of these unscientific assumptions because it's not always the empirical outcome.

Like John Lennox, McGrath comments on Richard Lewontin's comment on holding onto materialism and not allowing a divine foot in the door. McGrath says that this comment excluded

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[45] Gitt, *In The Beginning Was Information*, 82.
[46] Ibid., 97–98.
[47] Alister McGrath, "Darwinism and the Divine: Evolutionary Thought and Natural Theology," *John Wiley & Sons, Ltd* (2011): 36, http://onlinelibrary.wiley.com/doi/epub/10.1002/9781444392524.
[48] Ibid., 1.
[49] Ibid., 33.

God because of a prior dogmatic commitment to materialism—not on account of a commitment to the investigation of nature, wherever this leads us. He writes, "Materialism is here regarded as the controlling and foreclosing presupposition, not the warranted empirical outcome, of the scientific method."[50]

Within the context of methodological naturalism, philosopher, Alvin Plantinga believes that science should be objective, public, sharable, publicly verifiable, and equally available to everyone regardless of their religious or metaphysical proclivities.[51] However, Plantinga thinks that its absurd to claim neutrality in all science based off the inducive nature of some sciences. He thinks that certain things like Pythagorean theorem is religiously neutral.[52] Plantinga also thinks that methodological naturalism should be rejected as he writes there is "little to be said for it, when examined cooly in the light of day, the arguments for it seem weak indeed."[53]

Norman Geisler and Frank Turek are Christian apologists who note the problem of the origin of life and neo-Darwinian conclusions. They define science as a search for causes.[54] They note that the nature of the science of the origin of life is in a completely different category from normal, empirical sciences. Similar to Myer, they write, "The origin of life is a forensic question that requires us to piece together evidence much like [how] detectives piece together evidence from a murder."[55]

Similar to McGrath, they note that philosophical assumptions are used when searching for causes and (therefore) cannot be the result of them. A big assumption Geisler and Turek

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[50] McGrath, *Darwinism and the Divine*, 33.

[51] Alvin Plantinga, "Methodological Naturalism?," *Perspectives on Science and Christian Faith* (1997): para 8.

[52] Ibid., para 2

[53] Ibid., para 46.

[54] Norman L. Geisler and Frank Turek, *I Don't Have Enough Faith to Be an Atheist* (Wheaton: Crossway, 2004), 120.

[55] Ibid., 117.

claim scientists commit to is the *a priori* assumption of logic. They believe that scientists assume by faith that reason and the scientific method allow us to accurately understand the world people observe. They say that "You can't prove the tools of science—the laws of logic, the Law of Causality, Principle of Uniformity, or the reliability of observation—by running some kind of experiment."[56] They think this presumption is appropriate because it is in line with our common sense. A noteworthy quote by them is that

> Data is always interpreted by scientists. When those scientists let their personal preferences or unproven philosophical assumptions dictate their interpretation of evidence, they do exactly what they accuse religious people of doing, they let their ideology dictate their conclusions. When that's the case, their conclusions should be questioned, because they may not be nothing more than philosophical presuppositions passed off as scientific fact.[57]

In examining the presuppositions of materialist scientists, Geisler and Turek point out that they seem to ignore the irreducible complexity observed within nature. They hold strongly to biochemist Michael Behe's argument for irreducible complexity.

Michael Behe responds to Darwinian assumptions about irreducibly complex systems in his book, *Darwin's Black Box*. Behe places major emphasis on defining irreducible complexity. He defines it as a "single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning."[58] Because of this, he argues that an irreducibly complex system cannot be made by slight successive modifications because any precursor to an irreducibly complex system that is a missing part will be non-functional.[59] This argues against the assumption of gradualism.

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[56] Geisler and Turek, 127–128.
[57] Ibid., 128.
[58] Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: Free Press, 1996), 42.
[59] Ibid., 42–43.

He also addresses the plausibility of random mutations generating animals and argues that because of irreducible complexity, mutations cannot change the instructions in one single step.[60] His famous example was the mousetrap. He argued that if you have a five-part mousetrap, and when one part of the mouse trap is missing, the whole contraption will not work anymore. Ken Miller disagrees with Behe's point by building a mousetrap with four parts on a televised debate of PBS.[61]

Behe responded that it only elicits the need for intelligence and in addition, substituting the four parts does not negate the claim. He argued that if one takes the mouse board out and uses the floor, he is still using the floor as a board. This received major criticism from skeptics, but Behe replied, "If one removes a part of a clearly defined, irreducibly complex system, the system itself immediately and necessarily ceases to function."[62]

Non-Christian Scholars That Disagree with Neo-Darwinism.

Mathematician and philosopher, David Berlinski, is a secular Jew who has tremendous work about dogma in neo-Darwinism. In his books, *The Devil's Delusion* and *The Deniable Darwin*, Berlinski writes a polemic against the ideology of neo-Darwinism and how he finds its dogma to be unsupported and tyrannical. One of Berlinski's main issues is that the neo-Darwinian paradigm is considered an unassailable fact. Berlinski writes, "If no theory is right, how can 'the idea that human minds are the product of evolution" be "unassailable fact?' If this idea is not an unassailable fact, why must we put aside 'the idea that man was created in the image of God?"[63]

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[60] Behe, *Darwin's Black Box*, 44.

[61] The mentioned dialogue can be found on YouTube, https://www.youtube.com/watch?v=7HBTbDNeKLY.

[62] Michael J. Behe, "Reply to My Critics: A Response to Reviews of Darwin's Black Box: The Biochemical Challenge to Evolution," *Biology & Philosophy* 16, no. 5 (November 2001): 693.

[63] David Berlinski, *The Devil's Delusion: Atheism and Its Scientific Pretensions*, 2nd ed. (New York: Basic Books, 2009), 178.

Another big issue Berlinski sees is that the world of science is trying to disprove the existence of God. Yet, Berlinski argues that this is not a scientific claim. He thinks that to put aside the idea that people are created in the image of God, then the opposing reason should be a better reason. He writes, "If they are no good, why champion them? And they are no good. So why champion them?"[64] Berlinksi also argues against the probability for self-replication for the origin of life. Berlinski notes that the odds of one single molecule self-replication would be 10^60.[65] With this number, Berlinski writes against the mental strong-holds he claims neo-Darwinists hold on to by saying, "No betting man would take them, no matter how attractive the payoff, and neither presumably would nature."[66]

Another way Berlinski formulates his polemic against materialism is by explaining the complexity of the human eye, the human mind, and aesthetics. He writes about how people go from light hitting the eye in the form of photons and goes through a whole process that gives them sight. In addition to this sight, people perceive something called beauty. He writes, "How do the twitching nerves, chemical exchanges, electrical flashes, and computational routines of the human eye and brain provide a human being with his experiences."[67]

Similar but not similar to Berlinski, Emeritus Professor of Philosophy and Law at New York University, Thomas Nagel, is an atheist who rejects the neo-Darwinian paradigm. He expresses that he lacks the *sensus divinitatis* that compels people to believe in God and does not invoke a transcendent being with his denial of neo-Darwinism but intends to highlight the complications to the "immanent character of the natural order."[68] In addition, he disagrees with

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[64] Ibid., 165.

[65] David Berlinski and David Klinghoffer, *The Deniable Darwin & Other Essays* (Seattle: Discovery Institute, 2009), 284.

[66] Ibid., 284.

[67] Berlinski, *The Devil's Delusion*, 204.

[68] Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (Oxford University Press, 2012), 11,

the Intelligent Design argument that the only alternative is a reductionist theory that people like Richard Dawkins hold. Yet, unlike Richard Dawkins, who believes that atheism makes it possible to be an intellectually fulfilled atheist,[69] Nagel thinks there are massive problems with neo-Darwinism.

He writes in the context of neo-Darwinism, "It seems to me that, as it is usually presented, the current orthodoxy about the cosmic order is the product of governing assumptions that are unsupported, and that it flies in the face of common sense."[70] Nagel also thinks that natural selection is an inadequate explanation for the mechanism of mutational change. He also thinks that neo-Darwinism is an "assumption governing the scientific project rather than a well-confirmed scientific hypothesis."[71] Furthermore, Nagel believes that the dogmatic view of neo-Darwinism is absurd.

He believes it is wrong to call Intelligence Designists (like Michael Behe, Stephen Myer, and David Berlinski) stupid. He writes, "Even if one is not drawn to the alternative of an explanation by the actions of a designer, the problems that these iconoclasts pose for the orthodox scientific consensus should be taken seriously. They do not deserve the scorn with which they are commonly met. It is manifestly unfair."[72]

Non-Christian Scholars That Observe Problems with Neo-Darwinism

Christian Schwabe is a chemist that thinks that the due nature of the neo-Darwinian paradigm, making hypotheses cannot be proved with 100% certainty. He thinks a current

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https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780199919758.001.0001/acprof-9780199919758.

[69] Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*, Kindle. (W. W. Norton & Company, 2015), 71, https://nls.ldls.org.uk/welcome.html?ark:/81055/vdc_100048491935.0x000001.

[70] Nagel, *Mind and Cosmos*, 5.

[71] Ibid., 11.

[72] Nagel, Mind and Cosmos, 10.

hypothesis can be disproved when the evidence drives beyond the foundation of the prior hypothesis. On the first page of his book, *The Genomic Potential Hypothesis*, Schwabe argues against the tree of life hypothesis based on the fossil record of the Cambrian period in addition to the nature of chemistry. Schwabe argues that if life came from chemicals, it would result in a "lawn" of life rather than a tree of life. He even thinks that the tree of life hypothesis is not science. He writes, "To invoke strings of beneficial mutations that suffice to reshape one animal into the shape of another is not merely unreasonable, it is not science."[73]

In a book published by the MIT Press, scientists Gerd Müller and Stuart Newman edited a book named, *Origination of Organismal Form*, where there is a section named, "Problems of Morphological Evolution" that advances the morphological issues with the neo-Darwinian paradigm. In this section, the scientists talk about the same evidence of the Burgess Shale that Stephen Myer spoke about in his book, *Darwin's Doubt*.

All of them saw problems with the current neo-Darwinian paradigm. Simon Morris noticed the "stunning burst of metazoan forms at the beginning of the Cambrian."[74] Morris believes that if Darwin returned today, his suspicion, "articulated in chapter 9 of *On the Origin of Species*, that the seemingly abrupt appearance of skeletons near the beginning of the Cambrian might undermine his notion of evolution proceeding by slow and steady change" could be laid to rest.[75]

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[73] Christian Schwabe, *The Genomic Potential Hypothesis: A Chemist's View of the Origins, Evolution and Unfolding of Life*, Molecular biology intelligence unit 16 (Georgetown and Austin: Landes Bioscience; Eurekah.com, 2001), 1.

[74] Gerd Müller and Stuart Newman, eds., *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology*, The Vienna series in theoretical biology (Cambridge: MIT Press, 2003), 12.

[75] Morris, "The Cambrian 'Explosion' of Metazoans," in *Origination of Organismal Form*, 27.

Pat Willmer noticed, “Recurrence of similar design solutions in different phylogenetic lineages, despite their absence in a common ancestor.”[76] He observes in his chapter that there are many sources of change in the genome that may invalidate traditional assumptions about homology and the independence of characters.[77] Gerd Müller proposed that the “organizational homology concept” shows that the discordances between genetic and morphological evolution are more prevalent than appreciated and to understand these characteristic features of morphological evolution, He believes we must consider processes and mechanisms beyond the realm of genetics.[78]

Müller identified three steps in the origination of homology that requires a causal explanation. These are “(1) the generation of initial parts and innovations; (2) the fixation of such new elements in the body plan of a phylogenetic lineage; and (3) the autonomization of homologues as process-independent elements of organismal design.”[79] Müller and Newman write that all three chapters in this section, “Remind us that a number of distinct questions about the morphological phenomena of evolution remain unanswered. Notably, how did homoplasy, homology, and particular structural themes, including entire body plans, originate?”[80]

Scholars That Strongly Hold to Neo-Darwinism

Richard Dawkins is one of the leading evolutionary biologists in the world. Dawkins holds a strong commitment to neo-Darwinism being a scientific fact. He once wrote in a book

[76] Müller and Newman, 12.
[77] Willmer, “Convergence and Homoplasy in the Evolution of Organismal Form,” in *Origination of Organismal Form*, 45.
[78] Müller and Newman, 12.
[79] Ibid., 12.
[80] Ibid., 12.

review, “It is absolutely safe to say that if you meet somebody who claims not to believe in evolution, that person is ignorant, stupid or insane (or wicked, but I'd rather not consider that).”[81]

In his *The Blind Watchmaker,* Dawkins compares William Paley’s watchmaker analogy. Dawkins argues that the appearance of design in the world is not actually designed by a designer but is a product of an unguided mechanism called natural selection, which produces the life seen today through random mutation and time. He writes, “Biology is the study of complicated things that give the appearance of having been designed for a purpose.”[82] Unlike Thomas Nagel, Dawkins believes that Darwin made it possible to be an intellectually fulfilled atheist.[83] Not only that, he believes that Darwinism is the *only* known theory that is capable of explaining certain aspects of life."[84] However, Dawkins says these things but also says that Darwinism “requires effort of the *imagination* to escape from the prison of familiar timescale, an effort that I shall try to assist."[85]

Unlike Michael Ruse and Alister McGrath, Dawkins thinks Darwinism can encompass all life. He writes, “It provides the only satisfying explanation for why we all exist, why we are the way that we are. It is the bedrock on which rest all the disciplines known as the humanities.”[86] Unlike Thomas Nagel, Dawkins holds to reductionism, but argues that he is not a nonexistent reductionist. This is where one tries to explain complicated things in the smallest parts.[87] Instead, Dawkins is a hierarchal reductionist that describes “a complex entity at any particular level in the

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[81] Dawkins, “In Short: Nonfiction,” *New York Times*, April 9, 1989, para. 5, https://www.nytimes.com/1989/04/09/books/in-short-nonfiction.html.

[82] Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*, Kindle. (W. W. Norton & Company, 2015), 4, https://nls.ldls.org.uk/welcome.html?ark:/81055/vdc_100048491935.0x000001.

[83] Dawkins, *Blind Watchmaker*, 10.

[84] Ibid., 406.

[85] Ibid., preface, para 6.

[86] Ibid., introduction, para 4.

[87] Dawkins, *Blind Watchmaker*, 21.

hierarchy of the organization, in terms of entities only one level down the hierarchy; entities which, themselves, are likely to be complex enough to need further reducing to their own component parts; and so on."[88]

When it comes to the information argument, Dawkins has his famous monkey and Shakespeare example where he hypothesizes that with enough time, monkeys can produce a line a Shakespeare "methinks it is a weasel" with a typewriter with a restricted keyboard, one with just 26 letters and a space bar. He calculates that this would take about 40–43 generations to do.[89] Dawkins argues that, like this model, with enough time, genetic mutations can possibly result in the complexity we see in life today. Lennox, Gitt, Myer, Sanford, and Berlinski all criticize this hypothesis.

Like Dawkins, philosopher, Daniel Dennett, has a similar take on neo-Darwinism. In his *Darwin's Dangerous Idea,* Dennett says, "To put it bluntly but fairly, anyone today who doubts that the variety of life on this planet was produced by a process of evolution is simply ignorant—inexcusably ignorant, in a world where three out of four people have learned to read and write."[90]

When it comes to scientific theory, Dennett agrees with the Christian scholars that science needs philosophical presuppositions. He writes, "There is no such thing as philosophy-free science; there is only science whose philosophical baggage is taken on board without examination. The Darwinian Revolution is both a scientific and a philosophical revolution, and neither revolution could have occurred without the other."[91] In terms of the causes, Dennett does

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[88] Ibid., 21.
[89] Ibid., 69.
[90] D. C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meaning of Life*, Kindle Edition. (New York: Simon & Schuster, 2014), 46, https://www.overdrive.com/search?q=B2114929-1753-4B58-9CD4-CCA549428819.
[91] Dennett, *Darwin's Dangerous Idea*, 21.

not see the need for God to be the cause of essential things. He thinks that excellence, worth, and purpose can come from a mindless, purposeless force.[92]

Evolutionary biologist, Ernst Mayr, believed that evolution was no longer a theory but as much as similar to the fact that the earth revolves around the sun.[93] He suspects that the changes documented by the fossil record in the geological strata go with evolution. He writes, "It is the factual basis on which the other four evolutionary theories rest. For instance, all the phenomena explained by common descent would make no sense if evolution were not a fact."[94] Unlike William Dembski, Mayr believed that chance is the *ultimate explanation* for natural selection. He writes, "Chance plays a role not only during the first step of natural selection, the production of new, genetically unique individuals, but also during the probabilistic process of the determination of the reproductive success of these individuals."[95]

Philosopher of Science, Michael Ruse, believes that evolution is beyond a reasonable doubt.[96] He thinks that Darwinism as a genuine science cannot answer the questions of meaning. He states, "If Darwinian thinking is to be turned from straight science into a kind of religion, it asks about the new ingredient."[97] He also holds to methodological naturalism. He states, "One must explain the adaptedness of organisms by natural means."[98]

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[92] Ibid., 66.

[93] Ernst Mayr and Malcolm J. Kottler, "Darwin's Five Theories of Evolution," in *The Darwinian Heritage*, ed. David Kohn (Location: Princeton University Press, 1985), 758, http://www.jstor.org.ezproxy.liberty.edu/stable/j.ctt7ztrtb.29.

[94] Ibid., 758.

[95] Ibid., 772.

[96] Michael Ruse, "Darwinism: Philosophical Preference, Scientific Inference, and Good Research Strategy," in *Darwinism, Science or Philosophy? Proceedings of a Symposium Entitled "Darwinism, Scientific Inference or Philosophical Preference?": Held on the Southern Methodist University Campus in Dallas, Texas, March 26-28, 1992* (Richardson: Foundation for Thought and Ethics, 1994), 25.

[97] Michael Ruse, *A Meaning to Life* (New York: Oxford University Press, 2019), 99.

[98] Ruse, Philosophical Preference, 26.

Like Dawkins, Ruse believes organisms work and function as if they are designed but does not suggest they are or are not designed.[99] Instead, he thinks the idea that a designer implies someone who got involved miraculously in the process is inappropriate in the context of science.[100] However, Ruse also acknowledges that at the time of writing the Origin of Species, Darwin had no direct evidence of selection.[101] Ruse differs from Müller and Newman that the evidence of morphology is convincing for Darwinism. However, Ruse's thoughts on scientific theory are similar to those of Christian scholars where he writes, "Science will not work without rules, and experience tell us which are the best rules."[102]

In light of the morphological issues, Stephen Jay Gould's most famous work was his punctuated equilibrium in 1972. Gould was paleontologist and evolutionary biologist. He argued that the explosion of life in the Cambrian period was due to stasis rather than gradualism. Gould claims that Darwin was wrong by falsely assuming that the "slowness" of modification in domesticated animals or crop plants, as measured in ordinary human time would translate into geological time as the continuation and slowness of phyletic gradualism.[103] He writes, "The observed high relative frequency of stasis during the full geological range of metazoan species as preserved in the fossil record."[104] Dawkins finds punctuated equilibrium to be a minor variety of Darwinism and is not a rival theory.[105] On the contrary, Müller, Newman, Berlinski, and Myer see the Cambrian era findings to be problematic for the neo-Darwinian paradigm.

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[99] Ibid., 27.
[100] Ibid., 27.
[101] Michael Ruse, *Charles Darwin*, Blackwell Great Minds 5 (Malden: Blackwell, 2008), 75.
[102] Ruse, Philosophical Preference, 23.
[103] Stephen Jay Gould, *Punctuated Equilibrium*, 1st pbk. ed. (Cambridge: Belknap Press of Harvard University Press, 2007), 40.
[104] Gould, *Punctuated Equilibrium*, 175.
[105] Dawkins, *Blind Watchmaker*, 405.

Despite the seeming dilemmas, evolutionary biologist Richard Lewontin admits to holding on to *a priori* assumptions for neo-Darwinian conclusions despite a lack of evidence. Quoted earlier in this review, Lewontin made it clear that the world of science must hold to material causes despite the evidence against it in order to avoid allowing a Divine Foot in the door of science.[106] This is in contrast to Thomas Henry Huxley, a champion for Darwinism, who he tried to hold to a neutral view of science by stating that science "commits suicide when it adopts a creed."[107]

Philosopher of Science, Sandy C. Boucher, is an advocate for methodological naturalism in the sciences. He writes against Alvin Plantinga's argument against methodological naturalism. Boucher believes there is no blatant and drawn-out line dividing the supernatural and natural. He notes, "The concepts of the natural and the supernatural are in fact hopelessly obscure, such that the claim that science is committed to methodological naturalism cannot be made good."[108] Boucher believes that "supernatural theories could become a legitimate part of science (as they arguably have been in the past) if the evidence in their favor were sufficiently convincing. There is nothing inherently unscientific about supernaturalist theories."[109]

In addition, he believes that inferences to intelligent design are intelligible and could potentially count as scientific, but he believes the inference to be supernatural or divine intelligent design is not intelligible, or potentially scientific because we can attach no sense to the notion of the supernatural.[110] Unlike Thomas Nagel, Boucher thinks that arguments of

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[106] Richard Lewontin, "Billions and Billions of Demons," *The New York Review*, January 9, 1997, para. 25, https://www-nybooks-com.ezproxy.liberty.edu/articles/1997/01/09/billions-and-billions-of-demons/.

[107] Thomas Henry Huxley, "The Darwin Memorial," in *Collected Essays* (Cambridge: Cambridge University Press, 2011), 252, http://ebooks.cambridge.org/ref/id/CBO9781139149211.

[108] Sandy C. Boucher, "Methodological Naturalism in the Sciences," *International Journal for Philosophy of Religion* 88, no. 1 (August 2020): abstract.

[109] Boucher, 58.

[110] Boucher, 71.

creationists or Intelligent Designers are overwhelmingly negative because they are "criticisms of the supposed inadequacies of neo-Darwinian evolutionary theory to account for certain phenomena; anything much in the way of a positive theory is almost entirely lacking."[111]

Thomas Huxley's grandson and evolutionary biologist, Julian Huxley, believed that evolution is "the most powerful and the most comprehensive idea that has ever arisen on earth."[112] Julian held to the idea that the evolutionary outlook must be scientific.[113] Julian seems to have a different outlook than Michael Ruse in the context of what Darwinism tells us. Julian believes evolutionary ideas help the human race understand itself as unique organisms equipped with "a new method of evolution" that he calls cultural evolution, which is based on the summative transmission of experience through language and symbols.[114] However, he claimed that Darwinism accepted the desirability of change and advancement by welcoming a new discovery even when it conflicts with old traditional ways of thinking.[115]

Julian wanted evolution to be the new means of thinking, a new framework of values or ideology, that would grow and develop in the light of the "new evolutionary vision."[116] Interestingly enough, Julian was once asked on television why evolution was accepted so quickly. He said, "The reason we accepted Darwinism even without proof, is because we didn't want God to interfere with our sexual mores."[117]

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[111] Ibid., 78.

[112] Julian Huxley, *Essays of a Humanist* (London: Chatto & Windus, 1964), 125, http://archive.org/details/essaysofhumanist0000huxl_o4n7.

[113] Ibid., 84.

[114] Ibid., 127.

[115] Ibid., 84.

[116] Ibid., 83.

[117] Julian Huxley quoted by James Kennedy in *Skeptics Answered*, Kindle Edition. (Colorado Springs: Multnomah Books, 2013), sec. epilogue para 27, http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=739097.

Chapter Summary

This chapter has covered the competing perspectives among leading scientist and philosophers about the neo-Darwinian paradigm. This chapter was segmented into four sections based on worldview and view of neo-Darwinism. The first section was Christian scholars who disagree with neo-Darwinism. The second was non-Christian scholars who disagree with neo-Darwinism. The third was non-Christian scholars who see some problems with the neo-Darwinism, and the fourth was non-Christian scholars who strongly hold to neo-Darwinism.

What was found is that a particular worldview does not necessarily generate an exclusive view on neo-Darwinism. It was shown that there are highly intelligent and qualified Christians, non-Christian, and even atheists that find interpretative issues with the scientific evidence for neo-Darwinian conclusions. However, it was also shown that there are still highly intelligent and qualified scientists and philosophers that believe the evidence is highly in favor of neo-Darwinism. This contention was highlighted and synthesized to show that if there are highly intelligent and qualified scholars from various perspectives disagreeing on the veridicality of the scientific evidence for neo-Darwinian conclusions, then there might be another reason for this division.

CHAPTER 3 – METHODOLOGY

The main concern of this study is to weigh the five *a priori* assumptions of neo-Darwinism using the same standards that the proponents of neo-Darwinism use. This chapter will explain the methods used to collect, analyze, and draw inferences for the conclusions made in this thesis.

Data Collection

This is a library thesis that provides a meta-analysis of the work done by the leading scientist and philosophers in evolutionary thought. Works that address the topic of neo-Darwinism as a whole and works that address the five specifics *a priori* assumptions for neo-Darwinian conclusions were collected and synthesized.

Books and articles by the leading minds of evolutionary biology were the main pieces of literature. Primary sources of Charles Darwin and Alfred Wallace were used to get a correct definition of original Darwinism. Additionally, literature of the chronologically leading evolutionary biologists was used to grasp an accurate definition of neo-Darwinism. The best and strongest definition of neo-Darwinism was used not to be guilty of the strawman fallacy.

Furthermore, documentary and written dialogues were analyzed to capture the dialogue between opposing views of neo-Darwinism. Literature from five different perspectives on neo-Darwinism was collected. These five different perspectives were the following:

1. Atheistic and non-Christian scientists and philosophers that believe in neo-Darwinism.
2. Atheistic and non-Christian scientists and philosophers that do not believe in neo-Darwinism.
3. Christian scientists and philosophers that believe in Creationism.
4. Christian scientists and philosophers that believe in Intelligent Design.
5. Theistic evolutionists.

These pieces of literature were gathered in a few ways. Online academic databases like the JFL Library, EBSCO, and JSTOR were used for the majority of data collection of primary sources. Sources in the bibliography of the primary sources were utilized as well. Books and articles that were helpful but are not accessible from these databases were purchased at my own expense in either hardcopy, kindle version, or other electronic versions.

Data Analysis Technique

All sources were compiled into a literature matrix where each column was a separate source, and each row was a specific topic based on what was found when reading through the sources. This allowed all different findings and opinions on certain subjects to be adjacent to each other with their respective categories. The results and conclusion for each perspective were analyzed with sources from the five different perspectives of neo-Darwinism. The notes gleaned from each source were put into their respective categories, and each piece of content was compared and contrasted to find differences and similarities. Then contradictions and corroborations were searched for in sources from each of the five individual perspectives on neo-Darwinism. Internal contractions and corroborations were noted and highlighted in the literature matrix within each respective viewpoint.

Adjudication Philosophy

Preceding the data collection, the five *a priori* assumptions of neo-Darwinism were examined to determine its veridicality. The standards that atheist and non-Christian scientists and philosophers used to claim that neo-Darwinism is true were used to adjudicate the five necessary *a priori* assumptions of neo-Darwinism. This was done purposefully to strengthen the argument of this thesis. This thesis would make a much weaker argument if it used the adjudicating standards of a Creationist or Intelligent Designer.

Two different standards were used to adjudicate the five neo-Darwinian *a priori* assumptions because certain concepts would not apply to a certain standard. Note that all the adjudicating standards at times mingle among these bifurcated standards. This is normal. There can arrive nuance to the neo-Darwinian *a priori* assumptions. But for most of the analysis, the following standards were used.

The first standard of adjudication was the scientific method. The encyclopedia Britannica's definitions of the scientific methods was used:

> In a typical application of the scientific method, a researcher develops a hypothesis, tests it through various means, and then modifies the hypothesis based on the outcome of the tests and experiments. The modified hypothesis is then retested, further modified, and tested again until it becomes consistent with observed phenomena and testing outcomes.[118]

This standard was used to adjudicate two of the five neo-Darwinian *a priori* assumptions. These were the micro-evolutionary to macro-evolutionary assumption and methodological naturalism. The micro-evolutionary to macro-evolutionary assumption is in this category because it is claimed to be based on empirical data by neo-Darwinists. Methodological naturalism is in this category because it contends against the empirical evidence found in the postulations of information and intelligence.

The other three neo-Darwinian *a priori* assumptions, gradualism, tree of life hypothesis, and time and chance, were weighed based on different criteria because they are forensic and cannot be tested empirically. The following criteria used to adjudicate these concepts are explanatory power, use of ad hoc, and explanatory scope.

Explanatory power accounts for information while diminishing the amount of vagueness or abstruseness. It accounts for the falsifiability of a theory that asks whether it can be easily

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[118] "Scientific Method -- Britannica Academic," para. 3, https://academic-eb-com.ezproxy.liberty.edu/levels/collegiate/article/scientific-method/473262.

tested or disproven. If it cannot and instead rests on an assumption with no correlating or causal evidence, then it lacks explanatory power. Similarly, not using *ad hoc* solutions prevents fallacious new beliefs from being formed that try to "fit in" a theory with no independent evidence. Stephen Jay Gould's punctuated equilibrium and Richard Dawkins's hypothesis that aliens seeded life on Earth would fit into this category of ad hoc solutions. We want to diminish these to develop an inference grounded in obtainable knowledge.

Furthermore, *explanatory scope* has to do with the number of things it explains and why these particular things are true. If a theory can explain a higher number of things, then it has more explanatory scope. These three standards will aid in the adjudication of the plausibility of the *a priori* assumptions of neo-Darwinism.

Limitations

It is important to note that this thesis is not to supply an exhaustive scientific refutation of neo-Darwinism but to critique the *interpretive issues* of the *a priori* assumptions neo-Darwinists must hold on to arrive at neo-Darwinian conclusions. Scientific literature is necessary for this thesis, but the main emphasis is the philosophical implication of the scientific findings since the science of neo-Darwinism is much more qualitative and philosophical than its quantitative cousins: chemistry and physics. In addition, this thesis will not give an exhaustive examination of the ramifications of neo-Darwinism, although the ramifications are touched on. Lastly, this thesis's main agenda is not to make a positive case for Intelligent Design but to provide a negative case for neo-Darwinism. Although positive arguments for Intelligent Design are utilized, they are not the focal point of this thesis.

Chapter Summary

The meta-analysis of this thesis collected literature from leading scientists and philosophers of evolutionary thought from five different perspectives on neo-Darwinism. It synthesized the findings to spot contradictions and corroborations among supporting and competing views. The information gleaned from these sources was adjudicated based on the *scientific method*, the level of *explanatory power*, the use of *ad hoc*, and the level of *explanatory scope* to determine the veridicality of the *a priori* assumptions of neo-Darwinism, which will be addressed in the next chapter.

CHAPTER 4 – A CRITIQUE OF NEO-DARWINISM'S *A PRIORI* ASSUMPTIONS

The objective of this chapter is not to give an exhaustive scientific refutation of neo-Darwinism but to "put a stone in the shoe" of a neo-Darwinist by challenging the validity of the *a priori* assumptions necessary for neo-Darwinian conclusions. By this means, the predicament is not necessarily the study of neo-Darwinism but its pontification. The beginning section will address the relationship between *a priori* assumptions in scientific theory and neo-Darwinism.

A Priori Assumptions, Scientific Theory, and Neo-Darwinism

One can dichotomize the sciences into two main categories: quantitative and qualitative. *A priori* assumptions play a crucial and appropriate role in these sciences because both rely on *a priori* assumptions to shape how the data is interpreted to some extent. However, quantitative sciences generally hold more authority because they are empirical, unlike qualitative sciences. Sciences like chemistry and physics fall in this category. The linchpin of quantitative sciences is the laws of nature.

Werner Gitt says, "If the truth of a statement is verified repeatedly in a reproducible way so that it is regarded as generally valid, then we have a natural law."[119] The caveat, however, is that the laws of nature cannot be proved with 100% certainty. However, they can be identified and quantified through observation.[120] Therefore, one must assume *a priori* that the laws of nature will work when constructing experiments. Interestingly enough, many laws of nature are descriptive, not explanatory, inasmuch as describing regularities rather than describing why the events they described occur.[121] For example, Newton's Universal Law of Gravitation. As Stephen

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[119] Werner Gitt, *In the Beginning Was Information* (Bielefeld: Christliche Literatur-Verbreitung, 2001), 22.
[120] Ibid., 26–27.
[121] Myer, "Darwinism, Science or Philosophy?" 30.

Myer puts it, “The fundamental laws of physics describe mathematically but do not explain the *phenomen*a they cover.”[122]

In addition to the laws of nature, the laws of logic must be assumed *a priori* to carry out a scientific study. This means that both the laws of nature and the laws of logic are utilized in science and, therefore, cannot be the result of them. This is because a scientist cannot prove the laws of logic or the laws of nature by performing an experiment. Therefore, they are appropriately assumed *a priori*.[123]

In qualitative sciences, *a priori* assumptions are relied on much more. This is because the *a priori* assumptions fundamentally shape how the data is interpreted. This is where theories and hypotheses come into play in science. Theories are scientific statements based on empirical findings.[124] Since the provisional nature of theories rarely have empirical results; they can be made in terms of specific inductive probabilities in the best case.[125] Thus, theories must compare the explanatory power of other competing hypotheses or theories.[126] The best theories are those that contain the least number of inconsistencies.[127]

Consequently, a working theory or hypothesis should be abandoned if it is faced with facts or empirical findings that defy every attempt at rational explanation.[128] This does not mean that qualitative sciences are not valid studies. Stephen Myer says, "Many scientific explanations depend primarily upon antecedent causal conditions and events, not laws, to do... explanatory work."[129] This is because if we limit ourselves to a stringent empirical account for science, as

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[122] Myer, “Laws, Causes, and Facts,” 30.
[123] Norman L. Geisler and Frank Turek, *I Don’t Have Enough Faith to Be an Atheist* (Wheaton: Crossway, 2004), 128.
[124] Gitt, *In the Beginning Was Information*, 23.
[125] Ibid., 23.
[126] Myer, “Laws, Causes, and Facts,” 34.
[127] Gitt, *In the Beginning Was Information*, 23.
[128] Lennox, *God’s Undertaker*, 34.
[129] ”Myer, “Laws, Causes, and Facts,” 30.

Alister McGrath says, “We fail to appreciate its full meaning, value, or agency.”[130] This means that philosophy must play a role to get the fullness of science. Daniel Dennett brilliantly says, “There is no such thing as philosophy-free science; there is only science whose philosophical baggage is taken on board without examination.”[131] So, you have an Intelligent-Designist (Myer), a theistic-evolutionist (McGrath), and a neo-Darwinist (Dennett), all agreeing that philosophy plays a role in the study of science.

However, many neo-Darwinists, seem to place neo-Darwinism in a more quantitative category rather than qualitative. Richard Dawkins writes that neo-Darwinism is “indeed, a remarkably simple theory; childishly so, one would have thought, in comparison with almost all of physics and mathematics."[132] Julian Huxley remarked, “Evolution—or, to spell it out, the idea of the evolutionary process—is the most powerful and the most comprehensive idea that has ever arisen on earth.”[133] Ernst Mayr says, “Evolution as such is no longer a theory for a modern author. It is as much a fact as that the earth revolves around the sun rather than the reverse.”[134] The problem with these statements is that, unlike facts, theories have the property of consilience.[135]

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[130] Alister McGrath, *Darwinism and the Divine: Evolutionary Thought and Natural Theology* (United Kingdom: John Wiley & Sons, Ltd, 2011): 11–12, http://onlinelibrary.wiley.com/doi/epub/10.1002/9781444392524.

[131] D. C. Dennett, *Darwin’s Dangerous Idea: Evolution and the Meaning of Life*, Kindle Edition (New York: Simon & Schuster, 2014), 21, https://www.overdrive.com/search?q=B2114929-1753-4B58-9CD4-CCA549428819.

[132] Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*, Kindle Edition (London: W. W. Norton & Company, 2015), chap. preface paragraph 5, https://nls.ldls.org.uk/welcome.html?ark:/81055/vdc_100048491935.0x000001.

[133] Julian Huxley, *Essays of a Humanist* (London: Chatto & Windus, 1964), 125, http://archive.org/details/essaysofhumanist0000huxl_o4n7.

[134] Ernst Mayr and Malcolom J. Kottler, “Darwin’s Five Theories of Evolution,” in *The Darwinian Heritage*, ed. David Kohn (New Jersey: Princeton University Press, 1985), 758, http://www.jstor.org.ezproxy.liberty.edu/stable/j.ctt7ztrtb.29.

[135] Myer, “Laws, Causes, and Facts,” 36.

Contrary to the mentioned examples, David Hull admits that "Very few of the elements of the synthetic theory of evolution are connected deductively."[136] Additionally, Gerd Müller believes the study of morphological structures is "foremost a qualitative property."[137] So, which one does neo-Darwinism fall under?

The forensic nature of the neo-Darwinian Paradigm places it in a qualitative science because the origin of life cannot be tested repeatably. *It is not a science that can be based on the scientific method*. Neo-Darwinism attempts to answer the question, "How did life begin?" and "What mechanism brought it about?" So, due to the qualitative nature of neo-Darwinian theory, it relies on *a priori* assumptions to *fundamentally* shape how the data is interpreted. The caveat is whether these assumptions are appropriate like the assumptions utilized in quantitative sciences rely on *a priori* cf. the laws of logic and laws of nature. The following sections will develop a case on whether the *a priori* assumptions for neo-Darwinism are supported and convincing. To start, the upcoming section will dive into the evidence of the fossil record discovered in the Burgess Shale and explain why its findings are incongruent with the *a priori* assumptions of gradualism and the tree of life hypothesis (which are crucial for neo-Darwinian theory).

The Cambrian 'Explosion'

Gradualism

Gradualism assumes that evolutionary transformation always proceeds gradually*, never* in jumps.[138] Charles Darwin stated, "No complex instinct can possibly be produced through

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[136] David L. Hull and Malcom J. Kottler, "Darwinism as a Historical Entity," in *The Darwinian Heritage*, ed. David Kohn (New Jersey: Princeton University Press, 1985), 806, http://www.jstor.org.ezproxy.liberty.edu/stable/j.ctt7ztrtb.30.

[137] Gerd Müller, "Homology: The Evolution of Morphological Organization," in *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology*, The Vienna series in theoretical biology (Cambridge: MIT Press, 2003), 54.

[138] Ernst Mayr and Malcolm J. Kottler, "Darwin's Five Theories of Evolution," in *The Darwinian Heritage*, ed. David Kohn (New Jersey: Princeton University Press, 1985), 761, http://www.jstor.org.ezproxy.liberty.edu/stable/j.ctt7ztrtb.29.

natural selection, except by the slow and gradual accumulation of numerous slight, profitable variations."[139] However, he realized that the distinctness of specific forms is not being blended together by innumerable transitional links, bringing undeniable difficulty.[140] This was before the findings of the Burgess Shale in British Columbia in 1909 by Charles Doolittle Walcott.

This fossil site contains a number of unique and complex animals throughout several phyla. The fossils are dated to be within the middle Cambrian era. The significance has to do with the abrupt arrival of complex organisms. This coined its term, the Cambrian Explosion, having to do with the "explosion" of new life forms. Rather than the number of new phyla discovered, the Cambrian explosion confers a conundrum for evolutionary biologists due to the immense number of new and unique animal forms and structures that seem to have arisen "out of thin air."[141]

Stephen Myer notes that the Burgess Shale and any other series of sedimentary strata known in Walcott's day recorded a fossil patterning that resembles a gradual sequence of intermediates.[142] On the contrary, these sedimentary strata seem to reveal completely unique organisms like the strange arthropod *Opabinia* which has "fifteen articulated body segments, twenty-eight gills, thirty flipper-like swimming lobes, long trunk-like proboscis, intricate nervous system, and five separate eyes," which all seem to have appeared fully formed in the Cambrian strata, thus contradicting the assumption of gradualism.[143]

In their book, MIT Gerd Müller and Stuart Newman have responded to this seeming contradiction with gradualism. They state, "If, as we suggest, the failure of the current theory of

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[139] Charles Darwin, *On the Origin of Species* (Minneapolis: Lerner, 2017), 197.
[140] Darwin, *On the Origin of Species*, 260.
[141] Steven Meyer, *Darwin's Doubt: The Explosive Origin of Animal Life and the Case For Intellegent Design* (Seattle: Harper Collins, 2014), 33.
[142] Ibid., 36.
[143] Ibid., 36.

evolution to deal with the problem of origination is the major obstacle to a scientific understanding of organismal form, it is incumbent on us to provide at least a sketch of an alternative view."[144] A section in their book, "Problems with Morphological Evolution," delves into these problems of origination of the neo-Darwinian Paradigm. Within this section, Simon Morris hypothesizes that if Charles Darwin returned today, his suspicion articulated in chapter 9 of *On the Origin of Species*, that the seemingly abrupt appearance of skeletons near the beginning of the Cambrian, would undermine his notion of gradualism.[145]

On the contrary, Richard Dawkins argues that the complexity we see in life forms today cannot be explained as originating from a single step.[146] Myer notes that some scientists have claimed that the Precambrian fossils had not been found yet and that the incomplete sampling of the fossil record is the reason. In contrast, others suggest the Precambrian sedimentary rock did not preserve the missing fossils because they were too small, soft, or both to be preserved.[147] The problem with these conclusions is that they are educated but-biased guesses. Their guesses are contrary to the raw evidence of the fossil record.

David Berlinski objects to the excuses made for the lack of evidence of gradualism as he writes, "If those 'major transitions' represent a 'sudden emergence of new forms,' the obvious conclusion to draw is not that nature is perverse, *but that Darwin was wrong*" (Italics added).[148]

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[144] Gerd Müller and Stuart Newman, eds., *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology*, The Vienna series in theoretical biology (Cambridge: MIT Press, 2003), 8.

[145] Simon Morris, "The Cambrian 'Explosion' of Metazoans," in *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology*, The Vienna series in theoretical biology (Cambridge: MIT Press, 2003), 27.

[146] Dawkins, *The Blind Watchmaker*, 22.

[147] Myer, *Darwin's Doubt*, 56.

[148] Berlinski, *The Devil's Delusion*, 192.

Harking back to what was stated earlier, "[A] working theory or hypothesis should be abandoned if it is faced with facts or empirical findings that defy every attempt at rational explanation."[149]

To account for the Burgess Shale findings, in 1972, paleontologist Stephen Jay Gould formulated a "new" theory in light of the explosion of new and complex lifeforms in the Cambrian era. In a more recent update, Gould says, "Punctuated equilibrium holds that the great majority of species, as evidenced by their anatomical and geographical histories in the fossil record, originate in geological moments (punctuations) and then persist in stasis throughout their long durations."[150]

In simpler terms, punctuated equilibrium is supposed to account for the rapid appearance of complex lifeforms found during the Cambrian period and hypothesizes that in nature, stasis (a period of inactivity) happens for a long time, then punctuations happen where lifeforms arise, then it goes back to stasis. The most crucial ground rule of punctuated equilibrium is that it claims to appeal to dominate patterns rather than an assertion of the existence of a phenomenon.[151] However, Gould never reveals the contingent phenomena of the "missing" transitions that Darwin claimed to have explained.[152]

Interestingly enough, Simon Morris accuses Gould of a "strange materialist agenda" by arguing that a fortuitous cause for the origin of humans leads to certain ethical consequences.[153] However, whatever agenda Gould has, does not mean his proclamation is false. The vital problem with Gould's punctuated equilibrium is not his agenda but that no new data was found to arrive at his new conclusion. The *a priori* assumption was simply *changed* to interpret the

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[149] Lennox, *God's Undertaker*, 34.
[150] Stephen Jay Gould, *Punctuated Equilibrium*, 1st pbk. ed. (Cambridge: Belknap Press of Harvard University Press, 2007), 40.
[151] Ibid., 40.
[152] Berlinski, *The Devil's Delusion*, 188.
[153] Morris, "The Cambrian 'Explosion' of Metazoans," 22.

same data. If qualitative sciences utilize empirical evidence to formulate new theories, then new empirical evidence should be discovered when generating new theories.

In Gould's case, there was none. The assertions of stasis and punctuation may be accurate, and they seem to correlate better than the inconsistencies with gradualism; however, at best, it is a well-educated but *unsupported* guess.

Tree of Life Hypothesis

Gradualism and the tree of life hypothesis are interconnected. Gradualism is an antecedent assumption for the tree of life hypothesis to work. With the sudden appearance of life during the Cambrian period, one might conclude that if we do not have fossils documenting a gradual progression, there must be some other explanations. The deep divergence hypothesis is a central explanation used to negate this sudden appearance of new complex life.

Deep Divergence

The deep divergence hypothesis uses genetic studies to account for the branching of animal species to resemble the tree of life. Richard Dawkins asserts that since there is a universal genetic code, it can be regarded as "near-conclusive proof that all organisms are descended from a single common ancestor."[154] In addition, Daniel Dennett asserts,

> There is no serious controversy about the fact that all the diversity of life that has ever existed on this planet is derived from this single fan-out; the controversies arise about how to discover and describe in general terms the various forces, principles, constraints, etc., that permit us to give a scientific explanation of the patterns in all this diversity.[155]

The problem will these statements is that there is a considerable amount of controversy among the scientific community about how the tree of life should be classified and what it should look like.

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[154] Dawkins, *The Blind Watchmaker*, 383.
[155] Dennett, *Darwin's Dangerous Idea*, 86.

Since evolutionary history only happened once, and the trees of life illustrate the hypotheses of the unobserved relationships between animal groups, then if there are two or more conflicting hypotheses, the tree of life has not been figured out because there is only one history.[156] James Degnan and Noah Rosenberg published a paper in *Trends in Ecology and Evolution,* noting, "With the increasing abundance of molecular data and the recognition that evolutionary trees from different genes often have conflicting branching patterns."[157] Myer gives three reasons why the evidence of genetic and anatomical similarities are not substantial. The three reasons are

1. Comparisons of different molecules repeatedly generate divergent trees.
2. Comparison of anatomical characteristics and molecules repeatedly produced divergent trees.
3. Trees based only on different anatomical characteristics often contradict each other.[158]

Furthermore, biologists, Eugene Koonin, has observed that there are major transitions in biological evolution that show an identical pattern of a sudden emergence of diverse forms at a new level of complexity.[159] He says the relationships between major groups within an emerging new class of biological entities are "*hard to decipher and do not seem to fit the tree pattern* that Darwin's originally proposed."[160]

These biological entities include: the origin of complex RNA molecules and protein folds, major groups of viruses, archaea and bacteria, and the dominant lineages within each of these prokaryotic domains; eukaryotic supergroups; and animal phyla. [161] He notes that these

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[156] Myer, *Darwin's Doubt*, 117.

[157] James H. Degnan and Noah A. Rosenberg, "Gene Tree Discordance, Phylogenetic Inference and the Multispecies Coalescent," *Trends in Ecology & Evolution* 24, no. 6 (June 2009): 332.

[158] Myer, *Darwin's Doubt*, 119.

[159] Eugene V. Koonin, "The Biological Big Bang Model for the Major Transitions in Evolution," *Biology Direct* 2, no. 1 (2007): abstract.

[160] Ibid., abstract.

[161] Ibid., abstract.

entities seem to have appeared rapidly and fully equipped with the signature features of the respective new level of biological organization. He states that "No intermediate ‘grades’ or intermediate forms between different types are detectable.[162]

Additionally, Liliana Dávalos et al. assert that this phylogenetic conflict is common and is routinely the norm rather than the exception.[163] A notable study by Michael Syvanen analyzed two thousand genes in six animals that span diverse phyla like the chordates, echinoderms, arthropods, and nematodes. [164] His analysis consequently did not yield a tree-like pattern. [165] The evidence was so blatantly not in favor of the tree of life hypothesis that Syvanen exclaims, “We’ve just annihilated the tree of life. It’s not a tree anymore; it is a different topology entirely. What would Darwin have made of that?”[166] With all these conflicts, one may argue that these trees at least show “some type” of tree-like pattern preceding the Cambrian period; however, this is simply because they assume *a priori* that there must be a tree of life; there is no demonstration of it. [167]

Genomic Potential Hypothesis

Furthermore, Christian Schwabe argues from a chemistry standpoint that if life originated from chemicals, it would not result in one common ancestor but rather a bunch of lifeforms coming into existence at one time. It is more of a “lawn” of life rather than a tree of life. He explains that the neo-Darwinian mechanism of natural selection acting on random genetic

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[162] Koonin, “The Biological Big Bang,” abstract.

[163] Liliana M. Dávalos et al., “Understanding Phylogenetic Incongruence: Lessons from Phyllostomid Bats,” *Biological Reviews* 87, no. 4 (November 2012): 993.

[164] Myer, *Darwin’s Doubt*, 119.

[165] Ibid., 119.

[166] Michael Syvanen quoted by Graham Lawton in, “Why Darwin Was Wrong about the Tree of Life,” *New Scientist* (2009): 39.

[167] Myer, *Darwin’s Doubt*, 133.

mutations that produce the top-down pattern that we observe in the history of life following the Cambrian explosion should not be expected.[168]

Schwabe argues that there are no intermediate forms in the fossil record because mutations cannot be a mechanism to produce new organisms; thus, the evolutionary trees that are presented are images created by the *sequential ripening* of pro-forms and their rapid rise into the fossil scene.[169] Schwabe bluntly asserts that there was never a time on earth when only one kind or specie existed. [170] Additionally, no evidence would lead to the conclusion that the development of species was parallel rather than sequential. [171]

The formation of new and distinct species (speciation) has never been substantiated by plausible evidence. All examples of speciation found in the literature today are all a postulation "*inspired by the hypothesis.*" [172] This means that speciation is derived from an *ad hoc* hypothesis that uses circular reasoning to shape its conclusion. So, the standard line of thinking that if animals A and B have certain features in common, they are derived from a common ancestor "*is merely a restatement of the parent hypothesis.*"[173]

Genetic Commonalities

Neo-Darwinists also assume that the commonality of every lifeform containing the universal genetic code is an *obvious* explanation for common ancestry. The rationale for this assumption is the 99% genetic commonality between apes and humans. The problem with this assumption is that the similarity of the gross contents of the genetic code cannot always account

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[168] Myer, *Darwin's Doubt*, 43.

[169] Christian Schwabe, *The Genomic Potential Hypothesis: A Chemist's View of the Origins, Evolution and Unfolding of Life*, Molecular biology intelligence unit 16 (Georgetown and Austin: Landes Bioscience; Eurekah.com, 2001), 2.

[170] Ibid., 43.

[171] Ibid.

[172] Ibid.

[173] Ibid.

for the order of it. Consider the two statements: “Goku is a martial arts god.” “Goku is a martial arts dog.”[174]

The two statements contain 100% of the same information, and the characters are worded approximately 93% the same; however, they have two completely different meanings. In light of DNA, this makes even more sense against the tree of life hypothesis because the order of amino acid chains in DNA is vitally dependent on the order.[175] This is because any variation usually renders the protein dysfunctional.[176] To say that the similarity of the genetic code can provide a substantial inference to common ancestry is unconvincing.

In support of this objection, biochemist Michael Denton observed in 1985 that there is no trace of the traditional evolutionary series: cyclostome- fish- amphibian- reptile- mammal at a molecular level.[177] So, the traditional consideration of amphibia, an intermediate between fish and other terrestrial vertebrates, is incorrect. [178] In molecular terms, they are as far from fish as any group of reptiles or mammals.[179] Thirty-one years later; Denton still has yet to finds any empirical evidence that would lead to the tree of life hypothesis. He stated, “It is only the *a priori* demands of Darwinian causation that have imposed continuity on a basically discontinuous reality.”[180] Simply put, the genetic commonalities are not a substantial assumption for an interconnecting tree of life.

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[174] Geisler and Turek, *I Don’t Have Enough Faith to be an Atheist*, 150.
[175] Ibid.
[176] Ibid.
[177] Michael Denton, *Evolution: A Theory in Crisis*, 1st U.S. ed. (Bethesda: Adler & Adler, 1986), 284.
[178] Ibid., 285.
[179] Ibid.
[180] Michael Denton, *Evolution: Still a Theory in Crisis*, Revised edition. (Seattle: Discovery Institute, 2016), 93.

Convergent Evolution

Convergent evolution argues that the similarities observed in animals do not always result from a common ancestry (homology). Pat Willmer notes that the developmental studies of the convergent origins are becoming clouded. [181] She says, "We still do not know enough about molecular genomic variation within phyla to be sure the very few representatives chosen thus far are typical or 'normal' for a particular taxon."[182] She believes that it may be impossible to maintain convergence that reaches out to the polyphyly of the animal kingdom; as she says, "The jury is still out." [183] There are thus many sources of change in the genome that may invalidate traditional assumptions about homology and the independence of characters.[184]

So, the convergence creates problems for similar designs without common ancestry. Instead of common genes accounting for common structures in fruit flies, worms, and mammals, scientists have concluded that genes influence the development of a certain "type" of structure that is 'in the right place at the right time.'[185] The application of molecular taxonomy to the "big" problems of phyletic relationships has altered Willmer's views on where animals belong and as WIllmer says, "How they must have evolved."[186]

What is interesting about Wilmer's statement is that the animals *must* evolve. This again places evolution as an *a priori* assumption that influences how the data is interpreted. Why *must* they evolve? Perhaps the evidence for the adaptability observed in what is called micro-evolution is being attributed to macro-evolution? The next section will argue against this by accusing it of

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[181] Pat Willmer, "Convergence and Homoplasy in the Evolution of Organismal Form," in *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology*, The Vienna series in theoretical biology (Cambridge: MIT Press, 2003), 38.

[182] Ibid., 44.

[183] Ibid.

[184] Ibid., 45.

[185] Ibid., 38.

[186] Ibid., 43.

a fallacious equivocation of the evidence of micro-evolution to account for the macro-evolution necessary to the neo-Darwinian paradigm.

Does Micro-Evolution Account for Macro-Evolution?

David Prindle accuses Creationists of relying on ill-informed presuppositions to back up their claim. He writes, "Creationism is a collection of vague, often contradictory, and sometimes nonsensical suppositions that generally are unable to generate empirically testable predictions, and on the few occasions when it has done so, these have not been supported."[187] He says this while there is no empirical evidence for macro-evolution. Ironically, there seems to be empirical evidence that suggests *against* neo-Darwinism. To claim that there is empirical evidence for macro-evolution is an unsupported and nonsensical assumption.

Irreducible Complexity

Charles Darwin wrote, "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."[188] Consequently, Michael Behe discovered the irreducible complexity of a cell. Irreducible complexity is a "single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to cease function."[189] Behe notes that irreducibly complex systems cannot be produced directly by slight successive modifications of a precursor system because any missing precursor part to that irreducibly complex system will be considered nonfunctional.[190]

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[187] David F. Prindle, *The Politics of Evolution* (New York: Routledge, 2015), 129.
[188] Darwin, *On the Origin of Species*, 177.
[189] Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: Free Press, 1996), 42.
[190] Behe, *Darwin's Black Box*, 42–43.

His famous example of an irreducibly complex system was the mousetrap. He argued that if you have a five-part mousetrap, and when one part of the mouse trap is missing, the whole thing will not work anymore. As mentioned in the literature view, Ken Miller disagreed with Behe's point by building a mousetrap with four traps on a televised debate on PBS.[191] Behe responded that it only elicits the need for intelligence; substituting the four parts does not negate the claim. He argued that if you take the mouse board out and use the floor, you are still using the floor as a board.

The problem with Miller's response is that it actually coincides with Behe's claim that all five parts are needed. You may combine one part or replace the part with something else, but the *function* must be there. All Miller did was push back the argument. He may be able to use the floor instead of the board, but that function that the board or the floor makes is needed no matter what. As Behe replies to his critics, "If one removes a part of a clearly defined, irreducibly complex system, the system itself immediately and necessarily ceases to function."[192]

Additionally, on a macro level, this complexity argues for the non-viability of transitional life forms. Going back to the fossil record, we do not see transitional life forms in the fossil record. It is plausible to believe that the irreducibly complex system creates a strong case for why transitional organisms are not found. That is because transitional forms would not be able to exist. If there were small steps from a fish becoming a land animal, the small transitional structure would not be able to work. For example, the transitions from gills to lungs in small minute steps would create systems that neither work for survival in water nor outside of water.

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[191] The mentioned dialogue can be found on YouTube, https://www.youtube.com/watch?v=7HBTbDNeKLY.

[192] Behe, "Reply to My Critics," 693.

Flagellum

Furthermore, Behe found multiple aspects of the cell that seem to be irreducibly complex. The most controversial was the flagellum. Behe notes that the bacterial rotary motor of a flagellum must have the same mechanical elements as other rotary devices: a rotor (the rotating element) and a stator (the stationary component).[193] In addition, He states, "The bacterial flagellum is necessarily composed of at least three parts—a paddle, a rotor, and a motor—it is irreducibly complex. Gradual evolution of the flagellum, like the cilium, therefore, faces mammoth hurdles."[194] Furthermore, William Dembski coincides with Behe and makes the same argument. Dembski says that from a Darwinian view, a bacterium with a flagellum evolved via the Darwinian selection mechanisms from a bacterium without a flagellum.[195] For this mechanism to produce the flagellum, chance modifications must generate the various proteins that constitute the flagellum.[196] Then, selection must preserve them, gather them to the correct location in the bacterium, and adequately assemble them.[197] Yet, how is a selection to accomplish this?

Selection is nonteleological.[198] Therefore, it cannot cumulate proteins, holding them in reserve until they are finally available to form a complete flagellum with the passing of many generations.[199] The environment contains no blueprint of the flagellum that selection can extract and transmit to an organism to create a flagellum.[200] Selection can only build on partial function,

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[193] Behe, *Darwin's Black Box*, 67.
[194] Ibid., 68.
[195] William A. Dembski, *No Free Lunch: Why Specified Complexity Cannot Be Purchased without Intelligence* (Lanham: Rowman & Littlefield, 2002), 205.
[196] Ibid., 250.
[197] Ibid.
[198] Ibid.
[199] Ibid.
[200] Ibid.

gradually improving existing function.[201] Still, a flagellum without its full complement of protein parts does not function.[202]

These arguments for the flagellum created great controversy. Ian Musgrave gave a notable response in contrary of Behe and Dembski's view. He writes:

> Here is a possible scenario for the evolution of the eubacterial flagellum: a secretory system arose first, based around the SMC rod- and pore-forming complex, which was the common ancestor of the type-III secretory system and the flagellar system. The Association of an ion pump (which later became the motor protein) to this structure improved secretion. Even today, the motor proteins, part of a family of secretion-driving proteins, can freely dissociate and reassociate with the flagellar design. The rod- and pore-forming complex may have rotated at this stage, as in some gliding-motility systems. The protoflagellar filament arose next as part of the protein-secretion structure (compare the Pseudomonas pilus, the Salmonella filamentous appendages, and the E. coli filamentous structures). Gliding-twitching motility arose at this stage or later and was then refined into swimming motility. Regulation and switching can be added later, because there are modern eubacteria that lack these attributes but function well in their environments (Shah and Sockett 1995). At every stage there is a benefit to the changes in the structure. [203]

The problem with Musgrave's statement is that it underestimates the complexity and sophistication of the flagellar system in its manufacturing apparatus and its "state-of-the-art design motif." [204] Jonathan McLatchie briefly comments on the vast complexity of the flagellar and explains the interdependence of every piece.[205] It still remains that if one part of the flagellar did not exist or function properly, the entire flagellar would not work.

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[201] Dembski, *No Free Lunch*, 250.

[202] Ibid.

[203] Ian Musgrave, "Evolution of the Bacterial Flagellum," in *Why Intelligent Design Fails: A Scientific Critique of the New Creationism* (New Jersey: Rutgers University Press, 2004), 82–83.

[204] Jonathan McLatchie, "Michael Behe Hasn't Been Refuted on the Flagellum," *The Discovery Institute* (2011): 6.

[205] Jonathan McLatchie goes over of these in his "Michael Behe Hasn't Been Refuted on the Flagellum," from paragraphs 8-17.

Genetic Limits

Bacteria

A significant claim by a neo-Darwinist is that the mutations of bacteria in response to an antibiotic give a clear example of genetic mutations. Bacteria are indeed able to gain immunity from antibiotics. Therefore, one may conclude that genetic mutation on the macro-level is possible via natural selection. This was tested with the bacteria *Escherichia coli*. Hundreds of strains and varieties of *Escherichia coli* have been formed in experiments; however, they can still be easily identified as *Escherichia coli.* This is because a primitive nucleus was not created.[206]

In 1989, these experiments have never produced a colony of bacterium with a primitive nucleus, and there has been no current observation s in this manner. [207] There seems to be a genetic limit built into each basic type. [208] Zoologist and evolutionist Pierre-Paull Grasse comments on the bacteria study and says, "What is the use of their unceasing mutations if they do not change? In sum, the mutations of bacteria and viruses are merely hereditary fluctuations around a median position; a swing to the right, a swing to the left, *but not final evolutionary effect*" [Italics added].[209]

Fruit Flies

One may object and say that it could eventually be observed with more time, but this was tried with the *Drosophila* fruit flies. These fruit flies are considered a "genetic workhorse" with a generation time of fewer than three weeks. [210] Within two years, thirty-forty generations can be

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[206] Lane P. Lester, Raymond G. Bohlin, and V. Elving Anderson, *The Natural Limits to Biological Change* (Dallas: Probe, 1989), 88.

[207] Ibid.

[208] Geisler and Turek *I Don't Have Enough Faith to be an Atheist*, 142.

[209] Pierre-Paul Grassé, *Evolution of Living Organisms: Evidence for a New Theory of Transformation* (New York: Academic Press, 1977), 87.

[210] Lester et al., *The Natural Limits to Biological Change*, 88–89.

observed in *laboratory-controlled* conditions.[211] These *Drosophila* are a definitive test for neo-Darwinian theory because they have been exposed to numerous mutations in a myriad of environments over periods covering many generations.[212] Ironically, despite the high degree of variability in *Drosophila*, they always remained to be fruit flies.[213] As Francis Hitchings says, "Fruit flies refuse to become anything but fruit flies under any circumstances yet devised."[214]

Cyclical Change

In addition to the genetic limits, the changing of species due to variability among life forms appears to be cyclical. [215] In 1835, Charles Darwin visited the Galapagos Islands and observed variations between finches due to the weather. His *Origin of Species* hinges on these variations. The problem is that these variations cycled back and forth depending on conditionings and appear to be limited to such a cycle. In all Darwin's observations, there was no observation of new life forms. In addition, these variations are of the utmost importance regarding Darwinian conclusions.

Darwin writes, "Individual differences are *highly important* for us, as they afford materials for natural selection to accumulate, in the same manner as man can accumulate in any given direction individual differences in his domesticated productions."[216] So, not only is there a cyclicality to these variations, but these variations would also have to be explained not only for the survival of species but the genesis of species. The mechanism of natural selection does not offer this. It has no innovative capacity; it simply just eliminates or maintains what exists. [217]

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[211] Lester et al., *The Natural Limits to Biological Change,* 88–89.
[212] Ibid.
[213] Ibid.
[214] Francis Hitching, *The Neck of the Giraffe: Where Darwin Went Wrong* (New Haven: Ticknor & Fields, 1982), 56–57.
[215] Geisler and Turek, *I Don't Have Enough Faith to Be an Atheist*, 144.
[216] Charles Darwin, *On the Origin of Species*, 43.
[217] Müller, "Homology: The Evolution of Morphological Organization," 51.

One may object to say with more time, we would eventually see this micro to macro jump; however, there is no empirical evidence for this hypothesis. One can guess there might be a macro change, and it is fine to hold to that view. However, pontificating it as an intractable fact would be intellectually dishonest. Notably, there seems to be evidence against this hypothesis as well.

Time and Chance

Cumulative Selection

Richard Dawkins argues that if you put a bunch of monkeys in a room with a twenty-six-letter typewriter, they would eventually be able to type the Shakespearean saying, "Methinks it is like a weasel."[218] With a single-step selection of random variation, the chance of getting the entire phrase of twenty-eight characters right with the twenty-seven letters of the phrase, "Methinks it is like a weasel" is 1/27 to the power 28, or, if you will, about 1 in 10,000 million million million million million million (10^{31}).[219] However, a cumulative selection would be much more effective.

With a computer generator, it can examine nonsense phrases and chooses the one which most resembles the *target phrase,* "Methinks it is like a weasel."[220] Richard Dawkins uses a computer to test this hypothesis and finds that within forty-three generations, the phrase, "Methinks it is like a weasel," can be generated.[221] So, instead of a chance of 10^{31}, it is only 43.[222] The problem with this is that this is not an unguided mindless process. Dawkins admits

> If evolutionary progress had had to rely on single-step selection, it would never have got anywhere. If, however, there was any way in which the necessary conditions for cumulative selection could have been set up by the blind forces of nature, strange and

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[218] Dawkins, *The Blind Watchmaker*, 66.
[219] Ibid., 67.
[220] Ibid., 68.
[221] Ibid., 69.
[222] Lennox, *God's Undertaker*, 167.

> wonderful might have been the consequences. Chance is a minor ingredient in the Darwinian recipe, but the most important ingredient is cumulative selection which is quintessentially nonrandom.[223]

Nevertheless, Dawkins has solved his own neo-Darwinian problem by introducing the two components that he explicitly wished to avoid at all costs.[224] If evolution is blind and purposeless, there cannot be a goal or target. This target phrase is the precise goal which, according to Dawkins, is un-Darwinian.[225] What is bizarre is that the information that the mechanisms are supposed to produce is already contained somewhere within the organism, whose genesis Dawkins claims to be simulated by his process.[226] No information would be generated without the target phrase. [227]

As Lennox notes, "The argument is entirely circular."[228] Additionally, if one genetic mistake is made, it will result in death. Dawkins also admits:

> The number of different ways of being dead is so much greater than the number of different ways of being alive, the chances are very high that a big random jump in genetic space will end in death . . . But the smaller the jump the less likely death is, and the more likely is it that the jump will result in improvement.[229]

The problem with this is genetic entropy.

As mentioned in the literature review, John C. Sanford discovered that genetic entropy is so strong within *large* genomes that selection cannot reverse it.[230] The higher the genome, the more compressed data.[231] This makes it extremely difficult, if not impossible, for smaller genetic jumps to happen for the higher genomes in humans. This is because mutations, more times than

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[223] Dawkins, *The Blind Watchmaker*, 70–71.
[224] Lennox, *God's Undertaker*, 167.
[225] Ibid.
[226] Ibid.
[227] Gitt, *In the Beginning Was Information*, 102.
[228] Lennox, *God's Undertaker*, 167.
[229] Dawkins, *The Blind Watchmaker,* 103.
[230] Sanford, *Genetic Entropy*, 144.
[231] Ibid., 28.

not, equal death. If one of Dawkins monkeys makes even one mistake, then the monkey dies.[232] Additionally, mutations are complex and happen at the molecular level, but not only that, selection can only happen on the level of the whole organism.[233] Due to this, it seems that the extinction of genomes is an inevitable pattern regardless of chance.[234]

DNA

The last resort would be to assume *a priori* that there is enough time in the history of life to make the neo-Darwinian paradigm plausible. One might argue, "If the age of the earth is 4.5 billion years old, and life started about 3.8 billion years ago, there is bound to be enough time for life to form and evolve via randomized mutations." The main problem with this hypothesis is DNA.

DNA is a long molecule with a double helix structure consisting of four letters, A,C,G,T.[235] There is a rule that A is invariably paired with T and C with G; thus, if one strand of the double helix starts with AGGTCCGTAATG, then the other strand will start TCCAGGCATTAC.[236] The importance of DNA is the sequencing. The sequencing of the letters of DNA is similar to the ordinary alphabet in that the message depends on the precise ordering of the letters; therefore, the sequence of bases on the spine of DNA carries a precise message.[237] A gene, then, is a long string of these letters carrying the information for a protein so that a gene can be interpreted as a set of instructions, like a program, for making that protein.[238]

In addition, there is an immense amount of DNA in even the simplest of lifeforms. Richard Dawkins acknowledges this tremendous quantity of information in life. He recalls that

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[232] Gary Isaacs, March 19, 2023.
[233] Sanford, *Genetic Entropy*, 6.
[234] Sanford, *Genetic Entropy*, 144.
[235] Lennox, *God's Undertaker*, 136.
[236] Ibid.
[237] Ibid., 137.
[238] Ibid.

an amoeba contains as much information as 1000 Encyclopedia Britannica's.[239] With the complexity and quantity of DNA, it is appropriate to claim that DNA is vital for life due to the information and actions it carries out. This is where the problem of time and chance comes into play for the neo-Darwinist. The combinational probability for functional DNA mutations via a truly random, unguided, unintelligent process seems too small to base a scientific theory on.

Combinational Probability and The Chance Hypothesis

An amino acid chain contains twenty protein-forming amino acids. If you have two amino acid chains, one will have 20^2 or 400 possible combinations of sequences.[240] However, it usually takes at least four amino acids for functional proteins and the genes (sections of the DNA that code for specific purposes) consist of 1000 nucleotide bases at minimum.[241] When you take the four letters of DNA (A,C,G,T) you now have 4^{1000} possible base sequences.[242] Additionally, it takes three bases to assign to one of the 20 protein-forming amino acids; so if the average gene minimum has 1000 bases, the average protein would have over 300 amino acids.[243]

This means that an average-length protein of 300 amino acids to form one possible sequence would be among 20^{300} or 10^{390} possible amino acid sequences.[244] To put this into perspective, there are only 10^{65} atoms estimated to be in the Milky Way galaxy.[245] Combinational-wise, this is an astronomical number of possible combinations. The trouble for a random, unguided, unintelligent process comes into play when looking at the rarity of functional DNA sequences. In addition, it depends if there is enough time to run all the possible sequencings to produce functions for life.

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[239] Dawkins, *The Blind Watchmaker*, 164.
[240] Myer, *Darwin's Doubt*, 175.
[241] Ibid.
[242] Ibid.
[243] Ibid.
[244] Ibid.
[245] Ibid.

Douglas Axe set out to understand the probability of new genes and proteins emerging from nonfunctional genomes.[246] He used 150 amino acid long sequences that were capable of performing specific functions and compared them to the whole set of possible sequences according to the 150 amino acid length.[247] This is a very modest number of amino acid sequences. A simple Google search will even tell you that the average sequence length for bacteria is 320 amino acids. Regardless, Axe underwent mutagenesis experiments with the 150 amino acid long sequences and concluded that 10^{64} signature-consistent sequences form a working domain.[248] He then combined this with the prevalence of plausible hydropathic patterns and concluded that the overall prevalence of sequences performing a *specific function* is 10^{77}.[249]

This means that only one out of every 10^{77} sequences will result in a functional sequence for making one protein. This is much smaller than the total number of possible amino acid combinations; however, it is still an astronomically large number. Yet, the question again remains whether the probability is small enough to justify the neo-Darwinian model. It is important to also note that cells need to co-evolve with thousands of proteins at the same time which requires a living cell with DNA and proteins functioning already.

University of Georgia's Whitman et al. estimated that the number of prokaryotes that form yearly is about 10^{30}.[250] Michael Behe estimated that if this number had been the same over the history of life in the world (approximately 3.8 billion years), then there would have been slightly fewer than 10^{40} cells throughout the course of history.[251]

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[246] Myer, *Darwin's Doubt*, 198.

[247] Douglas D. Axe, "Estimating the Prevalence of Protein Sequences Adopting Functional Enzyme Folds," *Journal of Molecular Biology* 341, no. 5 (August 2004): 1295–1315.

[248] Ibid., 1295.

[249] Ibid.

[250] William B. Whitman, David C. Coleman, and William J. Wiebe, "Prokaryotes: The Unseen Majority," *Proceedings of the National Academy of Sciences* 95, no. 12 (June 9, 1998): 6578.

[251] Michael Behe, *The Edge of Evolution: The Search for the Limits of Darwinism* (New York: A Division of Simon & Schuster, Inc, 2007), 59.

With this number and the prevalence of functioning sequences (10^{77}), one can calculate the conditional probability of generating a functioning gene sequence to be 1 in 10^{37}.[252] This means if every single organism from the dawn of time was generated via random mutation, then one new base sequence in respect to the total space for all sequences would amount to only one sequence out of 10 trillion, trillion, trillion sequences that need to be searched. [253]

In chance hypotheses, statisticians assess conditional probability by its probabilistic resources. Probabilistic resources "comprise the relevant ways an event can occur (replicational resources) and be specified (specificational resources) within a given context."[254] The vital question, therefore, is not "What is the probability of the event in question?" but rather "What does its probability become after all the relevant probabilistic resources have been factored in?" since probabilities must always be referred to a relevant class of probabilistic resources because *they can never be considered in isolation*.[255]

With this, if the conditional probability is less than ½ of the probabilistic resources, it is considered implausible.[256] As noted above, the conditional probability for genes mutating to create a specific function with the 10^{40} cells in the entire history of life equals a conditional probability of 10^{37}. This is immensely less than ½, which will, therefore, be considered *implausible*.

Additionally, the very complex information in DNA is not enough for the formation of animals. For animals to exist, a more complex type of information called epigenetic information is needed to form body parts. This includes the lifeforms found during the Cambrian period,

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[252] One would divide (10^{40}) / (10^{70}).
[253] Myer, *Darwin's Doubt*, 203.
[254] William A Dembski, *The Design Inference: Eliminating Chance through Small Probabilities* (Cambridge: Cambridge University Press, 2006), 181, https://doi.org/10.1017/CBO9780511570643.
[255] Ibid., 181.
[256] Ibid., 194.

which is dated around 350 million years ago.[257] Regardless of epigenetic information, the evidence for the origination of DNA from non-functional genomes is entirely implausible. Therefore, it is *plausible* to conclude that the *a priori* assumption of time and chance is unconvincing. When you add in epigenetic information, it just makes the case for neo-Darwinism more and more *against the odds.* As Richard Dawkins says, "We can accept a certain amount of luck in our explanations, but not too much."[258] Indeed, Dawkins is right.

Information and The Mind

A negative case was made concerning neo-Darwinism, however, one may postulate a positive case for an Intelligent Mind when looking at the properties of the genesis of information. This section will argue that all life needs information, but the information itself cannot be material because it is dependent on the mind.

There are five levels to information: statistics, syntax, semantics, pragmatics, and apobetics. Statistics is the first level of information. It is composed of quantitative properties of languages that are dependent on frequencies.[259] It has nothing to do with its meaningfulness or sequencing of symbols.[260] In addition, grammatical correctness is excluded at this level.[261] Here is an example: Nxbq2394c5rytfinw3n79N&*^BF#*^&BFNSB#&^Ixenr3im4ntvnmhy 8o.

Syntax is the second level of information. This includes all structural properties of the process of setting up information.[262] The one interpreting it is only concerned with the actual sets of symbols (codes), and the rules governing how they are assembled into sequences (grammar

[257] Müller and Newman, *Origination of Organismal Form* 8.
[258] Dawkins, *The Blind Watchmaker*, 198.
[259] Gitt, *In the Beginning was Information*, 55.
[260] Gitt, *In the Beginning was Information*, 55.
[261] Ibid.
[262] Ibid., 58.

and vocabulary) are independent of any meaning they may or may not have.[263] For example: Pigs the ball moon getting muskox the.

Semantics is the third level of information. The message can be conveyed by the conclusions and the meanings.[264] The sender and the recipient are interested in the meaning, which is based on the sequence of symbols into information.[265] At the semantic level, the purpose is the only invariant property, making it an essential information aspect.[266] For example: The muskox is gallivanting along the icy tundra.

Pragmatics and apobetics are of the highest level of information. Pragmatics is information that has a request or command.[267] Here, the information can cause the recipient to take some action (stimulate, initialize, or implement).[268] Gitt says, "This reactive functioning of information is valid for both inanimate systems (e. g., computers and an automatic car wash) as well as living organisms (e. g., activities in cells, actions of animals, and activities of human beings)."[269] An example of such can be seen here: Leave that muskox alone!

Apobetics is simply the completion of that pragmatic request. In the mentioned example above, the recipient of the information would, in fact, leave the muskox alone. The teleological aspect of this informational communication is essential because it concerns the premeditated purpose of the sender.[270]

The problem for neo-Darwinism now is the informational level of DNA. As noted in the preceding section, DNA is not random statistical information. Its message creates specific

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[263] Ibid.
[264] Ibid., 69.
[265] Ibid.
[266] Ibid.
[267] Ibid., 73.
[268] Ibid., 75.
[269] Ibid.
[270] Gitt, *In the Beginning was Information*, 75.

functions based on its order[271] DNA is, in fact the highest level of information by requesting a certain function (pragmatic) and completing the action (apobetics). The caveat for the neo-Darwinist is how to account for this information via natural causes in light of the empirical data of information. Information has always been observed and tested to have a mind behind it.

If a teacher writes the lesson plan with an expo marker on a whiteboard, the marker would be considered the material medium. Now, if the marker is wiped off, the total quantity of marker is still there; however, the information has vanished and has gone onto the eraser. The marker was a suitable material medium, but the essentiality was the arrangement of the particles of the marker. Moreover, this arrangement was not random because it had a mind behind it ordering the sequences.[272]

The following list contains empirical properties always postulated with information.

1. Information cannot exist without a code.
2. Any code is the result of a free and deliberate convention.
3. There can be no information without a sender.
4. Any given chain of information points to a mental source.
5. There can be no information without volition (will).
6. There can be no information unless all five hierarchical levels are involved: statistics, syntax, semantics, pragmatics, and apobetics.
7. Information cannot originate in statistical processes.[273]

With this, one can conclude the following impossibilities

1. It is impossible to set up, store, or transmit information without using a code.
2. It is impossible to have a code apart from a free and deliberate convention.
3. It is impossible that information can exist without having a mental source.
4. It is impossible for the information to exist without having been established voluntarily by free will.
5. It is impossible for the information to exist without all five hierarchical levels statistics, syntax, semantics, pragmatics, and apobetics.
6. It is impossible that information can originate in statistical processes."[274]

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[271] Lennox, *God's Undertaker*, 137.
[272] This paragraph is similar to the example found in Werner Gitt, *In the Beginning was Information*, 85.
[273] Gitt, *In the Beginning was Information*, 80.
[274] Gitt, *In the Beginning was Information*, 80.

Now bringing this back to biology, one can now conclude the following about life

1. Information is not life, but the information in cells is essential for all living beings.
2. Information is a necessary prerequisite for life.
3. Life is nonmaterial, and it is not information, but both entities—matter and information—are essential for life.
4. Information requires matter for storage and transmission.
5. Life requires information.
6. Biological life requires matter as necessary medium.
7. Information and matter fall far short in describing life, but the life depends on the necessary conditions prevailing at the lower levels.[275]

Thus, the carriers of the information for life have been material, but the information itself is not material.[276]

When one looks at the information present in living organisms, the material could not be the genesis source because matter cannot be created or destroyed. So, when humans always, 10 times out of 10, postulate a mind behind information, why not postulate a mind behind the immense, and complex information found in DNA? One might appeal to "If we have more time, we'll find a natural cause;" however, this is appealing to a *time of the gaps* argument, which would be inappropriately assumed *a priori*.

In addition, if a theist appealed to the God of the gaps, they too would be inappropriately assuming *a priori*. So, if one cannot assume *a priori* that unintelligent causes can produce information, how does one account for the genesis of the information in DNA (not the material medium)? Why is it then held among scientists to seek a material cause of this information when we have never observed a material cause for information? If it cannot be material, then what is it? The following section will expound upon the presupposition of only accepting natural causes as plausible scientific causes.

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[275] Ibid., 81.
[276] Lennox, *God's Undertaker*, 178.

Methodological Naturalism

All the *a priori* assumptions for neo-Darwinism mentioned in this chapter hinge on the 'big daddy' assumption of methodological naturalism. Methodological naturalism asserts that "to qualify as scientific, a theory must explain phenomena and events in nature—even events such as the origin of the universe and life or phenomena such as human consciousness—by reference to strictly material causes"[277] Methodological naturalism is a "ground rule" of science today which requires scientists to seek explanations in the world around us based upon what we can observe, test, replicate, and verify.[278] Sandy Boucher categorizes methodological naturalism into intrinsic methodological naturalism and pragmatic naturalism.

According to intrinsic methodological naturalism, science by its very nature excludes supernatural explanations; it cannot postulate the supernatural without ceasing to be science. [279] Here, supernaturalist theories could be true, but they would not be considered science.[280] Pragmatic methodological naturalism allows no reason why science may not appeal to the supernatural. Boucher thinks that this is more of a guiding principle for science today, due to a poor "track record" of supernaturalist theories and explanations.[281] Anyway one slices it, methodological naturalism suggests that only natural or material explanations should be considered scientific.

The problem with methodological naturalism is that it goes against the meaning of science. Science is and must be defined as an attempt to explain and understand the world people live in, epistemologically. As Norman Geisler and Frank Turek say, "Science is a search for

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[277] Myer, *Darwin's Doubt*, 383.
[278] Lennox, *God's Undertaker*, 34.
[279] Boucher, "Methodological Naturalism in the Sciences," 58.
[280] Ibid., 69.
[281] Boucher, "Methodological Naturalism in the Sciences," 58.

causes."[282] The problem with holding to a strictly materialistic causal epistemology, is that it presupposes that materials can be the only cause. This is not only bad science but bad philosophy. The forensic nature of the science of the origin of life should be answered by "what caused the origin of life" not "what material cause caused the origin of life."

It is unwise and inappropriate to pigeonhole the cause of life to strictly material causes. This is because many scientific explanations depend on antecedent causal conditions and events, not laws, to do explanatory work;[283] if someone hits upon the wrong causes, then he has failed in the explanatory endeavor to discover the correct process one needs to employ to reach their conclusion.[284] This means that citing past causal events does more to explain a particular phenomenon than citing the existence of regularity in nature; simply because many things do not come in existence by a series of events that normally reoccur.[285]

The abnormal heights of the Himalayas are an example. A historical geologist who sets out to explain the cause of the height of the Himalayas will look for past causal events that were present in the Himalayan orogeny but not in "normal height" orogenies. [286] Containing the knowledge of a general law that describes general orogeny will have little to no epistemic value in regard to the contrast of normal-height mountains and the Himalayas.[287] Instead, the geologist needs evidence of a specific set of past conditions.[288]

Sandy Boucher believes that there is nothing inherently unscientific about supernaturalist theories; however, he argues that there is no sufficient evidence in favor of supernatural

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[282] Geisler and Turek, *I Don't Have Enough Faith to Be an Atheist*, 120.
[283] Myer, "Laws, Causes, and Facts," 30.
[284] Daniel Wilkenfeld and Tania Lombrozo, "Inference to the Best Explanation (IBE) Versus Explaining for the Best Inference (EBI)," *Science and Education* 24, no. 9–10 (2015): 1065.
[285] Myer, "Laws, Causes, and Facts," 30.
[286] Myer, "Laws, Causes, and Facts," 30.
[287] Ibid., 31.
[288] Ibid.

theories.[289] He concedes that inferences to intelligent design are intelligible and could potentially count as scientific; however, he argues that the inference to supernatural or divine intelligent design cannot be considered intelligible or scientific because we cannot attach a sense to the notion of the supernatural.[290]

This is wrong and, honestly, a mere cop-out. The supernatural can be denotatively defined and "made sense" off. Boucher is guilty of his prior commitment to materialism while making this claim. He is assuming materialism *a priori* to "attach no sense" to the supernatural.[291] The supernatural is that which supersedes the laws of nature. We know the laws of nature by their repeatability and testability. Indeed, one cannot prove them with 100% certainty; however, one has to come to an empirical conclusion eventually. If one continues to see causal instances in nature that seem not to have a natural or material cause, there needs to eventually be a concession. Time and chance are not appropriate or convincing assumptions in which to place one's faith. Like information, if humans constantly postulate a mind behind information since the beginning of human consciousness, one can see that information is not material or caused by the material. So, the cause must *supersede* nature, making it *super*natural.

In this case, it would be agency. As Myer says, "Agency is much more appropriate in causal history. Forensic science, history, and archeology all sometimes postulate the past activity of human agents to account for the emergence of particular objects or events."[292]

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[289] Boucher, "Methodological Naturalism," 58.
[290] Ibid., 71.
[291] This would require a much deeper argument about controversial topic of miracles that goes beyond the scope of this thesis.
[292] Myer, "Laws, Causes, Facts", 33.

The deeper problem is that methodological naturalism seems to be an *a priori* assumption based plainly on an unsupported dogmatic faith. It is certain when one inquires about Richard Lewontin's statement:

> We take the side of science in spite of the patent absurdity of some of its constructs, in spite of its failure to fulfill many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.[293]

This seems to be the real problem. Allowing a Divine Foot in the door of science may have crucial implications outside the realm of science. It may be why certain *a priori* assumptions are held onto despite the ample evidence against them. The question to now ponder is if this bias is in the world of science, and if so, why?

Biases for Darwinian Theory

It seems like Richard Dawkins gives a "bye" to Darwinian theory by saying that it requires some imagination. He says, "It took a very large leap of the imagination for Darwin and Alfred Wallace to see that, contrary to all intuition, there is another way and, once you have understood it, a far more plausible way, for complex 'design' to arise out of primeval simplicity."[294] David Berlinski notes that Wallace identified a direct conflict between his theory and what seemed to him apparent facts about the solidity and unchangeability of human nature.[295] It is evident when one reads what Wallace once said,

> Certain purely physical characteristics of the human race are not explicable on the theory of variation and survival of the fittest. The brain, the organs of speech, the hand, and the

[293] Lewontin, "Billions and Billions of Demons," 25.
[294] Dawkins, *The Blind Watchmaker*, preface paragraph 7.
[295] Berlinski, *The Devil's Delusion*, 159.

> external form of man, offer some special difficulties in this respect, to which we will briefly direct attention.[296]

In Western civilization, around the 1600s to 1800s, there has been a rise in secularism within politics.[297] There are several reasons for this, but the advancement of empirical science, the decline of religious belief, and the interweaving of sociology with evolutionary explanations have been prominent antecedent causes.[298] Society reached a humanistic point where evolutionary developments influenced all aspects of the human experience.[299] The study of human evolution has been and remained as much a prescriptive enterprise as a descriptive one.[300]

In addition, people have appealed to biological evolution as a means of justification for a range of political views since the publications of the evolutionary ideas of Étienne Geoffroy Saint-Hilaire and Jean-Baptiste Lamarck.[301] Moreover, Robert Chamber's *Vestiges of Natural History of Creation* published anonymously in 1844, is widely noted to have "prepared the soil" for the acceptance of Darwin's *Origin of Species* in 1859.

Notice as an interesting passage from the book:

> We know the historical era to only a tiny portion of the entire age of our globe. We do not know what may have happened during the ages which preceded its commencement, as we do not know what may happen in ages yet in the distant future. Therefore, we can properly infer from the apparently invariable production of like by like that such is the ordinary procedure of nature in the time immediately passing before our eyes. Mr. Babbage's illustration shows how this ordinary procedure may be *subordinate to a higher law that interrupts and changes it in proper season*.[302]

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[296] Wallace, "Sir Charles Lyell on Geological Climates and the Origin of Species," 391.

[297] Tom Rubens, *Politics and Neo-Darwinism and Other Essays* (United Kingdom: Andrews, 2012), chap. 1 para 2.

[298] Ibid., chap 1 para 2.

[299] Hale, *Political Descent*, 2.

[300] Ibid. 3.

[301] Hale, *Political Descent*, 7.

[302] Robert Chambers, *Vestiges of the Natural History of Creation: Together with Explanations: A Sequel*, 5th ed. (New York: Cambridge University Press, 2009), 219, https://www.cambridge.org/core/product/identifier/9780511693168/type/book.

Materialists, atheists, radicals, and revolutionaries adduced to this theme of progressive naturalism to support their political and societal endeavors.[303] One can see this in a quote by Karl Marx: "I have read all manner of things. Inter alia Darwin's book on Natural Selection} Although developed in the crude English fashion, this is the book which, in the field of natural history, provides the basis for our views."[304]

In addition, if the proposition of Darwinism can give intellectual justification for atheism, it may rid the moral accountability that major religions push. If atheism is true, people can do whatever they want because they have no higher being to give account to. It sounds like a far stretch; however, Julian Huxley, grandson of Thomas Huxley, was once asked on television why evolution was accepted so quickly. He said, "The reason we accepted Darwinism even without proof is that we didn't want God to interfere with our sexual mores."[305] This is a mind-blowing statement when the modern neo-Darwinian paradigm has pontificated throughout the world as an intractable fact.

Moreover, if the neo-Darwinian paradigm were wrong, neo-Darwinists would surrender authority regarding the truth because the public views them as revered authority figures.[306] Allowing the possibility of God to relinquish their claim of superior authority and would be admitting that they do not have absolute authority when explaining causes.[307] If God exists, they could not explain everything due to predictable natural laws.[308] Richard Lewontin put it this way:

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[303] Piers J. Hale, *Political Descent: Malthus, Mutualism, and the Politics of Evolution in Victorian England* (Chicago and London: The University of Chicago Press, 2014), 12.

[304] Karl Marx and Frederick Engels, *Collected Works*, vol. 41 (London: Progress, 1985), 231.

[305] Julian Huxley, quoted by James Kennedy in *Skeptics Answered*, Kindle Edition (Colorado Springs: Multnomah Books, 2013), sec. epilogue para 27.

[306] Geisler and Turek, *I Don't Have Enough Faith to Be an Atheist*, 162.

[307] Ibid.

[308] Ibid.

"To appeal to an omnipotent deity is to allow that at any moment the regularities of nature may be ruptured, that miracles may happen."[309]

Contrastively to pride, a more reasonable reason for holding to neo-Darwinism for many scientists could be financial stability. There is enormous pressure in academia to publish research that furthers the neo-Darwinian paradigm. [310] If these scientists and professors stop doing research in this manner, they may quickly be out of a job. If they have a family to support, it only adds to the reluctance.

These reasons may collectively be why there is so much emotion behind it. Notice Richard Dawkins' famous remark in a book review, "It is absolutely safe to say that if you meet somebody who claims not to believe in evolution, that person is ignorant, stupid or insane (or wicked, but I'd rather not consider that)."[311]

In addition, notice the sarcasm in David Prindle concerning God and evolution:

> God might have shepherded evolution along a course he had planned out ahead of time. He also might have created the natural laws, then sat back to watch them work themselves out over 3.8billion years of the history of life. Or, he might have created the natural laws, *watched life struggle at the limits of single-cell existence for 3.2billion years, then gotten bored and intervened, just once, to push life over the threshold into multicellular splendor*. Or, he might have created the universe and its natural laws 13.7billion years ago, *then gotten distracted by his model train collection and lost track of time* for 13billion years, after which he looked up and was *startled* to discover that life had sprung up, according to those laws, without any further help. Or, he might have created the universe and its natural laws, watched the whole system work itself out, including the evolution of unicellular to multicellular life, *and finally decided*, about 200,000 years ago, to intervene and create Homo sapiens.[312]

Before ending this section, it is essential to note that biases do not mean that certain propositions are not true. One may have unduly bias against either Intelligent Design or neo-

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[309] Lewontin, "Billions and Billions of Demons," 26.
[310] Geisler and Turek, *I Don't Have Enough Faith to Be an Atheist*, 162.
[311] Dawkins, "In Short: Nonfiction," 5.
[312] Prindle, *The Politics of Evolution*, 82–83.

Darwinism and be in an entirely ignorant epistemic standing, but it does not affect the raw data. It may, however, affect how one interprets such evidence, as what was shown in this chapter.

Chapter Summary

This chapter has covered the evidence for the five *a priori* assumptions necessary for neo-Darwinian conclusions (gradualism, tree of life hypothesis, the micro to macro-evolutionary jump, time and chance, and methodological naturalism) and demonstrated how each of these assumptions do not rest on a scientific interpretative method but rely on *ad hoc* assumptions that seem to be rooted in the want to eliminate the intellectual need for theistic postulations. First, the relationship between *a priori* assumptions and science was expanded to create a greater understanding of what is appropriate and not appropriate when assuming something in scientific study.

It was then demonstrated that the evidence of the "Cambrian Explosion" seems to strongly contradict the *a priori* assumptions of gradualism and the tree of life hypothesis. Complex life seems to have appeared in one massive influx rather than small gradualistic steps over a long period of time. Assumptions like Stephen Jay Gould's punctuated equilibrium are instilled to cover up the contracting evidence, but there is no independent evidence for this theory. The assumption was changed, and no new data was found. This is *ad hoc* and inappropriate to be considered scientific fact.

The evidence for micro-evolution was then shown that it could not undoubtedly account for the macro-evolutionary model. Genetic limits, cyclical change, and irreducible complexity can all be observed empirically to show that there are limits within life that seem to hinder large evolutionary jumps. Even if one grants 3.8 billion years of life to exist on Earth, more time is needed to account for the complex life we see today to evolve via random genetic mutations. It

was demonstrated that there is a 10^{37} chance that DNA sequences can be arranged to form life-functioning sequences from very short 150-long amino acid chains. In probability theory, this is equal to a zero percent chance for life evolving via chance.

It was then shown that the empirical evidence of information always postulates a mind behind an intelligent message that could account for life's origin. The level of information found in DNA is among the highest and most complex information (pragmatics and apobetics), making it appropriate to postulate an intelligent mind behind the information in DNA. So, if the information is not material but necessary for life, then something immaterial must be the necessary cause for life. This postulation of intelligence as a casual indicator for information has also been observed 100 percent of the time. Every time someone sees a message or a request, they postulate that a mind is responsible for said message or request. So, if it is observed 100 percent of the time for information to come from intelligence, and there is a zero percent chance for life evolving via chance, then it takes *more faith* to believe in chance than it does to believe in an Intelligent Designer.

It was then shown that this faith is grounded in a materialist scientific methodology. Suppose life relies on immaterial means, and those immaterial means seem best postulated from some sort of causal intelligence. In that case, it is only fitting to conclude that the mind is responsible for the life we see today rather than an unguided random process. Yet, it was shown that strong biases are placed in the minds of neo-Darwinist, even to the point of admitting that they cannot allow a Divine Foot in the door to fight against the Intelligent Design hypothesis. This may be the cause for the *ad hoc* explanations to cover up the contradicting evidence of the neo-Darwinian paradigm. In summation, this chapter demonstrated that the *a priori* assumptions necessary for neo-Darwinian conclusion are unsupported, unconvincing, and individually biased.

CHAPTER 5 – NEO-DARWINISM AND CHRISTIAN APOLOGETICS

Many neo-Darwinists accuse Christians of relying blindly on faith and erroneous presuppositions to justify their beliefs. This chapter will illuminate the epistemology behind the three apologetic methods (presuppositionalism, evidentialism, and experientialism) a Christian may use to justify their belief in God and then synthesize how neo-Darwinism would theoretically fit into each apologetic method.

The prior chapter showed how neo-Darwinian *a priori* assumptions, or presuppositions if you will, are not based on an evidential epistemology, and it will now be shown how neo-Darwinism is in fact much more presuppositional in its methodology because of its appeal to experientialism. This will then demonstrate how the epistemology behind neo-Darwinism affects its methodology because "epistemology modifies methodology and justifies the knowledge produced."[313]

Christian Apologetics

Apologetics comes from the Greek word, ἀπολογία (apologia), which means to give a defense. This is demonstrated in 1 Peter 3:15, where Peter is writing to other Christians on how to endure persecution for their faith in Christ. He says, "But in your hearts honor Christ the Lord as holy, always being prepared to make a *defense* to anyone who asks you for a reason for the hope that is in you; yet do it with gentleness and respect."[314]

A satisfactory modern definition of Christian apologetics would be an intellectual defense for the veridicality of Christianity. The method of one's defense can be contingent on a variety of theological and philosophical positions. Hence the reason for relating neo-Darwinian theory to

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[313] Stacy M. Carter and Miles Little, "Justifying Knowledge, Justifying Method, Taking Action: Epistemologies, Methodologies, and Methods in Qualitative Research," *Qualitative Health Research* 17, no. 10 (December 1, 2007): 1317.

[314] *English Standard Version*.

apologetical methods. Epistemology plays a crucial role in one's interpreting methods and methodology.

Presuppositionalism

The presuppositional apologetic method has been greatly pioneered by Cornelius Van Til and Greg Bahsen. It can be recapitulated by three main points:

1. There is no neutral starting point between the Christian and non-Christian. Therefore, one must presuppose either.
2. Consequently, Christians should presuppose Christianity in their apologetic method and seek to show how only upon Christian presuppositions can one make sense of reality.
3. The transcendental argument: Only if God exists can there be a basis for morality, science, history, and rationality.[315]

Van Til argued that "God's being and knowledge are absolutely comprehensive; such knowledge is too wonderful for man, he cannot attain it."[316] For Van Til, once someone decides to utilize evidential arguments outside of Christianity, they have granted the non-believer's presuppositions and are therefore doomed to fail.[317] Greg Bahnsen says something very similar. He notes that the apologist must demonstrate that without a Christian presupposition, there can be no intelligible use of facts and logic. [318] Without this presupposition, he believes "Human knowledge and interpretation fail instantly."[319] Because of this rationale, Bahnsen believes "to be reasonable at all, men must submit to the ultimate standard of God's self-attesting word; to refuse this is to insist upon intellectual foolishness and eternal damnation."[320] This type of apologetical method is held mostly by reformed theology camps like James R. White and Doug

[315] J. W. Wartick, "The Presuppositional Apologetic of Cornelius Van Til," *J.W. Wartick - Reconstructing Faith*, July 9, 2012, para. 12, https://jwwartick.com/2012/07/09/van-til-presup/.

[316] Cornelius van Til, *The Defense of the Faith* (Chicago: Barakaldo Books, 2020), 28.

[317] Wartick, "The Presuppositional Apologetic of Cornelius Van Til," para 10.

[318] Greg Bahnsen, *Presuppositional Apologetics: Stated and Defended* (Powder Springs and Nacogdoches: American Vision Press and Covenant Media Press, 2008), 14.

[319] Bahnsen, *Presuppositional Apologetics*, 14.

[320] Ibid.

Wilson. However, reformed theologians like R.C. Sproul hold to a more evidential approach, which will be discussed in the next section.

The epistemology of this apologetical method does not make Christianity the conclusion of an argument, rather it makes Christianity the starting presupposition.[321] This is similar to neo-Darwinian theory. As mentioned in the prior chapter, for example, they start with the presupposition of a tree of life and use that presupposition to shape the way the data is interpreted to arrive at the conclusion for a tree of life. In this case, there is no supporting evidence for the tree of life, yet it is presupposed to be true.

Evidentialism

Christian evidentialist favor positive evidence for the veridicality of Christianity. There are two camps of this methodology: classical and evidential. The primary difference between these two is not their epistemology but their methodology.

Classical Apologetics

Classical apologists are prospective in their line of reasoning. They utilize a two-step method where they start with reasons and arguments for God's existence (natural theology), then work their way up to Christian evidences for Jesus Christ.[322] The classical method resembles Thomas Aquinas and his Five Ways of demonstrating God's existence in his *Summa Theologica* in addition to his appeal to the signs of credibility (miracles and prophecy) to validate Christian doctrine.[323] Additionally, the "father of modern apologetics," Hugo Grotius, utilized the

[321] Wartick, "The Presuppositional Apologetic of Cornelius Van Til," para 5.

[322] William Lane Craig, William Lane Craig, "Classical Apologetics," in *Five Views on Apologetics*, Counterpoints (Grand Rapids: Zondervan, 2000), 28.

[323] Craig, "Classical Apologetics," 28.

traditional methodology of arguments of natural theology and inaugurated a historical approach to the truth of Gospels in his *De Veritate Religionis Christianae*.[324]

Evidential Apologetics

The name may cause some confusion, but this is simply a methodological distinction. Different from classical apologetics, evidential apologetics have a one-step approach where they treat one or more historical arguments for the resurrection of Christ as being able both to indicate God's existence and activity and to indicate which variety of theism is true. [325] Well-known historian and evidentialist Gary Habermas notes, "Evidentialist and classical apologists have much in common, with the major distinction being the use of historical evidence."[326] So, instead of a prospective method (bottom-up), evidentialists use a retrospective (top-down) method by arguing for miracles through the resurrection of Jesus Christ and then working their way down to belief in God.

Differentiating Between Evidential Epistemology and Apologetic Method

Habermas notes that this apologetic method should be distinct from evidential epistemology. Evidential epistemology is when one's beliefs are guided and/or constrained by evidence. Here "person S is justified in believing proposition *p* at time *t* if and only if S's evidence for *p* at *t* supports believing."[327] This can be bifurcated into two categories, strict and moderate evidentialism.

Strict evidentialism is based on the work of William Kingdon Clifford, known as the *Clifford Principle*. The Clifford Principle states that "it is wrong always, everywhere and for

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[324] Craig, "Classical Apologetics," 28.

[325] Gary R. Habermas, "Evidential Apologetics," in *Five Views on Apologetics*, Counterpoints (Grand Rapids, Mich: Zondervan Pub. House, 2000), 92.

[326] Ibid.

[327] Daniel M. Mittag, "Evidentialism," *Internet Encyclopedia of Philosophy* (University of Rochester, n.d.), para. 1.

anyone, to believe anything upon insufficient evidence."[328] Many non-Christian evidentialists like Clifford, John Locke, and David Hume add the condition that the amount of evidence in one's possession must be proportionate to the degree of one's belief, therefore, one should only *firmly* believe something on the basis of *sufficient* evidence (where "sufficient" involves the evidence being strong enough for the belief to count as knowledge if true).[329] Moderate evidentialists take the principles of strict evidentialism and allow some circumstances in which subjects are rationally permitted to form beliefs in the absence of sufficient evidence; however, if the number of exceptions is very large, then the position ends up looking more like a non-evidentialist position.[330]

Gary Habermas notes that evidential epistemology holds that beliefs are justified only if one has conclusive evidence for them, but the apologetic strategy says that there are good arguments for Christian theism but there is not much to say concerning the type or amount of evidence, or how much argumentation is necessary to justify a belief.[331] From a theological perspective, some evidentialist hold that the Holy Spirit can provide direct and sufficient confirmation to the individual concerning the truth of Christianity *apart* from any evidence.[332] Hence, more than one epistemic stance could encourage the use of some form of evidential apologetic methodology.[333] For example, reformed epistemologist Alvin Plantinga,[334] traditional foundationalists like J.P. Moreland and R. Douglas Geivett, [335] weak foundationalist C. Stephen

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[328] William Kingdon Clifford, "The Ethics of Belief," in *The Scientific Basis of Morals and Other Essays*, EBook. (New York: J. Fitzgerald, 2015), 118.

[329] Andrew Chignell, "The Ethics of Belief," *The Stanford Encyclopedia of Philosophy* (Metaphysics Research Lab, Stanford University, 2018), para. 69, https://plato.stanford.edu/entries/ethics-belief/#DoxNor.

[330] Chignell, "The Ethics of Belief," para., 71.

[331] Habermas, "Evidential Apologetics," 92–93.

[332] Ibid., 93.

[333] Ibid., 94.

[334] Ibid.

[335] Ibid., 93.

Evans, and reliabilist William Alston favor an evidential apologetical method with different views on epistemology.[336]

Neo-Darwinism and Evidentialism

Now from a methodological and epistemological standpoint, neo-Darwinian theory violates both. The last chapter demonstrated how all the *a priori* assumptions necessary for neo-Darwinian conclusion are unsupported, unconvincing, and unscientific. An epistemological perspective strongly shows how neo-Darwinian theory is not evidential. There is no empirical evidence for macro-evolutionary change; therefore, strict evidentialism is out. Neo-Dariwinsm may be closer to moderate evidentialism; however, if this means is used, neo-Darwinism would be allowing too many expectations to justify their epistemic positions. There is a disproportionate amount of guessing for neo-Darwinism to be considered moderately evidential. Especially when moderate evidentialists might hold to Cliffordian principles when considering impactful beliefs. [337] For example:

> beliefs formed by a military pilot about the location of a legitimate bombing target amid a residential area, or the beliefs formed by a government health official regarding the efficacy of a pharmaceutical trial, at least insofar as these beliefs lead to morally or prudentially significant actions. But at the same time, they might think it permissible to abandon these strict standards in ordinary contexts where not much is at stake—for instance, the everyday belief that there is still some milk in the fridge.[338]

From a Christian evidential apologetic standpoint, neo-Darwinism also lacks because the methodology of both classical and evidential apologetics is based on drawing inferences to the best explanation. Neo-Darwinian theory, as a whole, does not do that. Stephen Jay Gould's punctuated equilibrium attempts to draw a better inference than gradualism, and it does seem to be a better position; however, its position is circular because it assumes punctuation rather than

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[336] Habermas, "Evidential Apologetics," 94.
[337] Chignell, "The Ethics of Belief," para., 71.
[338] Ibid.

drawing inferences from empirical data. Additionally, the use of the evidence for micro-evolution and accounting it for macro-evolution has no inference to the best explanation because there has never been an observation of macro-evolutionary change in addition to the absence of transitional forms in the fossil record.

Furthermore, when looking at probability theory and the chances of life arriving from non-life, neo-Darwinism completely defies a moderate evidentialist position because the level of impact neo-Darwinism has as a worldview is much too high to justify the 1 out of 10^{37} chance of life forming from non-life. The ideological reinforcements of neo-Darwinism in social structures like the public school system, academic culture, and the media in Western civilization make the stakes much too high to consider neo-Darwinism evidential when utilizing epistemological evidentialism's own definition.[339]

Experientialism

Experientialism is when experience is the source of knowledge. Experiential apologetics claims that all truth is determined by experience and that there is a recognizable and self-attesting religious experience.[340] Clifford Williams makes an experiential apologetic based on needs. One thing to note about Clifford's experientialism is that need with reason is blind, but reason without need is sterile.[341] William's argument follows:

1. We need cosmic security. We need to know that we will live beyond the grave in a state that is free from the defects of this life, a state that is full of goodness and justice. We need a more expansive life, one in which we love and are loved. We need meaning, and we need to know that we are forgiven for going astray. We also need to experience awe, to delight in goodness and to be present with those we love.
2. Faith in God satisfies these needs.
3. Therefore, we are justified in having faith in God.[342]

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[339] McGrath, *Darwinism and the Divine*, 35.

[340] Norman L. Geisler, *Christian Apologetics* (Grand Rapids: Baker Academic, 2013), 70.

[341] Clifford Williams, *Existential Reasons for Belief in God: A Defense of Desires & Emotions for Faith* (Downer's Grove: IVP Academic, 2011), 12 http://archive.org/details/existentialreaso0000will.

[342] Williams, *Existential Reasons for Belief in God,* 32.

This argument is not pessimistic like existential writers Albert Camus and Jean-Paul Satre. [343] Their marque of existentialism broods the darker facets of the human personality, which in return does not lead them into a faith in God.[344] Williams's experiential argument is much more fitting to the existentialism of Søren Kierkegaard, also known as the father of existentialism. However, Kierkegaard is similar to Camus and Sartre by probing the deep recess of the mind, but he ends up with a completely different conclusion by uncovering subtle ways people hide from God and then advances the reader out of hiding from God. [345]

Where Does Neo-Darwinism Fall?

Neo-Darwinism appeals to the existentialism of Fredrich Nietzsche, Albert Camus, and John Paul Sartre. The pessimistic existentialism makes man the ultimate voice of reason in determining one's own will. This can be seen when reading Julian Huxley*,* "Evolution helps us to understand ourselves as unique organisms equipped with a new 'method of evolution'--cultural evolution-- based on the cumulative transmission of experience through language and symbols."[346] Huxley says this new organization of thought, belief system, framework of values, or ideology, must grow and be developed in the light of the new evolutionary vision.[347]

With this appeal, the neo-Darwinist acquires certain presuppositions that take God out of the equation and use these presuppositions to shape the way data is interpreted. If man does not need God for a framework of values, then it is easy to see why the neo-Darwinist does not see the need to conclude an Intelligent Designer (God) in their scientific studies. This may sound far-

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[343] Williams, *Existential Reasons for Belief in God,* 32.
[344] Ibid.
[345] Ibid.
[346] Julian Huxley, *Essays of a Humanist* (London: Chatto & Windus, 1964), 127. http://archive.org/details/essaysofhumanist0000huxl_o4n7.
[347] Huxley, *Essays of a Humanist,* 83.

fetched but consider Richard Dawkins's statement in an interview with Ben Stein in the context of how the origin of life happened:

> It (the origin of life) could come about some earlier time in the universe. Some civilizations evolved by probably some Darwinian means to a very higher level of technology and designed a form of life that they *seeded* onto perhaps this planet… You might find evidence for that when you look at the detail of biochemistry and molecular biology. You might find a *signature of some designer*. And that designer could well be a *higher intelligence* from elsewhere in the universe, but that higher intelligence would itself have to come about by some explicable process.[348]

So, Dawkins is not opposed to Intelligent Design but only certain types of intelligent designers. Aliens that seeded life on this planet are a perfectly fine and intriguing hypothesis, but somehow God is not. This also makes neo-Darwinism much more presuppositional than evidential in its epistemology and methodology.

In 1859, Charles Darwin did not write a book called, "The Small Changes in Species," but *The Origin of Species*. The observations of Darwin cannot evidentially support the origin of species. So why call it that? Dawkins even admits that when it comes to the cause of the origin of life, he replies, "Nobody knows how it started."[349] If nobody knows how the origin of life started and one might find a "signature of some designer that could be from a higher intelligence," then why be so adamant about allowing the hypothesis of God *possibly* being that designer of higher intelligence?

If Dawkins and other neo-Darwinists' presuppositions are unprovable yet so adamantly pontificated, then it seems to be about something else. As John Lennox says,

> If you have two distinguished scientists and the fact that you can range many more on each side you know, saying exactly the opposite things; that's telling me that the conflict is not between science and belief in God; otherwise, you'd expect all scientists to be

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[348] Richard Dawkins in *Expelled: No Intelligence Allowed*, 2008, sc. 1:30:40-1:31:45 https://www.youtube.com/watch?v=V5EPymcWp-g&t=30s.

[349] Dawkins in *Expelled,* sc. 1:30:09-1:30:10.

> atheists. But it's worldview conflict. It is between scientists who have different worldviews.[350]

Indeed, that seems to be the case. This is due to the presuppositions Christians and non-Christians have when conducting science. Yes, Christians have presuppositions as well. Christians presuppose that intelligence comes from intelligence, design comes from a designer, everything has a cause, and that God is the causal Creator for all creation. Christians use this worldview and come to different conclusions than neo-Darwinists. So, it is not necessarily the facts that Christians and neo-Darwinists argue over but the conclusion of the facts, but so what? Cannot both sides agree to disagree and be on their way? Not quite, apparently.

As stated earlier, "Epistemology modifies methodology and justifies the knowledge produced."[351] The ramifications of the wrong conclusion can and will lead to unpleasant consequences when acted out according to its "doctrine." Many skeptics have problems with Christianity because of the Inquisition and the Crusades, but that does not reflect on the teachings of Jesus. Jesus taught to love one's enemies, and He displayed this by dying a horrific death and receiving the curse of God for the sake of His enemies.

One does not unpleasantly play Beethoven and blame Beethoven for the terrible performance. One blames the lousy piano player. However, if a songwriter wrote a lousy piece of music and a musician played that lousy piece of music, one can justly blame the songwriter. Consequently, if neo-Darwinism is true, what then can be intellectually justified?

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[350] John Lennox in *Expelled: No Intelligence Allowed*, 2008, sc. 56:41-57:00 https://www.youtube.com/watch?v=V5EPymcWp-g&t=30s.

[351] Carter and Little, "Justifying Knowledge, Justifying Method, Taking Action," 1317.

CHAPTER 6 – CONCLUSION: RAMIFICATIONS AND SOLUTIONS

It was shown throughout this thesis that the *a priori* assumptions necessary for neo-Darwinian conclusions are unsupported, unconvincing, and individually biased. Generally, neo-Darwinism is defined as life evolving to its present state of complexity and diversity via a purposeless material mechanism of random genetic change and natural selection.[352] It has been demonstrated that there is significant contention among scientists and philosophers regarding the efficacy of the *a priori* assumptions necessary for these neo-Darwinian conclusions.

Critics will claim that religious precursors are the reasons for the pushback of neo-Darwinism. However, there is a variety of different scientists and philosophers with different worldviews that see an issue with neo-Darwinism's *a priori* assumptions. Christians like John Lennox, Stephen Myer, Alister McGrath, William Dembski, Michael Behe, Werner Gitt, Norman Geisler, and Alvin Plantinga are a few that see significant problems. However, within the Christian camps, contains some distinct theological differences. For example, Alister McGrath is a theistic-evolutionist and Michael Behe is a Catholic.

Additionally, it is not only Christians that see the issue with neo-Darwinism's *a priori* assumptions. Secular Jew David Berlinski has been a heavyweight in contesting neo-Darwinism. Further, it was shown that atheist Thomas Nagel also found massive problems with neo-Darwinism. Not only that, secular scientists Christian Schwabe, Gerd Müller, Stuart Newman, Patt Willmer, and Simon Morris all found morphological issues with neo-Darwinism based on the evidence left by the Cambrian explosion.

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[352] Phillip E. Johnson, "Introduction," in *Darwinism, Science or Philosophy? Proceedings of a Symposium Entitled "Darwinism, Scientific Inference or Philosophical Preference?": Held on the Southern Methodist University Campus in Dallas, Texas, March 26-28, 1992*, ed. Jon Buell et al. (Presented at the Darwinism, scientific inference or philosophical preference symposium, Richardson: Foundation for Thought and Ethics, 1994), 1–3.

Interestingly enough, atheistic scholars Richard Dawkins, Michael Ruse, Ernst Mayr, Julian Huxley, Stephen Jay Gould, Richard Lewontin, and Sandy Boucher find that neo-Darwinism is more or less a fact and their *a priori* assumptions are adequate. Note that it has been clarified that not all *a priori* assumptions are flawed. For instance, the laws of logic and the laws of nature must be assumed *a priori* to do good science. Additionally, the qualitative nature of most sciences, in this context, biology, must heavily rely on *a priori* assumptions. However, neo-Darwinism's *a priori* assumptions—gradualism, the tree of life hypothesis, the evidence of micro-evolution accounting for macro-evolutionary change, time and chance, and the big-daddy assumption, methodological naturalism—all seem to be unsupported, unconvincing, and individually biased.

The evidence left by the Cambrian explosion, the gap of non-existing evidence between the evidence for micro-evolution and macro-evolution, irreducibly complex systems like the flagellum, the genetic limits and cyclical change within species, the probability of DNA forming via chance within the 3.8 billion years of life on earth equating to a probability of 10^{37}, and the empirical evidence of information and the mind, all seem to contradict the *a priori* assumptions a neo-Darwinist needs to maintain neo-Darwinian conclusions adequately.

Consequently, it was also shown that there might be more profound reasons for holding on to neo-Darwinist beliefs. Considering everything, it seems that many neo-Darwinists have a cognitive dissonance with the evidence and their conclusions. Richard Lewontin is an example of this. To bring up his stance one more time, he believes we should force an *a priori* adherence to material causes no matter how counter-intuitive it may seem so that we do not allow a Divine Foot in the door.[353]

[353] Lewontin, "Billions and Billions of Demons," 25.

This seems to be the underlying issue. Neo-Darwinists do not want God to exist. This was clearly shown in the previous chapter that Richard Dawkins is okay with an intelligent designer—as long as it is not God. To bring up his ad hoc statement again, Dawkins thinks it is plausible that perhaps aliens of higher intelligence seeded the planet because of the signature of some designer found in DNA.[354] Yet, he is not okay with God being this Intelligent Designer.

It may be plausible to conclude that neo-Darwinists do not want God to exist. So, they try (despite the evidence) to show that science can disprove God, but it seems that no matter how hard they try to bury God with scientific aphorisms, some atheists break this dissonance and believe the evidence shows that God may exist. This happened to the most notorious atheist against theism—Antony Flew.

Near the end of Flew's life, he gave up his atheistic belief. Coincidentally, it was the evidence from DNA that had a significant influence on his change of mind. Consider what he said in his book, *There is a God: How to World's Most Notorious Atheist Changed His Mind*:

> When asked if recent work on the origin of life pointed to the activity of a creative Intelligence, I said: Yes, I now think it does . . . almost entirely because of the DNA investigations. What I think DNA material has done is that it has shown, by the almost unbelievable complexity of the arrangements which are needed to produce (life), that intelligence must have been involved in getting these extraordinarily diverse elements to work together. It's the enormous complexity of the number of elements and the enormous subtlety of the ways they work together. The meeting of these two parts at the right time by chance is simply minute. It is all a matter of the enormous complexity by which the results were achieved, which looked to me like the *work of intelligence*.[355]

This is interesting, to say the least. The postulations of information coming from a mind play a crucial role in Flew's change of mind (no pun intended). Yet, John Lennox points out that this idea of information and the mind has been going on for centuries. John 1:1 states, "In the

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[354] Richard Dawkins in *Expelled: No Intelligence Allowed*, 2008, sc. 1:30:40-1:31:45 https://www.youtube.com/watch?v=V5EPymcWp-g&t=30s.

[355] Antony Flew, *There Is a God: How the World's Most Notorious Atheist Changed His Mind* (New York: HarperOne, 2007), 74–75, http://archive.org/details/thereisgodhowwor0000flew.

beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. *All things were made through him, and without him was not anything made that was made.*"

The Greek for "Word" is Logos, which is a term that Stoic philosophers use for the rational principle behind the universe which conveys massive implications of command, meaning, code, and communication—i.e., information.[356] The Word is much more fundamental than mass and energy because they both belong to the category of the *created*,[357] but the Word does not.[358] The point to be driven home is that the Creator of the Universe is this "Word" that is reflected in the first verse of the Bible: "In the beginning, God created the heavens and the earth." And the Creator began this creation with a spoken word, "And God *said* [Let there be light]."[359]

This can draw a perfect correlation to information because Christians, by faith, believe that the universe was formed by God's Word so that which is seen is not made out of that which is visible.[360] This directly parallels what we know about information; that the carrier of information is visible, yet the information itself is invisible.[361]

Ramifications of Neo-Darwinism

So, looking back at the conclusions that neo-Darwinists elicit to overcome these evidences, one can see that there is an "unwillingness to follow the evidence where it leads simply because one does not like the implications of so doing."[362] This is because what we believe about the genesis and mechanism of life can significantly influence how we live our

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[356] Lennox, *God's Undertaker*, 177.
[357] Ibid.
[358] Ibid.
[359] Genesis 1:3.
[360] Lennox, *God's Undertaker*, 178.
[361] Ibid.
[362] Ibid., 182.

lives. As Stephen Myer puts it, "Whatever theory we adopt has larger philosophical, religious, or worldview implications."[363]

This is very important; notice how a materialistic worldview shapes Dawkins' philosophy of life:

> In a universe of blind physical forces and genetic replication, some people are going to get hurt, other people are going to get lucky, and you won't find any rhyme or reason in it, nor any justice. The universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference.[364]

If all people are is pond scum evolved to a higher order, then Richard Dawkins' statement is quite correct. The predicament is, however, that this is consistent with nihilism, which can be used to justify social Darwinism or even worse. It may not be a coincidence that in one of the Columbine shooters' journals (Eric Harris's),[365] he said, "People that only know stupid facts that aren't important should be shot, what f****** use are they. NATURAL SELECTION. KILL all retards, people w/ brain f*** ups, drug addicts, people can't figure out to use a f****** lighter."[366]

It is not being suggested that the teaching of natural selection is the ultimate cause of the horrendous Columbine shooting. Still, it is evident from the quotation above that natural selection could have had an influence. Showing, that it can be intellectually justified based on neo-Darwinian philosophy. The same goes for other horrendous acts like social cleansing.

Eugenics can aid in evolutionary advancement by sterilizing the feeble-minded.[367] In fact, Michael Egnor notes that the physicians who are aware of twentieth-century medicine harbor

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[363] Steven Meyer, *Darwin's Doubt*, 408.

[364] Richard Dawkins and Lalla Ward, *River out of Eden: A Darwinian View of Life*, Kindle Edition. (New York: Basic Books, 1996), 134.

[365] Eric Harris is one of the Columbine shooters.

[366] C. Shepard, "Eric Harris' Writing - Journals, Diaries and School Papers," *a Columbine Site*, http://www.acolumbinesite.com/eric/writing/journal/journal.php.

[367] Ben Stein in *Expelled: No Intelligence Allowed*, sc. 1:12:105-1:12-:09.

"bad feelings" towards Darwinism because of eugenics.[368] It was "The darkest chapter of American medicine; there were over 50,000 people involuntarily sterilized."[369]

Even worse, it appears to be evident that Hitler's Nazism was influenced by Darwinian theory. This is not to say that Hitler was a Darwinist, but that there were Darwinian implications used to justify Nazism that in fact are consistent with Darwinian views. Note the opening words of what Hitler once said in a private speech to military officers in June 1944:[370]

> War belongs to those events that are essentially unalterable, that remain the same throughout all times, and only change in their form and means. Nature teaches us with every insight into its functioning and its occurrences that the principle of selection rules over it, that the stronger remains victor and the weaker succumbs. It teaches us that what often appears to an individual as brutality, because he himself is affected or because through his education he has turned away from the laws of nature, is nonetheless fundamentally necessary, in order to bring about a *higher evolution of living organisms*.[371]

Additionally, Otto Wagener, who had close contact with Hitler before losing favor in mid-1933, recalled a conversation with Hitler in the summer of 1931, where Hitler discussed his enthusiasm for eugenics.[372] According to Wagener, Hitler stated:

> Everywhere in life only a process of selection can prevail. Among the animals, among plants, wherever observations have been made, basically the stronger, the better survives. The simpler life forms have no written constitution. Selection therefore runs a natural course. As Darwin correctly proved: the choice is not made by some agency—nature chooses.[373]

Now, one may object and argue that virtues for sustaining a community will actually aid natural selection rather than hinder it—meaning that doing the evil deeds of eugenics, Nazism,

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[368] Michael Egnor in *Expelled: No Intelligence Allowed*, sc. 1:12:13-1:12:22.
[369] Ibid., sc. 1:12:28-1:12:34.
[370] Richard Weikart, *Hitler's Ethic* (Palgrave Macmillan, 2009), 175.
[371] Quotation used by Richard Weikart in *Hitler's Ethic* (Palgrave Macmillan, 2009), 175.
[372] Richard Weikart, *Hitler's Ethic* (Palgrave Macmillan, 2009), 185.
[373] Otto Wagener and Ruth Hein, "The Economic Policy Conferences Begin—Wagener Presents His Plans for a 'Social Economy'—Hitler Senses the Philosopher's Stone in His Hand," in *Hitler--Memoirs of a Confidant*, ed. Henry Ashby Turner (Yale University Press, 1985), 40 http://www.jstor.org/stable/j.ctt1ww3vv7.11.

and school shootings cannot be intellectually justified by neo-Darwinism. However, Darwin himself seemed to disagree. In *The Descent of Man*, Darwin said:

> It seems *scarcely possible* (bearing in mind that we are not here speaking of one tribe being victorious over another) that the number of men gifted with such virtues [sympathy, benevolence, selflessness, bravery], or that the standard of their excellence, could be increased through natural selection, that is, by the survival of the fittest.[374]

Again, this is not to say that Darwinism is a sufficient condition for things like school shootings, eugenics, or Nazism; however, it is undoubtedly a necessary condition.[375]

Copernicus and a Scientific Revolution

Good science notes the discrepancies and moves forward regardless of one's religious or political view—no matter how uncomfortable it may make someone. To obtain objective truth, one must be willing to admit error in pursuit. When the evidence seems to contradict a scientific paradigm, then a scientific revolution is appropriate. This is exactly what happened with Copernicus and his heliocentric model for the solar system. What is interesting is that it was the religious crowd that was against this paradigm shift because the former geocentric model that was proposed by Ptolemy made the earth the center of the solar system with perfect circular planetary orbits.

This would perfectly fit the theological viewpoint of that era. If God created man in His image, then it makes sense to make the dwelling place of this creation at the center of the universe and for the heavenly bodies to have a complete circular orbit because a circle means perfection. Yet, regardless of a theological viewpoint or philosophical bias, the evidence must be sought in a pure manner.

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[374] Charles Darwin, *The Descent of Man, and Selection in Relation to Sex* (Princeton: Princeton University Press, 1981), 163.

[375] David Berlinski in *Expelled: No Intelligence Allowed*, sc. 1:06:15-1:06:22.

Before Ptolemy, Aristarchus was the first person to propose a heliocentric model in the third century BCE, but it was rejected. In the second century CE, Ptolemy proposed his geocentric model and for 1300 years this geocentric model was maintained, but it left many questions unanswered. The biggest problem was the observable retrograde motion of the planets. It looked like the planets would orbit around the earth but then move backward then forward again. In order to fit in the assumption that the earth was the center of the universe, and the heavenly bodies had a perfectly circular orbit, the notion of the equant and epicycles was elicited to account for this retrograde motion of the planets.[376] These ad hoc hypotheses were created to fit the narrative that God made the earth the center of the universe with the heavenly bodies orbiting in a perfect circle. Still, they did not adequately explain the observable evidence.

1300 years later, Copernicus proposed a better explanation for this retrograde motion. Without getting into the deep math and science, Copernicus put the sun in the center with the planets orbiting elliptically. This had much more explanatory power for the observable retrograde motion of the planets. Yet, with this new scientific paradigm, Copernicus knew that the religious crowd would not like this and that they might even kill him if he published it—hence, why it was published the year he died from a stroke.

Note that this section does not provide an exhaustive account of the history of heliocentricity but highlights similar principles with the neo-Darwinian paradigm. Because back then, it was the pressure of the Catholic church to hold onto the geocentric model so that it fits into their theological viewpoint. Ad hoc hypotheses were created to account for the discrepancies, and fear was prevalent among those who found issues with said hypotheses. The

[376] Todd Timberlake and Paul Wallace, "Moving the Earth: The Revolutions of Copernicus," *Finding Our Place in the Solar System: The Scientific Story of the Copernican Revolution* (Cambridge University Press, March 2019), 111, last modified March 2019, https://www.cambridge.org/core/books/finding-our-place-in-the-solar-system/moving-the-earth-the-revolutions-of-copernicus/1F701EFA7454F057A164E56DB18A2548.

point to be driven home is that the geocentric model was held for over a millennium despite its problems, but eventually, a paradigm shift was necessary to answer these problems better.

It may be similar that the atheistic worldview pontificates the neo-Darwinian paradigm despite the evidence against it to keep God out of science. Perhaps there is an intellectual fear among many who see issues with neo-Darwinism but are reluctant to say anything about it. No claims about this will be made here, only an inquiry that may be worth pondering.

Concluding Remarks

To recapitulate, this thesis has demonstrated that the *a priori* assumptions necessary for neo-Darwinian conclusions are unevidential, unconvincing, and subjectively biased. Nonetheless, Darwin and his contemporaries are intelligent minds that have offered immense contributions to the world of science. They attempted to answer the perennial questions of how humanity came into existence. Unfortunately, their conclusions seem to lack explanatory power and explanatory scope due to far too many ad hoc hypotheses. In closing, the pontification and politicalization of neo-Darwinism as an intractable fact should be amended, but regardless of one's position, this debate should only proceed onward with honesty, gentleness, and respect.

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