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ON THE ORIGIN OF BEAUTY AND THE
HUMAN ABILITY TO PERCEIVE IT

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ON THE ORIGIN OF BEAUTY AND THE
HUMAN ABILITY TO PERCEIVE IT

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To my wife, Crystal,
whose beauty and love
are clearly gifts from God

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PREFACE

I went through a difficult time in my early teens. One of my favorite things to do during this time was to saddle my horse and ride into the mountains west of Colorado Springs. I would ride for hours, just me and my horse, “Bo.” I was alone, but I never felt alone. Everywhere I looked, the rocks, the trees, the mountains, the animals, the streams, the gentle breeze, even the smell of pine, all seemed to speak to me and bring healing to my troubled soul. I remember the feeling of pleasure, even the sense of awe, as I was engulfed in the beauty that surrounded me.

It was not until much later that I came to realize that beauty is a problem. Was the beauty I experienced only an illusion? Is it all just in my head? Or is beauty a real quality of nature? Why, on those long rides in the mountains, did my mind naturally gravitate toward the idea of God? However, even harder to explain, if God does not exist, then why does nature care (as if nature can think) about making so many things beautiful? In addition, *how* and *why* did humanity come to possess such a keen perception of beauty? These questions did not occur to me in the days of my youth, but they now have become the driving questions to explore in this dissertation.

Many factors have brought me to this point, and many people have made it possible. I am grateful to Trinity Baptist Church in Chickasha, Oklahoma, where I have had the privilege to pastor for over fourteen years. They have been an encouragement to me, giving me time off to write, and have helped me numerous ways, including financially, to accomplish this lifelong goal. I am grateful to my beautiful wife, particularly for her encouragement and her patience. Thank you for putting up with the “trapped-in-my-brain” and “glazed-over-look” that I have had for the last several years, and for constantly straightening up the piles of books and papers that migrated out of my office to the dining

room table, onto the floor, by my chair, and beside the bed. I understand that when I am finished with this dissertation you have a wonderful plan for my life, and I can honestly say that I am looking forward to it. I am also grateful to our three boys, who are among the smartest, most talented men I know. They have been a great encouragement to me and a constant source of laughter. I love your music, I love the way you think, and I am very proud of all three of you. Thank you also to my dad and mom, as well as all my friends who prayed for me and encouraged me along the way, and to Betsy Fredrick who assisted in the painstaking process of editing.

I am also grateful to my dissertation committee. To Dr. Coppenger, who pushed me to think and write with greater precision, I appreciate our conversations as we hashed out the finer points. I am also grateful for your encouragement, as well as your wonderful sense of humor. To Dr. Parker, from whom I have learned a great deal about Christian apologetics, I love your stories; I can listen to them for hours. To Dr. Cabal, who is a wonderful philosopher, teacher, and along with my oldest son, one of the coolest lead guitarists around. Thank you for stretching my mind and sharpening my skills as a philosopher.

Most of all, I am thankful to the Lord, who infused His creation with beauty, and gave me this wonderful gift of enjoying it. You were on that mountain years ago speaking to me and comforting me through your beautiful creation. I heard you then, and I still hear you today. I pray that you will be glorified in the following pages.

Bill Elkins

Chickasha, Oklahoma

May 2017

CHAPTER 1

INTRODUCTION

The ability to recognize and appreciate natural and artistic beauty is distinctly human. Much time, effort, and resources are spent on producing and acquiring beautiful works of art, decorating homes, gazing at the starry heavens above, and taking trips to certain destinations, such as the Grand Canyon or the Rocky Mountains, just to experience the beauty.¹ These activities are uniquely human. Some animals possess something akin to the human aesthetic sense, but this capacity seems more parochial and visceral.² Where did this human desire for the aesthetic experience originate? How did human beings come to possess this unique ability? Also, why is there so much beauty in the world to be perceived?

Where one begins to seek an answer to these questions depends a great deal on one's philosophical presupposition. If it is assumed that the universe and everything in it came into existence on its own and was not the result of a purposeful Creator, then all things human, including the human perception of beauty, must be explained by (or something akin to) the process of evolutionary adaptations over millions of years. If this indeed is the case, then intelligent human beings should now be able to analyze and explain why the human perception of beauty was particularly advantageous for the development and ultimate survivability of the species. This particular task may prove difficult, but the

¹Not all works of art are beautiful, but there does seem to be a strong desire for beauty in most people, as reflected in their choices of painting, décor, etc.

²The bowerbird that builds a structure with sticks and brightly colored objects or the peacock with a beautiful plumage to attract a mate are common examples. The bowerbird's "sculpture" is not likely to attract the attention of the peahen, nor is it likely that the female bowerbird would take notice of the peacock's tail feathers. However, humans are fascinated with both.

problem is even more complex. Any evolutionary explanation must also include why there is such a vast difference between the perception of beauty in humans and those of animals, and how blind random forces of nature fabricated such an exquisitely beautiful universe.

There is, however, another possible explanation for the origin of the human aesthetic sense. This alternative explanation suggests that the human capacity to perceive beauty was generated by a Divine Creator. In fact, the creation account found in the pages of the Christian Bible answers the questions concerning not only the origin of the human aesthetic sense, but also why humans are uniquely gifted with this capacity, why human beings desire to produce works of art, and why the universe is so beautiful. This position will not be taken seriously by many modern thinkers for several reasons. The first reason is that many modern scientists are committed to metaphysical naturalism, meaning that they have an *a priori* commitment to the non-existence of God.³ Many scientists have ruled the God hypothesis inadmissible, not because they have scientifically (or philosophically) proven that God does not exist, but they believe the scientific method only works if one assumes atheism and a natural cause for everything, including nature itself. However, why rule out God at the outset? If God does exist and he is the Creator of the universe, then the atheistic version of the scientific method is rigged in such a way that scientists could never arrive at this truth. Starting out one's scientific quest for truth with a closed mind about God is not only unnecessary, but could prove to be unwise.

Another reason God is not welcomed in modern science is that many scientists are afraid

³“Metaphysical” naturalism should not be confused with “methodological” naturalism. A metaphysical naturalist denies the existence of anything non-material, such as God, but a methodological naturalist may be a theist practicing science without consideration of supernatural causes. A major contributing factor in why many scientists reject theism is the so-called “Warfare Hypothesis.” This hypothesis (influenced by the writings of John William Draper and Andrew Dickson White in the 1870s), suggests that science and religion are in conflict, therefore, one must choose one side or the other. This position has been largely discredited by historians of science, but the narrative still lives on in the academy and in popular culture. See John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1991).

that the scientific method would be hindered by the so-called God-of-the-gaps response. This response assumes that if God's creative activity is invoked in instances where science currently has no answers (the gaps), it would likely stop genuine scientific enquiry.⁴ The goal, however, of theists and non-theists alike, should not be to invoke a simple or dismissive answer that stops certain avenues of inquiry, but to arrive at the best explanation that takes into account a thorough examination of all the evidence.

In a project such as this, it is necessary to attempt a working definition of beauty. However, before an attempt is made, a few issues need to be understood. First, this dissertation does not offer a thorough study and critique of previous attempts to define beauty. Though, a few well-known definitions of beauty from various thinkers are discussed. Second, recognizing there has never been a consensus concerning the definition of beauty among philosophers, the working definition of beauty adopted in this dissertation is provisional. Even though the definition has been influenced by other thinkers, the need for modification will likely present itself after further consideration. Third, this dissertation is written from the position of aesthetic objectivism. However, it is important to understand from the outset that aesthetic objectivism does not necessarily deny that beauty has a subjective aspect within the observer. For this reason, any definition of beauty should acknowledge both objective and subjective qualities of beauty.

With these caveats in mind, for the purpose of this dissertation the following will be the working definition of beauty: *Beauty is a particular quality (or qualities) of an idea, object, or sound that pleases, delights, or enchants when perceived by a person whose mind and faculties are sound.* This definition contains both the objective aspect of beauty (qualities of an idea, object, or sound), and the acknowledgement that the subjective aspect of beauty can be experienced in various degrees (pleases, delights, or enchants). It also includes both audio and visual, whether what is perceived is an aspect of nature or a

⁴The God-of-the-gaps response is somewhat a "red herring" since many of founders of modern science were creationists, and yet it did not stop them from legitimate scientific enquiry.

human work of art. The definition does, however, intentionally leave out taste, touch, and smell as primary objects of beauty, and also leaves out defining what the particular quality or qualities are that make something beautiful.⁵ Historically, several qualities have been suggested, such as proportion, harmony, and symmetry. However, often many specific qualities can be missing or distorted in a work of art, and yet the work still be considered beautiful. What is likely the most controversial in this definition is the inclusion of “idea.” Idea is the acknowledgement that before beauty is physically expressed by a conscious being, it begins as an idea in the mind. An artist will make thousands of choices concerning aesthetic quality (measured presumably against some objective standard) in his or her mind before the work of art is created in physical form. Likewise, from a theistic perspective, the beauty of creation originated in the mind of God. God then created the universe beautiful, and finally gifted humanity with the unique ability to comprehend and appreciate this beauty.⁶ It is for this reason that beauty can be understood as a form of communication. Like a language, beauty begins as an idea or as an image in a mind. The mental image is then physically represented through a particular medium, and then is perceived in another mind (or minds) with the ability to comprehend it. Finally, the phrase “that pleases, delights, or enchants when perceived by a person whose mind and faculties are sound” is an attempt to rule out things like animals, sadistic delights with a perverse focus, and people who, for whatever reason, may lack the ability to perceive beauty. “Mind” was specifically chosen over “human mind” to affirm that beauty may also be perceived by God and angels.

⁵Philosopher Roger Scruton writes concerning taste, smell, and presumably touch, “It seems to me that philosophers have been right to set these on the margins of our interest in beauty. . . . We can relish them, but only in a sensual way that barely engages our imagination or our thought. They are, so to speak, insufficiently intellectual to prompt the interest in beauty.” Roger Scruton, *Beauty* (New York: Oxford University Press, 2009), 25.

⁶This idea of a unique human ability is not meant to suggest that animals are incapable of recognizing elements of desirability, particularly within their own species.

The purpose of this dissertation is to examine the explanatory power and scope of two very different theories concerning the origin of beauty and the human aesthetic sense. Chapter 2 begins by showing that Charles Darwin was aware of the aesthetic problem. Darwin did not spend much time on a resolution, but suggested the answer may be found in the combination of “natural selection” and “sexual selection.”⁷ Many working in Evolutionary Aesthetics today follow Darwin’s lead. However, one of the first big obstacles for evolutionists to overcome is that the human perception of beauty requires a properly functioning brain. This section, therefore, discusses various evolutionary hypotheses of how the brain developed through natural means, and then how it developed the unique ability to perceive beauty. The next portion explores the various evolutionary hypotheses for why the perception of beauty in art and nature was necessary for human survivability, along with a thorough critique of each position. The last section shows that a few evolutionists are unconvinced by these various hypotheses, with some surprising admissions that beauty seems to have a transcendent quality. The chapter concludes with a summary showing that beauty ostensibly defies any effort to be placed in a box.

Chapter 3 focuses on the divine origin of beauty. This chapter begins with a discussion of the biblical concept of beauty, particularly as it relates to creation and the tabernacle. It then discusses the possible connection between the human perception of beauty and the *imago Dei*. Specifically, how the *imago Dei* separates the human being from all other animals by certain communicable attributes of God. Next, it examines theologians from the early and medieval church who thought of God as the Great Artificer; explores how medieval Christian thinkers adapted the platonic concept of truth, goodness, and beauty; and then briefly examines a few thinkers who believed beauty can be ascribed to God. Finally, the remainder of the chapter traces the fall and possible recovery of beauty as a theological concept within Christian thought.

⁷See Charles Darwin, *Descent of Man and Selection in Relation to Sex* (New York: Barnes and Noble, 2004), 194-97.

Chapter 4 examines the possibility that beauty functions as a sign. The discussion includes certain philosophers and theologians that developed in various degrees a semiotic understanding of beauty. In other words, these thinkers believed that beauty could function as a sign pointing to God. The discussion begins with a few examples of Christian thinkers who believed that beauty in nature was a pointer to the divine Artisan. These thinkers viewed beauty in terms of what can now be understood as semiotics. This idea that beauty is a sign pointing to God is discussed and critiqued. Toward the end of the chapter, the new field of Biosemiotics is examined. Biosemiotics is a field of evolutionary study based on the semiotic philosophy of C. S. Peirce. This section examines how these evolutionary thinkers understand beauty as a sign of evolution.⁸ Finally, this chapter concludes with a modest common-sense proposal on the function of beauty as a sign.

Chapter 5 discusses the definition of beauty, as well as arguments for and against objectivism and subjectivism. Next, various instances of beauty are discussed, particularly beauty in both the visible and invisible realm. The purpose of this section is to show that beauty is not just a peripheral aspect of the universe, but seems to be woven into the very fabric of reality.⁹ Therefore, the presence of beauty becomes strong supporting evidence of a wise, powerful, and benevolent Creator. Finally, it is suggested that beauty, if viewed through the non-reductionistic lens, has the ability to re-enchant the seemingly disenchanted modern world.

⁸See Jesper Hoffmeyer, *Biosemiotics: An Examination into the Signs of Life and the Life of Signs* (Chicago: University of Scranton Press, 2008); and Tommi Vehkavaara, "From the Logic of Science to the Logic of the Living: The Relevance of Charles Peirce to Biosemiotics," in *Introduction to Biosemiotics*, ed. Marcello Barbieri (Dordrecht: Springer, 2008), 263-64.

⁹The arguments offered for the beauty of the universe do not ignore that fact that ugliness is also present. However, ugliness, in many cases, is a result of death, decay, sickness, or malformation; its presence can often be an indicator that something has gone wrong (i.e., the fall of mankind). Ugliness within the plant and animal kingdom may also be a source of good and wonderment, such as the amusement felt when one contemplates the anglerfish or the corpse flower. Beauty, however, is always the standard by which ugliness is judged.

The conclusion, chapter 6, begins with a discussion of the difference between *abduction* and *inference to the best explanation*, followed by an exercise in abductive reasoning concerning the existence of beauty. Next, by using research from previous chapters, the proposal of archeologist Lars Fogelin’s “Seven Traits of Highly Successful Explanations” is used to briefly compare the top two competing explanations: biblical theism and Darwinian evolution. The chapter concludes with what is considered the best explanation between the two competing positions. Clearly stated, beauty and the human ability to perceive beauty exists because God exists.

Thesis

Nature puts on a spectacular display of beauty, and it appears only human beings have the unique ability to perceive and enjoy beauty to its fullest measure. The purpose of this dissertation is to explore two competing explanations for how and why this is so. It is argued that a coherent and comprehensive aesthetic theory should account for both the beauty of nature and the human ability to perceive it. The final analysis seeks to show that biblical theism, namely God creating the universe beautiful and then giving human beings the unique capacity to enjoy it, is the best explanation for the origin of the human perception of beauty and the best account for why nature is so beautiful. A positive case is made for this thesis by an examination of appropriate biblical texts. It is shown that beauty, and the human perception of it, is not a problem for biblical theists. In fact, beauty is something one would expect from a personal, powerful, creative, benevolent God. It is, however, a monumental problem to explain solely from a naturalistic evolutionary perspective.

It is also argued that the competing evolutionary explanations of the origin of the human perception of beauty are *ad hoc*, often contradictory, and almost always too simplistic because an evolutionary explanation is forced to fit within the rubric of food, fight, flight, or reproduction. After reading many of these explanations, one gets the impression that the authors are merely guessing, and making it more analogous to science

fiction than science fact. Similar critiques have been leveled against this evolutionary explanation by a few philosophers not known for being deeply religious, such as Roger Scruton.¹⁰ The late David Stove even called many of these stories “Darwinian Fairytales.”¹¹ Added to this confusion, a few scholars working in the field of evolutionary aesthetics admit that beauty seems to defy all reductionistic explanations, and some even suggest that beauty possesses a mysterious transcendent quality.¹² One could conclude from these admissions that the naturalistic evolutionary explanation is not coherent and comprehensive enough to explain why nature cares so much about beauty.

Daniel Dennett suggests that Darwinian Evolution is like a “universal acid” that eats through all competing worldviews.¹³ This dissertation shows that beauty is not only a great universal acid neutralizer, but that it has such a transcendent quality that it may prove to be a powerful defeater for atheism and metaphysical naturalism. In Dostoevsky’s *The Idiot*, Prince Myshkin is quoted as saying, “Beauty will save the world.”¹⁴ Perhaps one of the ways it may save the world is by helping modern man rediscover beauty as an indelible sign of the Creator, and to recognize that the unique human ability to perceive and enjoy this sign is His wonderful and gracious gift.

Background

After graduating from high school, I was offered a scholarship from two universities. The first offer was an art scholarship from a state school, and the second was

¹⁰Scruton, *Beauty*.

¹¹David Stove, *Darwinian Fairytales* (New York: Encounter, 1995), 2. More critiques by atheists are examined in this dissertation.

¹²See David Rothenberg, *Survival of the Beautiful: Art, Science, and Evolution* (New York: Bloomsbury, 2011), 27.

¹³Daniel Dennett, *Darwin’s Dangerous Idea* (New York: Simon & Schuster, 1995), 63.

¹⁴Fyodor Dostoevsky, *The Idiot* (London: Macmillan, 1916), 383.

a ministry scholarship from a Christian School. I chose the degree in fine art. After graduation, I moved to Fort Worth, Texas, and began a Master of Divinity degree. I became interested in apologetics and philosophy (as a result of attending a state school and having an antagonistic family member), so I took my electives in that area. Toward the end of my seminary work, while I was pastoring full-time, I took my family on vacation to the Grand Canyon. On the way home, we stopped by a book store in Albuquerque, New Mexico. As I was perusing the philosophy section (as is my custom), I ran across Monroe Beardsley's *Aesthetics: Problems in the Philosophy of Criticism*.¹⁵ As I read the first chapter that evening, I knew aesthetics was to become a major academic focus, combining my interests in both philosophy and art.

The Ph.D. program at the Southern Baptist Theological Seminary has allowed me to continue to pursue my interest in aesthetics by combining the major in Apologetics and Worldview, with minors in Philosophy and Christianity and the Arts. During the seminar portion of the program, I took a course in Aesthetic Theology. In this course I wrote a review of Dennis Dutton's *The Art Instinct*.¹⁶ Dutton's work introduced me to the field of Evolutionary Aesthetics. I came to realize that the human perception of beauty was a major problem for evolutionists; a problem that lacked scholarly consensus. In the Worldview Analysis seminar, I wrote a paper exploring the different evolutionary explanations for the human perception of beauty. It occurred to me during my research that there was room for more work in this area, particularly a critique from a biblical worldview. Therefore, it is the purpose of this dissertation to offer such a critique.

Charles Darwin was well aware of the problem of beauty as he developed and evaluated his theory of evolution. To Darwin, beauty was a puzzle that did not yield a simple evolutionary solution. For well over a hundred years the question remained

¹⁵Monroe C. Beardsley, *Aesthetics: Problems in the Philosophy of Criticism* (Indianapolis: Hackett, 1981).

¹⁶Dennis Dutton, *The Art Instinct: Beauty, Pleasure, and Human Evolution* (New York: Bloomsbury, 2009).

relatively unexplored. Though, in recent years, there has been a new interest in the evolutionary origins of the human perception of beauty. Scholars and researchers from many different disciplines are taking up the questions of how the ability to perceive beauty and why the desire to make objects beautiful has evolved to such an extraordinary degree in humans.

There was plenty of literature to draw from in order to write this dissertation. Resources were readily available to me on this subject from The University of Science and Arts of Oklahoma, Oklahoma University, Oklahoma Baptist University, James P. Boyce Centennial Library of The Southern Baptist Theological Seminary, and from the inter-library loan system. I also purchased many books on Aesthetics, Evolutionary Aesthetics, and Theological Aesthetics and have gathered hundreds of peer reviewed journal articles, scientific and theological, from sources such as JSTOR and ATLA.

Methodology

The methodology of this dissertation relies on the philosophical categories of metaphysics, epistemology, and value theory. It also makes use of the tools of logic, which include deductive and inductive arguments. However, following the lead of C. S. Peirce and Ronald Nash, the principle tool used is “abduction,” or what has come to be understood as a “hypothesis” or “inference to the best explanation.” *The Oxford Guide to Philosophy* explains, “Abductive reasoning accepts a conclusion on the grounds that it explains the available evidence.”¹⁷ In other words, abductive reasoning must work backwards using all of the tools of reasoning to formulate the best explanation for a given phenomenon. In this case, the phenomenon explored is the origin of the human perception of beauty.

Using these tools of philosophy, two competing explanations for the origin of the human perception of beauty are examined. Both positions are taken seriously and

¹⁷C. J. Hookway, “Abduction,” in *The Oxford Guide to Philosophy*, ed. Ted Honderich (New York: Oxford University Press, 2005), 1.

examined logically on their own merits. To ensure that the various evolutionary positions are dealt with thoroughly and fairly, they are divided into four schools of thought. These four competing schools have been outlined by Ellen Dissanayake: (1) artistic expression improves cognition by contributing “to problem-solving and making better adaptive choices,” (2) artistic expression as propaganda to “manipulate, deceive, indoctrinate, or control other people,” (3) expression of art and beauty are sexual displays which promote “mating opportunity through display of desirable qualities (e.g., physical beauty, intelligence, creativity, prestige) which denote fitness,” and (4) artistic expression is for the purpose of “reinforcing sociality,” or “group cohesion.”¹⁸ All four of these positions are outlined, thoroughly examined, and critiqued, as well as any other miscellaneous theories (or combination of theories) in the section on evolutionary aesthetics.

The philosophical presupposition of anyone interpreting evidence concerning the origin of the human perception of beauty is not metaphysically neutral. Everyone has a philosophical lens through which they interpret evidence and this lens determines whether a particular explanation is plausible or implausible. For this reason, the tools of worldview analysis (from thinkers such as Nash and Sire) and presuppositional apologetics (Frame) are used, showing how one’s worldview shapes one’s thinking about any given topic. For instance, a materialist rejects the supernatural, and because of this *a priori* metaphysical commitment, all evidence must have a material explanation. Any suggestion of the supernatural is not only implausible to such a person, but the very idea will likely produce a scoff. This is not because the existence of a transcendent God has been disproved, but because the materialist is philosophically committed to the non-existence of supernatural beings, such as God or angels. Therefore, a small section is also devoted to a critique of modern materialism, seeking to show how beauty challenges its reductionism.

¹⁸Ellen Dissanayake, “The Arts after Dawrwin: Does Art Have an Origin and Adaptive Function?” in *World Art Studies: Exploring Concepts and Approaches*, ed. K. Zijlmans and W. van Damme (Amsterdam: Valiz, 2008), 241-63.

Chapter 3 offers a biblical analysis of not only the origin of the human perception of beauty, but also the origin of objective beauty. This section uses the tools and principles of biblical hermeneutics, including examining passages of Scripture in the original languages. An examination of the concept that beauty is a sign is incorporated in chapter 4. Specific theological writings of Christian philosophers and theologians are explored, as well as an examination of the new field of Biosemiotics. The semiotic theory of C. S. Peirce, used by philosophical theists and evolutionists alike (Peirce was both), is critiqued and modified. The overarching method of this dissertation can be understood in terms of negative and positive apologetics. Many of the tools of philosophy, theology, history, and biblical exegesis are used to make a positive case for the divine origins of the human perception of beauty.

CHAPTER 2

EVOLUTIONARY AESTHETICS

If there is no Creator, then evolution or something very much like evolution must have occurred. Putting aside for the moment the materialist's assertion that a Creator does not exist, how then does an evolutionist explain the presence of beauty? Beauty seems gratuitous, over the top, more than what is needed or even expected. It is like icing on a cake or decorative ribbons on a gift. The presence of beauty, like cakes and gifts, seems to imply a certain level of love and care that blind, unconscious forces are incapable of providing. If the mechanism of evolution takes a great deal of time and energy, then beauty would seem to be a waste of precious resources. In such an environment, function would be far more critical than an aesthetically pleasing form, and yet nature strikes an unusual balance of both function and the beauty of form.¹⁹

When one thinks deeply about beauty, the complexity of what makes beauty possible becomes apparent. Not only does the presence of beauty in nature need an explanation, one must also explain how and why humans recognize this beauty. In the case of humanity, one must have vision capable of seeing shapes and colors, as well as possessing the cognitive ability to recognize beauty. Organisms can clearly survive without these special abilities, but if eyes are somehow necessary for survival, why do humans see in so many colors? Why not just various shades of grey, or infrared vision, which would be more than sufficient for survival? However, the human eye is so

¹⁹Examples may include the colors and patterns observed on animals (i.e., the zebra) or the colorful plumage of birds (i.e., the parrot), which seem to go beyond the necessary function of the animals themselves. If the sole purpose is camouflage, then evolutionists would be hard pressed to explain any eye-catching designs or bright colors that appear to be for decorative purposes. If the argument is for sexual selection, see the discussion in the section, "A Critique of Evolutionary Psychology."

complex that it does not seem designed for mere survival, but to experience that tiny portion of the visible light spectrum that allows for the enjoyment of the world in full living color. This, in return, leads to another question, “Why is nature so colorful?” No matter where one looks, with the naked eye, through a telescope, or a microscope, nature is saturated in vivid colors. The scientific answer concerning the absorption and reflection of light waves misses the point, just as a scientific lecture on how instruments make sound waves can miss something spectacular going on in the music of Bach or U2. There is more going on in the universe than just light waves and sound waves. More often than not, the sights and sounds of nature resonate beauty. Why is this so? How can the theory of evolution account for the beauty of the world and the unique human ability to perceive it? The purpose of this chapter is to explore the various evolutionary answers to this question. A few of the top theories put forth by evolutionists are explored and critiqued, and the conclusion shows how beauty seems to defy all reductionistic explanations.

Charles Darwin and the Aesthetic Problem

Charles Darwin became increasingly aware of the aesthetic problem as he developed the theory of evolution. Not only was aesthetics a common topic in intellectual circles at the time, but also Darwin was writing when most naturalists considered the beauty and complexity of the world as evidence for divine creation. This was largely due to the influence of thinkers, such as William Paley, whose textbook, entitled *Natural Theology*, was required reading at Cambridge for many decades. In his book, Paley likened the complexity of creation to a watch, which, upon close examination of the gears and springs, bears all the marks of having been designed. When considering beauty, Paley understood that two things were at play—the presence of beauty and the ability to perceive it:

The necessary purpose of hearing might have been answered without harmony; of smell, without fragrance; of vision without beauty. Now, “if the Deity had been indifferent about our happiness or misery, we must impute to our good fortune (as all design by this supposition is excluded), both the capacity of our senses to receive pleasure, and the supply of external objects fitted to excite it.” I allege these as *two*

felicities, for they are different things, yet both necessary: the sense being formed, the objects, which were applied to it, might not have suited it; the objects being fixed, the sense might not have agreed with them. A coincidence is here required, which no accident can account for.²⁰

In other words, the pleasure received by senses from many independent objects in the world can be understood as evidence of a benevolent Creator, a Creator who designed life to be experienced with a certain measure of pleasure and happiness. After all, why would nature care if human beings enjoyed food, the sunset, or the smell of a rose? Therefore, beauty (and other pleasures), and the human ability to perceive it, becomes a challenge to explain from a naturalistic perspective.

Even though Paley was a theist, his watch-like mechanistic view of the world had a profound influence on the formulation of Darwin's theory of evolution. Concerning this influence, historian Keith A. Francis writes,

Like Paley, Darwin's view of biology was mechanical. The difference between *The Origin of Species* and *Natural Theology* was that Darwin did not invoke an entity outside of nature to make the machine of nature work. Darwin chose to explain extinction and the distribution of different species around the world by referring to the action of natural selection; Paley chose to refer to the creative action of the Christian God. Before 1859, Paley's solution was the only one available.²¹

After Darwinian evolution began to take hold in academia, what once seemed obvious—if there is design, there must be a designer—was no longer obvious. The task of the evolutionists was now to explain design, particularly the presence of beauty in the world, without a divine designer. In chapter 15 of *On the Origin of Species*, Darwin acknowledged this challenge:

How it comes that certain colours, sounds and forms should give pleasure to man and the lower animals, that is, how the sense of beauty in its simplest form was first acquired, we do not know any more than how certain odours and flavours were first rendered agreeable.²²

²⁰William Paley, *Natural Theology*, 12th ed. (Chillicothe, OH: DeWard, 1802), 299-300.

²¹Keith A. Francis, *Charles Darwin and the Origin of Species* (Westport, CT: Greenwood, 2007), 46.

²²Charles Darwin, *On the Origin of Species by Means of Natural Selection* (London: Arcturus, 2012), 352.

At this point, Darwin did not make a distinction between the aesthetic sense of man and animals, but his answer was the same: “We do not know.” Darwin acknowledged that his critics believed beauty was intended to “delight man or the Creator.”²³ However, he quickly dismissed the idea as “beyond the scope of scientific discussion,” but then added, “Such doctrines, if true, would be absolutely fatal to my theory.”²⁴ Darwin admittedly did not know why pleasure was connected to the perception of beauty, but he knew for sure that he had to come up with a nontheistic answer in order for his theory to survive.

In his first few additions of *On the Origin of the Species*, Darwin discussed beauty, particularly of animals, in the section, “Sexual Selection.”²⁵ Darwin’s discussion focused primarily on the plumage of birds, particularly the tail of the peacock. He proposed that through sexual selection the peacock’s tail became more ornate and beautiful over time as each male competed for the attention of the female. He writes,

It may appear childish to attribute any effect to such apparently weak means: I cannot here enter on the details necessary to support this view, but if man can in the short time give elegant carriage and beauty to his bantams, according to his standard of beauty, I can see no good reason to doubt that female birds, by selecting, during thousands of generations, the most melodious or beautiful males, according to their standard of beauty, might produce a marked effect.²⁶

Undoubtedly, Darwin understood the problem of beauty, but had not yet given it a great deal of thought. However, in his sixth edition of *Origins*, Darwin added to this section an acknowledgement of the growing criticism concerning the question of beauty. Darwin had to respond to critics, such as John Ruskin, because they were attempting to use the problem of beauty as a defeater of his theory.

²³Darwin, *On the Origin of Species*, 147-49.

²⁴Ibid.

²⁵Charles Darwin would later take up this issue at length in *Descent of Man and Selection in Relation to Sex*, 2nd ed., The Barnes & Noble Library of Essential Reading (New York: Barnes & Noble, 2004).

²⁶Charles Darwin, *Darwin: The Indelible Stamp*, ed. James D. Watson (Philadelphia: Running, 2005), 392.

John Ruskin (1819-1900) was a well-known author, artist, and art critic, who was a former classmate of Darwin.²⁷ Although Ruskin respected Darwin, he became one of Darwin's most outspoken critics. Ruskin had studied natural history at Oxford before turning his attention to the arts. One of Ruskin's main arguments against Darwin's theory (a theory he suspected was motivated by latent atheism) was the problem of natural beauty.²⁸ Ruskin argued that natural and sexual selection alone could not explain the complexity of natural beauty or the human perception of beauty. In *The Eagle's Nest*, Ruskin desired to understand Darwin's explanation for the colorful design of the peacock's tail:

I went to it [Darwin's theory] myself, hoping to learn some of the existing laws of life which regulated that local disposition of the colour. But none of these appear to be known; and I am informed only that peacocks have grown to be peacocks out of brown pheasants, because the young feminine brown pheasants like fine feathers. Whereupon I say to myself, "Then either there was a distinct species of brown pheasants originally born with a taste for fine feathers; and therefore with remarkable eyes in their heads,—which would be a much more wonderful distinction of species than being born with remarkable eyes in their tails,—or else all pheasants would have been peacocks by this time!" And I troubled myself no more about the Darwinian theory.²⁹

In other words, Ruskin did not understand which came first, the development of the pheasant's imaginative "eye" or taste for the nonexistent colorful peacock's tail, or, upon seeing an existing peacock's tail, developed a taste for it. Ruskin understood that natural and sexual selection required one choice or the other. Perhaps this is why, in the same section, Ruskin quipped, "Very positively I can say to you that I have never heard yet one logical argument in its [Darwinism's] favor, and I have heard, and read, many that were beneath contempt."³⁰

²⁷Phillip Prodger, *Ugly Disagreements, The Art of Evolution: Darwin, Darwinisms, and Visual Culture* (Hanover, NH: Dartmouth College Press, 2009), 40-41.

²⁸Ibid., 41.

²⁹John Ruskin, *The Eagle's Nest* (London: George Allen, 1905), 200.

³⁰Ibid., 199.

In *The Expression of the Emotions in Man and Animals* and *The Descent of Man*, Darwin responded to the growing criticism. His response was twofold: (1) beauty is subjective, and (2) the ‘sense of the beautiful’ must have evolved through sexual selection. In the *Descent of Man*, Darwin writes,

Sense of Beauty. This sense has been declared to be peculiar to man. I refer here only to the pleasure given by certain colors, forms, and sounds, and which may fairly be called a sense of the beautiful; with cultivated men such sensations are, however, intimately associated with complex ideas and trains of thought.³¹

Darwin continued by downplaying the apparent uniqueness of the human aesthetic sense by showing that animals, particularly birds, seemed to have some appreciation for beauty. However, Darwin did acknowledge that “[w]ith the great majority of animals, however, the taste for the beautiful is confined, as far as we can judge, to the attractions of the opposite sex.”³² In spite of this observation, Darwin continued to believe that the origin of the human aesthetic sense must be found in the process of sexual selection. Darwin understood that his theory could not allow for an objective (transcendent) standard of beauty, the subjective taste for beauty had to evolve among individuals and species. Concerning the subjective nature of beauty, Darwin writes, “The taste for the beautiful, at least as far as female beauty is concerned, is not of a special nature in the human mind; for it differs widely in the different races of man, and is not quite the same even in the different nations of the same race.”³³ Ruskin, however, insisted that beauty was objective, and he also challenged Darwin’s assertion that sexual selection alone was the origin of the human perception of beauty. Ruskin’s criticism consisted of two parts: (1) sexual selection alone was not sufficient to explain the evolution of both the (objective) beauty

³¹Darwin, *Descent of Man*, 74.

³²Ibid.

³³Ibid., 75.

of the animal and the (subjective) taste of that particular beauty by the mate; and (2) there are too many complex forms in nature to have formed in a random fashion.³⁴

Ruskin's favorite example to help make his case, as seen, was the peacock's tail. To Ruskin the artist, the colors and intricate design in the peacock's tail feathers were extremely complex. In fact, he proposed that nature would have squandered too many valuable resources to bring about such complexity.³⁵ The peacock's tail was such an important example to Ruskin that when Darwin visited his home in 1879, it became a major topic of discussion. Darwin discussed the subject with Ruskin with much interest, but later he privately admitted, "The sight of a peacock's tail, whenever I gaze at it, makes me sick!"³⁶ Ruskin had made his point and Darwin had taken notice. Art historian Phillip Prodger concludes,

Ruskin, who had a penchant for touching raw nerves, had put his finger on one of the most sensitive elements of late Darwinian science. The beauty problem, and the question of the peacock's tail in particular, typified a new phase of research that confronted the traditional view of humans as being unique in their ability to express emotion."³⁷

Sexual selection might explain why a peahen is attracted to the peacock, but how does that translate into the human perception of beauty, such as admiring a field of flowers or a sunset? In the *Descent of Man*, Darwin finally acknowledges the vast difference between human beings and animals:

There can be no doubt that the difference between the mind of the lowest man and that of the highest animal is immense. An anthropomorphous ape, if he could take a dispassionate view of his own case, would admit that, though he could form an artful plan to plunder a garden—though he could use stones for fighting or for breaking open nuts—yet that the thought of fashioning a stone into a tool was quite beyond his scope. Still less, as he would admit, could he follow out a train of metaphysical

³⁴Prodger, *Ugly Disagreements*, 42-43.

³⁵Ibid., 49.

³⁶Ibid., 48-49.

³⁷Ibid., 56.

reasoning, or solve a mathematical problem, or reflect on God, or admire a grand natural scene.³⁸

Even though he understood the enormous difference between man and animals, which included the ability to “admire a grand natural scene,” Darwin, unlike Alfred Russell Wallace, refused to “let a divine foot in the door.”

Considered one of the greatest biologists of the nineteenth century, Alfred Russell Wallace formulated the theory of evolution through natural selection around the same time as Darwin; unfortunately, Darwin beat him to the punch. There were, however, great differences between Wallace and Darwin. Unlike Darwin, Wallace was not afraid to entertain the possibility that a Divine Creator designed the human brain when contemplating its complex functions. The human cognitive ability to engage in higher functions of the arts (i.e., literature, painting, and poetry) seemed to have no direct purpose in the survivability of the species, so Wallace was open to alternative explanations. Wallace wrote, “The inference I would draw from this class of phenomena is that a superior intelligence has guided the development of man in a definite direction, and for a special purpose.”³⁹ Philosopher Anthony O’Hear explains,

Alfred Russell Wallace, the co-discoverer of the theory of evolution, argued that our . . . love of beauty could not possibly be explained in terms of survival promotion. He concluded that this must mean that there was more to human nature than evolution could account for and . . . looked for the answer in divine intervention.”⁴⁰

Darwin’s responded to Wallace’s suggestion of divine intervention: “I hope you have not murdered too completely your own and my child.”⁴¹ Darwin, however, did understand the complexity that Wallace struggled with. In the *Descent of Man*, Darwin wrote, “Since neither the enjoyment nor the capacity of producing musical notes are faculties of the

³⁸Darwin, *Descent of Man*, 103.

³⁹David P. Barash, *Homo Mysterious: Evolutionary Puzzles of Human Nature* (Oxford: Oxford University Press, 2012), 143.

⁴⁰Anthony O’Hear, *After Progress* (London: Bloomsbury, 1999), 67.

⁴¹Barash, *Homo Mysterious*, 143.

least use to man in reference to his daily habits of life, they must be ranked amongst the most mysterious with which he is endowed.”⁴² The same could be said for all other artistic expressions as well.

Even though there seems to be a great mystery when it comes to the artistic creativity of human beings, Darwin insisted that the differences between man and animals are best explained by natural small incremental changes in the brain over time. So if one were to reverse engineer the evolutionary origins of mankind’s unique aesthetic sense, the development of the human brain would likely be the place to start.

The Construction of the Mind

Many interesting theories have been fashioned to explain how the human brain was constructed by natural selection. These theories range from the brain being like a sponge, to a computer, to a Swiss army knife. However, the human brain seems to defy all analogies and remain somewhat of a mystery. Perhaps this is why biologist E. O. Wilson wrote, “All that has been learned empirically about the evolution in general and mental process in particular suggests that the brain is a machine assembled not to understand itself, but to survive.”⁴³ This theory is conceivable, but why is it that the human brain has gone beyond mere survival to engage in the sciences and the arts, contemplating the meaning of life, and enjoying beauty in the world? The human brain is the most complex object in the universe. It has moved beyond the capabilities of mere survival, and far beyond the ability of the highest animals.

Because of the structure of the brain, the human being is unmatched in language skills, social skill, tool-making skills, and artistic skills along with many other unique traits. The brain is equipped with so many capabilities, even from birth, that some researchers are now concluding that humans are born with preprogrammed “software”

⁴²Barash, *Homo Mysterious*, 143.

⁴³Edward O. Wilson, *Consilience: The Unity of Knowledge* (New York: Alfred A. Knopf, 1998), 96.

preloaded into the brain. A theist can easily understand this as evidence for a creator, but the God hypothesis has been ruled out *a priori* in the modern scientific method. As archeology professor Steven Mithen, states, “If we are willing to ignore the possibility of divine intervention, the only known process by which such complexity can have arisen is evolution by natural selection.”⁴⁴ Biological anthropologist and cognitive psychologist John Tooby and Leda Cosmides concur. According to these two researchers, evolution has two independent components: (1) randomness, which cannot build anything organized, and (2) natural selection, which drives the design of functional features in all species over time. Randomness and natural selection is the only explanation available to evolutionary scientists. Tooby and Cosmides state, “Reciprocally, this means that all functional organizations discovered to be part of the design of a species must have been built by natural selection. If not, then our complacently nontheistic materialist theories are in trouble.”⁴⁵ One should ask at this point, “What is more important, finding the truth, even if it leads to a theistic answer, or preserving the ‘nontheistic materialist theories?’” One should also take note that the conclusion of these researchers concerning the necessity of natural selection is not based on the preponderance of physical evidence, but by presupposing that it is the only plausible explanation. Since there is only one nontheistic avenue of inquiry deemed plausible by these researchers, it can be a daunting (if not impossible) task to explain the multiple complexities of the human brain and the development of the aesthetic sense solely through the process of randomness and natural selection.

⁴⁴Steven Mithen, *The Prehistory of the Mind: The Cognitive Origins of Art and Science* (London: Thames and Hudson, 1999), 42.

⁴⁵John Tooby and Leda Cosmides, “Does Beauty Build Adapted Minds? Toward an Evolutionary Theory of Aesthetics, Fiction and the Arts,” *SubStance: A Review of Theory and Literary Criticism* 30, no. 1 (2001): 6.

The Brain Big Bang

According to aesthetic philosopher Raffaella Trigona, in her article “Caves: the Origins of the Aesthetic Mind,” the human aesthetic sense as a way of “feeling, thinking, and creating” was born 40,000 years ago in the Paleolithic caves. Trigona (quoting Gianluca Bocchi) suggests that this aesthetic ability has three characteristics: “The *processing*, that is the human ability to perceive changes; the *self-referential function*, that is the ability of men to perceive themselves; and the *cosmological character*, that is the ability to relate men and cosmos, macrocosm and microcosm.”⁴⁶ Trigona believes that cave art, such as some of the oldest found in Lascaux, gives an insightful glimpse in the evolution of the aesthetic mind. These images, dating prior to 30,000 years ago, show the hunting techniques of early hominids and display symbolic representations of nature.⁴⁷ The drawings also represent an advanced way of communicating. Trigona writes, “Since remote ages humankind would have developed an aesthetic-imaginative way of expression and communication, able to give it an evolutionary advantage in comparison with other species (Arsuaga 1999).”⁴⁸ Though, what caused this explosion in human aesthetic cognition 40,000 years ago? Steven Mithen believes he has the answer.

In *The Prehistory of the Mind: The Cognitive Origins of Art and Science*, Steven Mithen theorizes that evolution constructed the brain in independent sections or “chapels.” These disconnected sections developed independently in the brain through natural selection. According to Mithen, these independent sections in the brain included general intelligence, technical intelligence, social intelligence, natural history intelligence, and language skills.⁴⁹ Once interconnectivity between the independent sections evolved,

⁴⁶Raffaella Trigona, “Caves: The Origins of the Aesthetic Mind,” *World Futures* 65 (2009): 606, emphasis original.

⁴⁷Ibid.

⁴⁸Ibid.

⁴⁹Mithen, *The Prehistory of the Mind*, 67.

the result was a “cultural explosion” or a “big bang of human culture.” Mithen points out that just such an explosion happened around 40,000 years ago in Europe, as evidenced by the artistic expressions found on tools and other artifacts.⁵⁰ He theorizes that artistic expression became possible when “mental conception of an image, intentional communication and the attribution of meaning” were wired together in the brain:⁵¹

My explanation of the big bang of human culture is that this is when the final major re-design of the mind took place. It is when the doors and windows were inserted into the chapel walls, or perhaps when a new ‘super-chapel’ was constructed. . . . With these new design features the specialized intelligences of the Early Human mind no longer had to work in isolation.⁵²

The human aesthetic sense and the human ability to produce art, according to Mithen, was the result of this new interconnectivity within the brain.

Spandrels

While many evolutionary psychologists are looking for the origin of the aesthetic sense in natural selection, others are not convinced that natural selection is the primary cause. In 1978, evolutionary biologists Steven J. Gould and Richard Lewontin presented a paper to the Royal Society of London entitled, “The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme.”⁵³ In this paper, the authors propose that many human traits are not directly selected, but were by-products in the development of the human brain. “Spandrel” (or “pendentive”) is an architectural term that refers to extra space created as a result of certain architectural features. In Gould and Lewontin’s example, it is the triangular shape resulting from a fan-vaulted ceiling. The real spandrels of San Marco became a frame for ornate mosaics—the

⁵⁰Mithen, *The Prehistory of the Mind*, 162.

⁵¹Ibid.

⁵²Ibid., 153.

⁵³Steven J. Gould and Richard C. Lewontin, “The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme,” *Proceedings of the Royal Society of London*, series B 205 (1979): 581-98.

space was unintentionally created, but turned out to be quite useful. According to Gould and Lewontin, many of the human cognitive abilities, such as the aesthetic sense or the desire to produce works of art, were not specifically produced by natural selection, but were unintended consequences. Gould and Lewontin addressed what they believe should be obvious to all—the abilities of the human mind are too complex to be constructed by natural selection alone. Psychologist Christopher R. Grace explains,

Gould recognizes that natural selection and adaptation would need “fatal revisions” to account for the intricacies and complexities of human life. He thus proposed that psychologists would be better off employing the tools of spandrels and exaptations rather than adaptations, or at least in conjunction with adaptations, to account for the richness in human behavior.⁵⁴

Other researchers, such as Steven Pinker, agree that many features of the human mind should be understood as byproducts of natural selection. Pinker has argued that the arts “pick the locks” of the brain’s pleasure circuits. Tooby and Cosmides write,

Pinker sketched out how many well-known features of the visual arts, music, and literature take advantage of design features of the mind that were targets of selection not because they caused enjoyment of the arts, but because they solved other adaptive problems such as interpreting visual arrays, understanding language, or negotiating the social world.⁵⁵

Tooby and Cosmides were convinced for a time that the “spandrel” or “byproduct” solution was correct, but have since come to believe that this solution is also lacking. They continue,

We think that the human mind is permeated by an additional layer of adaptations that were selected to involve humans in aesthetic experiences and imagined worlds, even though these activities superficially appear to be nonfunctional and even extravagantly nonutilitarian.⁵⁶

If this is indeed the case, then what are the possible solutions substantial enough to solve the adaptation problem?

⁵⁴Christopher R. Grace, “The Pleistocene Mind: A Critical Review of Evolutionary Psychology, and an Introduction to Intelligent Design Psychology,” *Journal of Psychology & Theology* 29, no. 4 (2001): 292.

⁵⁵Tooby and Cosmides, “Does Beauty Build?,” 11.

⁵⁶Ibid.

Evolutionary Solutions

Many within the field of evolutionary psychology work hard to solve the adaptation problem concerning art and the aesthetic sense. According to evolutionary biologist Randy Thornhill,

Evolutionary psychology is the discipline of applying the adaptationist program to discover psychological design of animals. Psychological adaptation causally underlies all human feelings, emotion, arousal, creativity, learning and behavior (Cosmides and Tooby 1987; Symons 1987); this is indisputable. . . . Thus, aesthetic judgments are manifestations of psychological adaptation.⁵⁷

Evolutionary psychology focuses on the givens of human nature and complexity of psychological functions brought about by evolution. As a discipline, it seeks to reverse-engineer brain functions to formulate a step-by-step theory of how nature constructed the brain through adaptation. Denis Dutton represents the confidence of those working in this field when he writes, “Every physical aspect of the human organism is open to the influences of evolution, and all will be in respects explained by it.”⁵⁸

Much of the current controversy surrounding evolutionary psychology is not over evolution, but over the suggestion that evolution, through adaptations, has constructed a fixed human nature. The idea of a fixed human nature originated with the Greek philosophers and can be traced all the way up to the Enlightenment. However, from a twenty-first century perspective shaped by existentialism, postmodernism, behaviorism, feminism, and psychotherapy, the idea of a fixed or a preprogrammed human nature (including the major differences between men and women) is very unappealing; for some, such as those in the women’s liberation movement, the suggestion is offensive. Evolutionary psychologists, however, propose that the mind should not be thought of as a blank slate waiting to be culturally constructed, but rather a complex product of

⁵⁷Randy Thornhill, *Darwinian Aesthetics Informs Traditional Aesthetics, Evolutionary Aesthetics* (Berlin: Springer-Verlag, 2003), 13.

⁵⁸Denis Dutton, “Aesthetics and Evolutionary Psychology,” accessed November 30, 2015, http://www.denisdutton.com/aesthetics_&_evolutionary_psychology.htm.

preprogrammed or innate propensities, beliefs, desires, abilities, and tastes designed for survivability through natural and sexual selection.⁵⁹ Dutton suggests that the blank slate metaphor has been replaced by the Swiss army knife metaphor with its various tools to accomplish essential tasks.⁶⁰ According to Dutton (borrowing from Steven Pinker), the modern mind possesses

a long list of universal features of the Stone Age, hunter-gatherer mind: for example language use according to syntactic rules; kinship systems with incest avoidance; phobias, e.g. fear of snakes and spiders; child-nurturing interests; nepotism, the favoring of blood relations; a sense of justice, fairness, and obligations associated with emotions of anger and revenge; the capacity to make and use hand tools; status and rank ordering in human relations; a sense of food purity and contamination and so forth (Pinker 1997). Some of these features are uniform across the human species; others are statistically related to sex; for instance, females are more inclined towards an interest in child nurturing and have a greater ability to remember details in visual experience, while males are more physically aggressive, and better able to determine directionality and engage in “map reading.”⁶¹

Culturally popular or not, the purpose of evolutionary psychology is to explain why human beings have built-in abilities, desires, propensities, and instincts, which also include an aesthetic sense. As philosopher Ronald De Sousa states, “Questions about the biological origin and function of art and beauty are inevitably speculative. But the claim has not infrequently been made that art is a biological adaption.”⁶² Many names associated with evolutionary psychology deal specifically with aesthetics; a host of books and articles have been written by thinkers such as Ellen Dissanayake, Geoffrey Miller, John Tooby, Leda Cosmides, Eckart Voland, and Karl Grammer, to name a few.⁶³ Several of the more prominent theories concerning the origin of the human aesthetic sense are examined next.

⁵⁹Dutton, “Aesthetics and Evolutionary Psychology.”

⁶⁰Ibid.

⁶¹Ibid.

⁶²Ronald De Sousa, “Is Art an Adaptation? Prospects for an Evolutionary Perspective on Beauty,” *The Journal of Aesthetics and Art Criticism* 62, no. 2 (2004): 109.

⁶³See Ellen Dissanayake, *Homo Aestheticus: Where Art Comes from and Why* (Seattle: University of Washington Press, 1995); Geoffrey Miller, “Aesthetic Fitness: How Sexual Selection Shaped Artistic Virtuosity as a Fitness Indicator and Aesthetic Preference as Mate Choice Criteria,” *Bulletin of*

Theories of the Origin of Art and Aesthetic Perception

Ellen Dissanayake was among the first after Darwin to seek the origins of artistic expression through natural selection, and has written much on the origin of the art and aesthetic perception. She believes what is required is that “one understand the human species’ evolutionary history and its evolved psychology—in particular, that engagement with the arts is an integral and necessary (adaptive) part of a common human nature.”⁶⁴ To Dissanayake, aesthetic experience and artistic expression are not periphery subjects in the study of humanity. In *Homo Aestheticus*, she proposes that the aesthetic sense may be one of humanity’s most important psychological components.⁶⁵ But what adaptive advantages did the aesthetic sense give humanity? This question is posed by John Tooby and Leda Cosmides in “Does Beauty Build Adapted Minds? Toward an Evolutionary Theory of Aesthetics”:

The anomaly posed to evolutionary psychologists by the arts (and pretend play) can now be stated. Our species-typical neural architecture is equipped with motivational and cognitive programs that appear to be specially designed to input fictional experiences and engage in other artistic activities (Cosmides and Tooby, 2000a). Yet the evolved function or selective benefits that would favor the evolution of such adaptations remains obscure. Natural selection is relentlessly utilitarian according to evolution’s bizarre and narrow standards of utility, and does not construct complex neural machinery unless that machinery promoted, among our ancestors, the genetic propagation of the traits involved.⁶⁶

In other words, evolutionary psychologists know that adaptations are responsible for the “complex neural machinery,” they are just not sure of the how.

According to Dissanayake, there are several indicators that the arts are indeed adaptive in human nature. The evidence includes (1) universality, (2) traces in ancestral

Psychology and the Arts 2 (2001), 20-25; Tooby and Cosmides, “Does Beauty Build?,” 6-27; and Karl Grammer and Eckart Voland, eds., *Evolutionary Aesthetics* (New York: Springer-Verlag, 2003).

⁶⁴Ellen Dissanayake, “The Arts after Darwin: Does Art Have an Origin and Adaptive Function,” in *World Art Studies: Exploring Concepts and Approaches*, ed. K. Zijlmans and W. van Damme (Amsterdam: Valiz, 2008), 241.

⁶⁵Dissanayake, *Homo Aestheticus*, 11.

⁶⁶Tooby and Cosmides, “Does Beauty Build?,” 10.

past, (3) the rudiments of music and the art in babies and toddlers, (4) an attractant and source of pleasure, (5) expressions connected with important life concerns (i.e., ceremonies), and (6) costly in terms of time and resources.⁶⁷ When explaining how artistic expression leads to survivability, Dissanayake outlines four schools of thought within evolutionary psychology: improving cognition, propaganda, sexual display, and reinforcing sociality. Each group is examined next.

Improving Cognition

The first group proposes that artistic expression improves cognition by contributing “to problem-solving and making better adaptive choices.”⁶⁸ According to Dissanayake, three subgroups fall under this heading: (1) Darwinian or “evolutionary aesthetics” that examine the evolutionary roots in human choice, such as habitats, sexual partners, and other fitness benefiting environments; (2) “neuroaesthetics” that examine the psychology of perception in the visual arts; and (3) the place of fictional stories that prepare the mind for survival in real situations.⁶⁹ All three are distinctively different theories concerning means, but all three agree that aesthetic perception or artistic expression further developed the cognitive faculties, therefore enhancing human survival.

A good example of the first subgroup is found in *Evolutionary Aesthetics*, in a chapter written by Bernhart Ruso, LeeAnn Renninger, and Klaus Atzwanger:

Evolutionary theory provides a rich variety of ideas for the testing of aesthetic preferences. . . . For our evolutionary ancestors, the emotional response to landscapes was one of the most fundamental determinants of survival. Today, we carry these evolutionary remnants with us. The development of such research is, then, an invaluable resource for our further understanding of how human aesthetic tastes evolve. Because of the previous extremely close connection between habitat selection and everyday survival for our ancestors, the study of habitat preferences, perhaps more than any other preference area, is one of the most potent areas in

⁶⁷Dissanayake, “The Arts after Darwin,” 241-63.

⁶⁸Ibid., 7.

⁶⁹Ibid., 7-8.

which to learn about fundamental foundations of modern-day aesthetic preferences.⁷⁰

Denis Dutton, in *The Art Instinct*, agrees. He believes that one should look to the Pleistocene environment to explain the origin of the aesthetic sense. Dutton cites a major study examining the art preference of people from around the world. The study revealed that the average person was drawn toward a predominantly “blue landscape” that depicted water, people, and animals. He believes that the almost universal desire for this common image is a clue to how the art instinct developed in humans. Dutton suggests that in the mind of early man, the visual indicators of the landscape would have suggested a plentiful source for food, water, and shelter:

The emotions felt by our distant ancestors toward landscapes are of little use to us today, since we are no longer nomadic hunters who survive off the land. Nevertheless, since we still have the souls of those ancient nomads, these emotions can flood into modern minds with surprising and unexpected intensity. . . . We are what we are today because our primordial ancestors followed paths and riverbanks over the horizon.⁷¹

Dutton submits that the human nature developed during the Pleistocene period has contributed most of the relevant aspects of cultural life, such as governance, religion, language, law, economics, courtship, mating, and child rearing.⁷² These traits developed over long periods of time through the continual refinement of genetic information.

Those who hold to the above theory believe that the residual cognitive choice of habitat selection is the likely source of the human aesthetic sense. However, John Tooby and Leda Cosmides are equally convinced that the real source is the “attraction to fictional experience” (i.e., storytelling, drama, film, painting, sculpture, etc.), that helped produce better adaptive minds for survival. Tooby and Cosmides posit that pre-human animals evolved emotional programs to respond to life-threatening events. They then conclude,

⁷⁰Bernhart Ruso, LeeAnn Renninger, and Klaus Atzwanger, “Human Habitat Preferences: A Generative Territory for Evolutionary Aesthetics Research,” in *Evolutionary Aesthetics*, 291.

⁷¹Dennis Dutton, *The Art Instinct: Beauty, Pleasure, and Human Evolution* (New York: Bloomsbury, 2009), 24.

⁷²*Ibid.*, 40.

Because humans are descended from animals whose psychological architectures were organized in this way, a great deal of information about value-weightings is locked up as emotional responses, waiting to be triggered by exposure to the correct constellation of situation-cues. Fictional information input as a form of simulated or imagined experience presents various constellations of situation-cues, unlocking these responses, and making this value information available to systems that produce foresight, planning, and empathy. With fiction unleashing our reactions to potential lives and realities, we feel more richly and adaptively about what we have not actually experienced. This allows us not only to understand others' choices and inner lives better, but to feel our way more foresightfully to adaptively better choices ourselves.⁷³

In other words, fictional works of art, such as *Beowulf* or Homer's *Odyssey*, act as a type of "boot camp" for the human mind. It takes the observer through unlimited scenarios, training the mind for reactions and proper emotional responses. Since this enhances survivability, humanity has developed a pleasurable response to storytelling and other expressions of fiction.

Once again, Dutton believes that the imaginative processes of art and storytelling, common to all human beings, began to develop when the Pleistocene hunters imagined the foods available in other locations and the dangers involved in getting there: "This capacity for strategic, prudential, conditional thinking gave to such bands a vast adaptive advantage over groups that could not plan with imaginative detail."⁷⁴ This adaptive ability to imagine, according to Dutton, is the source of human imagination and storytelling. The development of storytelling, in return, taught others about threats and opportunities as well as produced an important cohesive social environment. These abilities became pleasurable and desirable and continued to expand and become more refined. Dutton writes, "We are with regard to fiction the same people as our prehistoric ancestors. Good stories compel our attention. So do good storytellers."⁷⁵ Others, however, are not convinced that "improved cognition" theory is correct.

⁷³Tooby and Cosmides, "Does Beauty Build?," 23.

⁷⁴Dutton, *The Art Instinct*, 106.

⁷⁵Ibid., 134.

Propaganda

The second group proposes that artistic expression was used as propaganda in order to “manipulate, deceive, indoctrinate, or control other people.”⁷⁶ Dissanayake writes,

Insofar as art directs attention and emotion to messages, it can be used subversively to the benefit of the artmaker (Aiken 1998a,b; Eibl-Eibesfeldt). Surveying a wide folklore literature, Scalise-Sugiyama (1996) makes a case for storytelling as a means of political manipulation and fitness-enhancement. Power (1999) offers an argument, supported by studies of rituals described in sub-Saharan African ethnographies, that visual art and dance originated when ancestral females (participating as a group) painted their bodies red ochre in order to attract males (who assumed they were menstruating and hence fertile—receptive to courtship and eventual insemination), thereby gaining gifts of meat, a valuable resource.⁷⁷

According to this theory, the origin of artistic expression and aesthetic sense developed as a means of manipulation and control.

Nancy E. Aiken represents this perspective, even though she does not like the term “propaganda,” which seems to her a term that is too negative and usually associated with lies. However, Aiken does believe that art developed as a form of manipulation and control over groups that most likely did not know they were being controlled:

Because of the nature of classical conditioning, art can evoke threat and fear without the group knowing it is being threatened. Since the group is unaware it is being controlled, it is unlikely to rise up against those in power unless they abuse their power. Moreover, art, using a popular media such as music, can reach people worldwide. Leaders can manipulate people with oratory, slogans, patriotic music, and fanfare on television, reaching millions. The size of the group is not a limiting factor, as it is with brute force.⁷⁸

Aiken points to Hitler’s Germany as a prime example. Hitler became a master manipulator of the German people by using colossal architecture and powerful symbols, as well as film and other forms of art, to convince the German people that he was uniquely qualified to lead Germany. Of course, the majority of the German people was duped by Hitler’s propaganda, and only later would come to understand the magnitude of this deception.⁷⁹

⁷⁶Dissanayake, “The Arts after Darwin,” 8.

⁷⁷Ibid., 8-9.

⁷⁸Nancy E. Aiken, *Biological Origins of Art* (Westport, CT: Praeger, 1998), 173.

⁷⁹Ibid., 173-74.

There is no question that art, such as music, movies, and television can be a powerful tool to persuade or indoctrinate large portions of society. Its power lies in its subtlety. Many people have experienced watching a movie only to have that pleasurable experience spoiled by the films “agenda” or “propaganda” becoming too overt. When the propaganda is understood, it loses its power. No doubt, some artistic expressions are used as propaganda, but is propaganda really the main adaptive reason that humans developed the artistic instinct? Certainly there is no consensus on this theory. There are, however, others just as convinced that sex is the answer.

Sexual Display

The third distinctive group sees the expression of art and beauty as a sexual display, which promotes “mating opportunity through display of desirable qualities (e.g., physical beauty, intelligence, creativity, prestige) which denote fitness.”⁸⁰ Geoffrey Miller in *The Mating Mind*, and Dennis Dutton in *The Art Instinct*, support this perspective. Both Miller and Dutton believe that sexual selection is the answer to many mysterious human qualities that have defied a simple explanation, such as artistic expression and altruism. Sexual selection is the idea that certain features in a species developed because they afforded greater opportunity to entice a mate. For example, the beauty and fullness of the peacock’s tail makes him more desirable to the peahen.

Dutton acknowledges an appreciation for Dissanayake’s idea of group selection (discussed next), but then states that “the case for it providing an evolved function for the arts seems to me weak.”⁸¹ He thinks the key to understanding how the artistic sensibilities and expressions evolved is not found in ceremony, but in something more basic. To Dutton, aesthetic expressions are evolutionary adaptations that came about, at first, by natural selection, but became more refined by sexual selection. This is not an original

⁸⁰Dissanayake, “The Arts after Darwin,” 9.

⁸¹Dutton, *The Art Instinct*, 224.

insight with Dutton (or with Miller); Darwin suggested such a direction in *The Descent of Man*. Natural selection explains how organisms developed certain physical features or abilities that helped them survive and flourish, even within a hostile environment. However, certain features in some animals, such as the peacock's tail, cannot be explained by natural selection alone.

The large tail of the peacock (that often troubled Darwin) is not a suitable camouflage from predators and would certainly slow the bird down when being pursued. Natural selection, therefore, is not sufficient to explain how the peacock's tail developed, nor is it sufficient to explain why it is so beautiful. Dutton suggests that sexual selection is the key. Since peacocks are in competition to mate with the peahen, the peacock with the most desirable tail-feathers gains the ability to pass on his desirable traits to the next generation.

Dutton proposes that sexual selection can be observed in various degrees across the animal kingdom, including among humans. He cites a study supporting the idea that males desire a certain hip to waist ratio among women that communicates health and fertility, while women look for broad shoulders and height, as well as the potential mate's ability to provide. Agreeing with this position, Randy Thornhill writes,

Many aestheticians have struggled with the matter of where beauty resides—in the object, the beholder's mind, or the interrelationship of the object with mind? Symons (1995, p. 80) put it succinctly: "Beauty is in the adaptations of the beholder." Beauty is the moving experience associated with information processing by aesthetic judgment adaptations when they perceive information of evolutionary historical promise of high reproductive success.⁸²

For this group, the aesthetic sense and artistic expression are traced directly back to sexual attraction. Even though "sexual display" is the oldest and most popular theory concerning aesthetic perception, others believe it originated in the need for "group cohesion."

⁸²Thornhill, *Darwinian Aesthetics*, 22.

Reinforcing Sociality

The final group is one that Dissanayake advocates. Those who hold this view propose that the “arts enhanced cooperation and contributed to social cohesion and continuity.”⁸³ Dissanayake understands art as a complex behavior of “making special,” which has selective value in its “symbolic relationship with ceremonial ritual.”⁸⁴ In her view, ritualistic ceremony within a tribe provided a time and place for art to be expressed with greater and greater complexity. Dissanayake proposes that ceremonial ritual has selective value in human evolution. Sexuality, birth, death, and the need for good hunting, protection, and healing, would have been major concerns to the tribe and thus causes for ritualistic practices. Groups that practiced rituals became “more cohesive and therefore better equipped for survival than groups that did not.”⁸⁵ Dissanayake suggests that these rituals incorporated elaborate aesthetic expressions such as singing, dancing, storytelling, as well as visual art and design:

In its most elementary form, human aesthetic experience is simply the pleasurable response to novelty, variety, pattern and rhythmic sequence, intensity, and other sensuous stimuli closely associated with physiological and psychological processes common to all living creatures.⁸⁶

Over time, this artistic stimulus became more pleasurable, insuring that the rituals would be continually repeated. To Dissanayake, this explains why the human aesthetic sense has become so refined and, from a bioevolutionary perspective, why the “aesthetic experience in a general sense is universal, fundamental, and necessary to man.”⁸⁷ She has much more to say on this subject in her numerous articles and books, but her thesis is clear: artistic

⁸³Dissanayake, “The Arts after Darwin,” 9.

⁸⁴Ellen Dissanayake, “Aesthetic Experience and Human Evolution,” *Journal of Aesthetics and Art Criticism* 38, no. 4 (1982): 149.

⁸⁵*Ibid.*, 150.

⁸⁶*Ibid.*

⁸⁷*Ibid.*, 154.

expression in ritualistic ceremonies causes group cohesion, which increases survivability as well as making aesthetic expressions enjoyable.

The common factor in Dissanayake's four groups listed is that they all explain art and beauty in terms of adaptation. Other theories also fall under the adaptationist model. Henri Breuil suggests that Cro-Magnon man became an artist when he discovered natural objects that resembled animal or human shapes.⁸⁸ David Lewis-Williams links the birth of art to shamanism and altered consciousness.⁸⁹ Still, many remain outside these four main groups that are unconvinced that evolutionary adaptation is the best explanation.

Non-Adaptionist Theories

Some researchers (typically outside the field of evolutionary psychology) hold to a non-adaptationist perspective concerning the origin of art and the aesthetic sense. Following the lead of Steven Jay Gould, some insist that the human desire for beauty should be considered a "spandrel," or "byproduct" of evolution, not a direct result of adaptive selection. The theories of Pinker and Mithen, already mentioned, also fit within a non-adaptionist view. However, a growing group of researchers believe the origin of the aesthetic sense is found within human genetics. Addressing this point, Dutton (citing Steven Pinker) states that people do not

selfishly spread their genes; genes selfishly spread themselves. They do it by the way they build our brains. By making us enjoy life, health, sex, friends, and children, the genes buy a lottery ticket for representation in the next generation, with odds that were favorable in the environment in which we evolved.⁹⁰

Dutton and Pinker believe that genes are ultimately responsible for the design and advancement of every favorable human trait, including aesthetic perception. This also

⁸⁸Michael Lorblanchet, "The Origin of Art," *Diogenes* 214 (2007): 100.

⁸⁹Ibid.

⁹⁰Dutton, *The Art Instinct*, 43.

means that genes are not just interested in survival, but in developing the “intensity and complexity of social life.”⁹¹

In *The Ant and the Peacock*, Helena Cronin seeks to solve the mystery between the altruistic nature of the ant and the beautiful tail of the peacock. The problem, according to Cronin, is related to the fundamental division between Charles Darwin and Alfred Wallace. Darwin reluctantly attributed the flamboyant peacock feathers to sexual selection, but continued to struggle with why natural selection did not override sexual selection. Another problem is that the altruistic and cooperative behavior of the sterile worker ants could hardly be explained by sexual selection or by natural selection. Cronin insists that evolutionary explanations focusing on natural selection and sexual selection are outdated holdovers from the nineteenth century. She proposes a far better explanation in what Dawkins calls the “selfish-gene.” This theory moves the attention from changes that benefit the species to genetic changes that promote the survivability of the genes. To Cronin, this “gene-centered” view means genes work toward survival by shaping the physiology of an organism:

Modern Darwinian theory is about genes and their phenotypic effect. Genes do not present themselves naked to the scrutiny of natural selection. They present tails, fur, muscles, shells; they present the ability to run fast, to be well camouflaged, to attract a mate, to build a good nest.⁹²

This theory, pioneered by Richard Dawkins and others, is believed to explain not only the altruistic behavior among animals and insects, but also the presence and recognition of beauty.

Still other non-adaptionist theories look beyond the human genome. In *Strange Tools: Art and Human Nature*, Alva Noë examines the problem with viewing artistic expression and the perception of beauty as the result of adaptation alone. He rejects Dissanayake’s theory of “making special” on the grounds that it does not give a good

⁹¹Dutton, *The Art Instinct*, 46.

⁹²Helena Cronin, *The Ant and the Peacock* (Cambridge: Cambridge University Press, 1992), 60.

explanation of why humans make art. There are, after all, many things humans make special, such as religion, play, ritual, sports, war, etc. Noë also discusses Steven Davies's theory that art is not a direct adaptation, but should still not be understood as a "spandrel." To Davies, art was not an adaptation from the beginning, but since humans have acquired this ability, it can now be understood as an adaptation that signals for fitness. Today, a person lacking this aesthetic sense would be seen as deficient as one lacking a sense of humor, intelligence, or social grace. However, to Noë, the problem with Davies theory of art behavior starting as nonadaptive and then becoming adaptive is that

on this view, any "human form of behavior" that gives broad expression to our cognitive powers and is sufficiently widespread and entrenched must be an adaptation. One worry is that this casts the net too wide. If art is an adaptation, on this view, then so are other human abilities, such as reading and writing.⁹³

Noë proposes that art behaviors should be understood as something akin to philosophy. Evolution can be the source of technology, such as tool making, but artistic expression goes beyond the technology: "Technology serves ends. Art questions those very ends."⁹⁴ To Noë, the human cultural abilities have broken free of biology and are no longer constrained by it. He believes the reason why so many researchers are searching for a "neurobiological or evolutionary biological" answer is that they are committed to "scientism":⁹⁵

Scientism, thus described, is tantamount to what is sometimes called reductive materialism—the idea that fundamental reality is material and that everything there is consists of bits of matter combined in different ways. Reductive materialism has the further consequence that the final science will give a unified account of *everything*. It's physics (or maybe physics and chemistry) all the way down, and all the way up, and all the way out.⁹⁶

⁹³Alva Noë, *Strange Tools: Art and Human Nature* (New York: Hill and Wang, 2015), 63-64.

⁹⁴*Ibid.*, 64.

⁹⁵*Ibid.*, 67.

⁹⁶*Ibid.*, 68.

Clearly, Noë is not trying to destroy science or import the idea of a God when he writes,

Far from its being the case that science is committed to their being no God—as if this is something science has discovered, or learned, or found out, or that it could discover—it would be better to say that for science God is irrelevant. This is bad enough, I suppose, if you are one of the faithful. But it’s one thing to make the substantive claim—there is no God—and another to say, roughly, the question of God doesn’t come up for natural science. It doesn’t come up, that is, *in* natural science.⁹⁷

In other words, Noë is not committed to a reductive materialism that must explain everything through the lens of evolutionary biology, nor is he embracing some form of theism. He has come to believe that human nature, including the aesthetic sense, has risen above evolutionary biological or neurobiological explanations.⁹⁸ He believes human nature has now transcended its origins and can no longer be placed back into a biological box. What does this mean for the human aesthetic sense? The aesthetic sense should not be confused with art, but it needs art to give pictures that make the aesthetic sense possible:

Art investigates the aesthetic. Not because it aims at special “aesthetic” experiences but because the aesthetic marks, as I have been arguing, a crucial aspect of what we are and how we stand in relation to the world around us. If we lack the capacity to adopt the aesthetic attitude, we’d have little need, or capacity, for art or philosophy.⁹⁹

To Noë, the aesthetic sense is an essential aspect of being human that has become a marker for fitness. The early origins of the human aesthetic sense may have been biological or chemical, but now it has transcended a purely biological and chemical explanation.

In *Survival of the Beautiful: Art, Science, and Evolution*, David Rothenberg, a musician and philosopher, also downplays a strictly adaptations view of aesthetics. He agrees that sexual selection may have had something to do with the aesthetic sense, but does not think that sexual selection alone is sufficient to explain all expressions of beauty in nature:

⁹⁷Noë, *Strange Tools*, 69.

⁹⁸*Ibid.*, 70.

⁹⁹*Ibid.*, 71.

Though the qualities we find in natural forms do not always make adaptive sense, I have not been happy with the idea that every living thing evolves as the result of random mutations and the play of adaptation and aesthetic/sexual selection. . . . Why is the cardinal red? Sexual selection. Why does the nightingale sing tirelessly through the darkness instead of relaxing in sleep? Sexual selection. Why do butterflies come in so many dizzying colors? Sexual selection. Are there any specific qualities of beauty that hold all these traits together? Sexual selection has no comment about that.¹⁰⁰

Rothenberg believes that there are so many aspects of beauty in nature that mating success alone is not a sufficient explanation. Although Rothenberg rules out a divine designer, he believes life is full of surprising twists and turns that are not strictly pragmatic or rational. Rothenberg proposes that evolution is whimsical and creative and just tries things out. He does suggest, however, that the behavior of physical reality is governed by certain rules and patterns, which many species evolved to admire. “Thus,” Rothenberg writes, “these laws may have something to do with universal ideas of beauty.”¹⁰¹ These “universal ideas of beauty,” however, move far beyond mere functionality: “Today we strive to see how much of the evolution of beauty is based on random possibility and how much is based on the very shape and form underlying nature itself.”¹⁰² Rothenberg sees much more to beauty than the current theories allow, even allowing for the possibility that beauty is a universal infused into the fabric of the material world.

A Critique of Evolutionary Psychology

Roger Scruton, in his book, *Beauty*, criticizes evolutionary psychology and the proposed mechanism of natural selection and sexual selection as a sufficient explanation of the human aesthetic sense. He focused particularly on Ellen Dissanayake’s theory of the human need to “make special” certain objects and events resulting in group cohesion. Scruton writes,

¹⁰⁰David Rothenberg, *Survival of the Beautiful: Art, Science, and Evolution* (New York: Bloomsbury, 2011), 27.

¹⁰¹*Ibid.*, 35.

¹⁰²*Ibid.*, 34.

The theory is interesting and contains an undoubted element of truth; but it falls critically short of explaining what is distinctive of the aesthetic. Although the sense of beauty may be *rooted* in some collective need to “make special,” beauty itself is a special kind of special, not to be confused with ritual, festival or ceremony, even if those things may sometimes possess it. The advantage that accrues to a community through the ceremonial endorsement of the things that matter could accrue without the experience of beauty.¹⁰³

Scruton also questions the theory that art evolved as a fitness indicator for potential mates. He proposes that other physical activities could be just as good fitness indicators as any artistic creation:

Hence the explanation, even if true, will not enable us to identify what is specific to the sentiment of beauty. Even if the peacock’s tail and the *Art of Fugue* have a common ancestry, the appreciation elicited by the one is of a completely different kind from the appreciation directed at the other.¹⁰⁴

Scruton believes that the explanations of the aesthetic sense given by evolutionary psychologists are too vague and do not account for specific aesthetic judgments made by rational human beings.

In *Alas, Poor Darwin*, Steven Rose and Hilary Rose are equally skeptical.

Concerning the lack of evidence, Hilary Rose writes,

For those conscious that scholars of prehistory work with highly fragmentary evidence, from shards of bones, fossils and very occasionally entire bodies . . . the belief that late twentieth-century people can know that human psychological architecture of our early ancestors with any degree of certainty and accuracy is difficult to take seriously.¹⁰⁵

Karl Grammer and Eckart Voland, in their introduction to *Evolutionary Aesthetics*, admit that the naturalistic explanation of aesthetics is “still in the fledgling stages,” and a “biological grounding” has not yet been “successfully realized.”¹⁰⁶ Upon considering the various naturalistic aesthetic theories Tooby and Cosmides write,

¹⁰³Roger Scruton, *Beauty* (Oxford: Oxford University Press, 2009), 36.

¹⁰⁴*Ibid.*, 37.

¹⁰⁵Hilary Rose and Steven Rose, *Alas, Poor Darwin: Arguments against Evolutionary Psychology* (New York: Harmony, 2000), 141.

¹⁰⁶Voland and Grammer, *Evolutionary Aesthetics*, 4.

Nevertheless, unlike the case for nonhumans, there are large realms of human behavior and experience that have resisted any easy or straightforward explanation in Darwinian terms. Indeed, leaving aside history, philosophy, and linguistics (whose findings and objects of study are generally consistent with Darwinism), almost all of the phenomena that are central to the humanities are puzzling anomalies from an evolutionary perspective.¹⁰⁷

Many working within the field of evolutionary psychology admit insurmountable difficulties. Because of this, one would hope for a generous amount of humility in the discipline, but it has not stopped the infighting or a steady stream of grand imaginative stories.

It is understandable why Mithen favors a theory that constructs the human brain in small sections or “chapels;” evolution requires small incremental steps of development. However, can natural selection alone explain the complexity of the human brain? Is the brain really constructed out of “modules” or “chapels,” or is it more open and flexible, capable of reallocating or “re-wiring” certain areas as needed?¹⁰⁸ Not every neurobiologist is convinced that individual “chapels” creating a “brain big bang” is the best analogy for the brain and its development. Others believe that a better analogy is that the brain developed to functions like a computer. Tooby and Cosmides write,

The brain is a physical system whose operation is governed solely by the laws of chemistry and physics. What does this mean? It means that all of your thoughts and hopes and dreams and feelings are produced by chemical reactions going on in your head (a sobering thought). The brain’s function is to process information. In other words, it is a computer that is made of organic (carbon-based) compounds rather than silicon chips.¹⁰⁹

Even if the brain was constructed out of “chapels” and functions in many ways like a computer, evolutionary psychologists agree that there was no end goal and no conscious designer; it was all constructed by natural processes. With advances in computer

¹⁰⁷Tooby and Cosmides, “Does Beauty Build?,” 7.

¹⁰⁸See Brand M. Peters, “Evolutionary Psychology: Neglecting Neurobiology in Defining the Mind,” *Theory and Psychology* 23, no. 3 (2013), accessed December 6, 2015, <http://modernpsychologist.ca/wp-content/uploads/2011/12/Peters-Evolutionary-Psychology-Critique-2013.pdf>.

¹⁰⁹John Tooby and Leda Cosmides, “Evolutionary Psychology: A Primer,” 1997, accessed December 6, 2015, <http://homes.ieu.edu.tr/hcetinkaya/EvPsychPrimer.pdf>.

technology, skilled human engineers still cannot come close to constructing a computer as complex as the brain, and yet the evolutionary answer requires no designer, no programmer, no plan, no end goal—only matter plus time plus chance. The problem attributing complex brain functions to chance is that “chance” is nothing; it is not a power, an entity, or a creative force; therefore, it cannot serve as an ultimate explanation for anything. In fact, philosopher Owen Barfield understood the appeal to “chance” as a contradiction in any hypothesis:

By a hypothesis, then, these earthly appearances must be saved; and saved they were by the hypothesis of—chance variation. Now the concept of chance is precisely what a hypothesis is devised to save us from. Chance, in fact, = no hypothesis. Yet so hypnotic, at this moment in history, was the influence of the idols and of the special mode of thought which had begotten them, that only a few—and their voices soon died away—were troubled by the fact that the impressive vocabulary of technological investigation was actually being used to denote its breakdown; as though, because it is something we can do with ourselves in the water, drowning should be included as one of the different ways of swimming.¹¹⁰

Chance variation is now a bedrock doctrine in evolutionary theory, and few take notice or even question it as a proper explanation. However, biochemist Lewis Thompson laments that there are some exceptions:

I cannot make my peace with the randomness doctrine: I cannot abide the notion of purposelessness and blind chance in nature. And yet I do not know what to put in its place for the quieting of my mind. It is absurd to say that a place like this place is absurd, when it contains, in front of our eyes, so many billions [sic] of different forms of life, each one in its way perfect.¹¹¹

To simply wave the magic wand of chance to explain the construction of the brain (or any other complex biological system) should stretch human credulity past the breaking point. Nevertheless, since evolutionary scientists say it is so, many believe it must be so.

Dissanayake’s theory seeks to explain why humans receive great pleasure through the arts. To Dissanayake, art is “making special” and is an important cognitive

¹¹⁰Owen Barfield, *Saving the Appearances: A Study in Idolatry* (Middletown, CT: Wesleyan University Press, 1988), 64.

¹¹¹Thomas Dubay, *The Evidential Power of Beauty: Science and Theology Meet* (San Francisco: Ignatius, 1999), 23-24.

adaptation that leads to group cohesion (therefore survivability) through ceremony. It would seem, however, that group cohesion could have been achieved much quicker through something like a “group cohesion instinct” or a “group cohesion gene,” rather than wasting precious time and energy engaging in ceremony and creating art when the tribe could be out hunting and gathering food. If human artistic expression truly were an adaptation for survival, then one would expect by now that all human beings would be excellent artists, but only a small percentage reach a high level of artistic skill. Even though Dissanayake’s theory attempts to explain the aesthetic sense expressed in the arts, her theory falls short of explaining why humans are attracted to the beauty of nature, such as a field of flowers or a beautiful sunset.

Dutton’s book is an amalgamation of several theories. His main thesis includes a combination of both natural and sexual selection. Natural selection produces the organism and sexual selection makes it beautiful.¹¹² The irony is that Darwin and many in Darwin’s day had trouble reconciling the two processes. Natural selection made the peacock and sexual selection made the peacock beautiful, but sexual selection also made the peacock slow and easy to spot by predators. If that were the case, then natural selection would have eliminated the peacock, or at least the peacock’s beautiful features. In order for natural and sexual selection to work together, some kind of mechanism must switch natural selection off and sexual selection on. Dutton, however, offers no plausible theory of how the two cooperate rather than compete. He also does not seem to recognize that the argument for sexual selection is circular. Sexual selection is the explanation for the origin of beauty in animals and humans, and yet sexual selection needs the presence of beauty to get the whole process started.

Dutton does offer an explanation for the human response to beauty in nature. Though, he attributes this response to a residual food and shelter-finding instinct from the Pleistocene. To Dutton, the pleasure is not in the objective beauty of nature, but in the

¹¹²Dutton, *The Art Instinct*, 85-102, 135-63.

subjective pleasure response to a survival-promoting instinct. This explanation does not take the beauty of nature seriously enough. Dutton would have done well to follow Ruskin's advice to contemplate the beauty and complexity of a peacock's tail feather. It might have helped him to understand that an aspect of beauty is objective, or outside and independent of the perceiver. Although Dutton's amalgamated theory is more comprehensive than most, it still does not go far enough to explain both the subjective and objective nature of beauty.

Helena Cronin's theory bypasses the passé theories of natural and sexual selection all together. She chooses instead to adopt Dawkins theory of the "selfish-gene" to explain instance of altruism and the aesthetic sense among insects and animals, including humans. It is difficult for many reasons to accept this theory at face value. Rather than Descartes' "ghost in the machine," one now has Dawkins's "gene in the machine." According to Dawkins, genes are the real power players in the story of evolution and they survive by creating bodies for themselves.¹¹³ If taken seriously, this theory creates more problems than it solves. For instance: Do genes think? Do they have brains? Are they self-aware? How did evolution occur before genes existed?

According to late philosopher David Stove, the selfish gene theory is, in essence, a new religion. In *Darwinian Fairytales*, he writes that the "most intelligent and all-round capable things on earth" are human beings. Stove continues,

Everyone knows this, except certain religious people. A person is certainly a believer in some religion if he thinks, for example, that there are on earth millions of invisible and immortal non-human beings which are far more intelligent and capable than we are. But that is exactly what sociobiologists do think, about genes. Sociobiology, then, is a religion: one which has genes as its gods.¹¹⁴

This is not only true for sociobiologists, but evolutionary psychologists as well. Stove believes that Dawkins and others have merely replaced Paley's God of design and purpose,

¹¹³Cronin, *The Ant and the Peacock*, 60.

¹¹⁴David Stove, *Darwinian Fairytales* (New York: Encounter, 2007), 248.

with the polytheism of innumerable invisible genes. In the Christian religion, all things were created for the glory of God, but according to some sociobiologists and evolutionary psychologist, all things exist, including human beings, for the “benefit of their genes.”¹¹⁵ Stove, who was no theist, quipped that at least Paley’s God was benevolent, whereas Dawkins gods are “ruthlessly selfish.”¹¹⁶

Perhaps the most common critique of evolutionary psychology is that the explanations given are merely made up stories that cannot be verified or falsified. In the late 1970s, Stephen Jay Gould appears to be the first to use the “just-so” critique.¹¹⁷ This critique is a reference to Rudyard Kipling’s, *Just So Stories*, written for children.¹¹⁸ Kipling’s stories were wildly fanciful and designed to explain the origin of certain distinctive features of animals, such as the leopard’s spots. In philosophy, the “just-so” story is another name for the “*ad hoc* fallacy.” The critique, when applied to evolutionary psychology, is that many of the explanations are nothing more than fanciful, imaginative stories made-up to explain the origin of certain human faculties. The problem with most of the explanations for the evolutionary origin of human aesthetic perception, as plausible as they sound, is that they can never be scientifically verified. Was it “group cohesion?” Was it “mate selection?” Was it “choice of habitat?” Multiple stories can be constructed to explain the same phenomenon and none can be proven or disproven to any degree of certainty. More to the point, if multiple stories can be constructed with no way to adjudicate between them, in what way can they be considered “scientific?” Is it merely considered “scientific” because scientists are telling these tales?

¹¹⁵Stove, *Darwinian Fairytales*, 249.

¹¹⁶*Ibid.*, 266.

¹¹⁷Stephen Jay Gould, “The Return of Hopeful Monsters,” *Natural History* 86 (1980), 22-30; Gould, *The Spandrels of San Marco*, 581-98.

¹¹⁸Rudyard Kipling, *Just So Stories* (Charleston, SC: CreateSpace Independent, 2016).

Owen Barfield introduced a similar critique in *Saving the Appearances*. The concept of “saving the appearances” originated from Simplicius’ commentary on Aristotle’s *De Caelo*. Another influential reference can be found in Milton’s *Paradise Lost*.¹¹⁹ The term “saving the appearances” means that any hypothesis that explains all of the appearances of a phenomenon may serve as a plausible explanation. The problem is that two competing hypotheses can both be “saving the appearances,” but neither hypothesis may be true. Therefore, evolutionary psychologists may be “saving the appearances” by offering plausible explanations of the human aesthetic sense, but these explanations may not necessarily be true.

How should evolutionary psychologists and other thinkers proceed if all they can really hope to accomplish are “just-so stories” or “saving the appearances?” In an interview with David Sloan Wilson, Richard C. Lewontin was asked what the right way to proceed for those involved in adaptationist explanations. Lewontin responded,

I think the right way is to start with the sentence: “We do not have any hard evidence of the forces leading to the following evolutionary change.” There has to be a prelude to the discussion of evolutionary change to make it clear that although the theory of natural selection is very important and happens lots, there are other forces, or other mechanisms, that lead to change and we are not obliged by being Darwinians and being evolutionists to invent adaptive explanations for all changes. I think that’s where you have to start. Then as either a philosopher or biologist, ask in a particular case what is the direct evidence, besides the desire that we want to find something, that a particular story is true or not true. Most of the time we’re going to have to say that this happened in the Eocene or the Paleocene and we haven’t the foggiest notion of why it happened. I think the admission of necessary ignorance of historically remote things is the first rule of intellectual honesty in evolution.¹²⁰

In other words, those working in evolutionary psychology should be humble enough to preface their stories with an admission that evidence is lacking and proof practically impossible, or just to state honestly, “we just don’t know.”

¹¹⁹Barfield, *Saving the Appearances*, 48.

¹²⁰Richard C. Lewontin, “Interview by David Sloan Wilson,” 2015, The Evolution Institute, accessed December 6, 2015, <https://evolution-institute.org/article/the-spandrels-of-san-marco-revisited-an-interview-with-richard-c-lewontin/>.

The various stories attempting to solve the mystery of the human aesthetic sense are understandable. Does art help cognitive function? Many studies have shown that children who engage in music and art develop better cognitively than those who do not. Can art be used for propaganda? It has been used for propaganda in the past and continues to be used that way to this day. Can artistic expression assist in finding a mate? Anecdotal escapades from the art world suggest it can. Does art bring about group cohesion? Those attending a concert could easily come to that conclusion. However, the scientists and philosophers proposing these solutions may be confusing the various ways artistic expression can be used with the essence of beauty itself. Beauty is not equal to art. Beauty can exist without art, but, in spite of modern theories of art, art most likely would not have gotten started without the human desire to make things beautiful. So why is it that those working on the evolutionary explanation for beauty seem to confuse or combine the two? And why do they seem to avoid the possibility that beauty is not only subjective, but objective as well?

The answer has to do with worldview. A materialistic worldview cannot avoid extreme reductionism because it must reduce everything to matter. In the case of evolutionary aesthetics, as Noë rightly assesses, the problem is not only materialism, but scientism. Scientism is the idea that everything can be reduced to matter with a material cause, and the only valid way to discover truth is through the scientific method. Many philosophers have pointed out the major contradiction in scientism—it offers no scientific proof for its own claim. However, in spite of this obvious flaw, many scientists are still committed to scientism as a philosophical presupposition, which permeates all his or her scientific endeavors.

One of the biggest problems with scientism is that it causes scientists to be closed-minded. Every trait, ability, desire, instinct, and emotion must find its origins within the narrow materialistic rubric of food, fight, flight, or reproduction. This closed-mindedness is why most researchers working on evolutionary aesthetics are united on a

particular conclusion (evolution produced beauty and the human ability to perceive it), but are deeply divided over a viable theory that explains the “why” and “how.” Though, one can be sure that any evidence not pointing to a materialistic or evolutionary cause will be rejected or ignored. This creed of modern science is adhered to in the academy with such fervency that it rivals the faith and dogmatism of any religion, and all dissenters will surely be punished. This religious zeal can be heard in the words of Harvard geneticist Richard Lewontin:

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 naturalism. 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.¹²¹

In a moment of candor, Lewontin stated plainly what many scientists either have never thought too deeply about or have desired to conceal—they are not committed to a material explanation because science or the scientific method forces them to, they are committed to “absolute” materialism because they have rejected the idea of God. However, what if one of the purposes of beauty and the human perception of it is to keep the “Divine Foot in the door?”

The Hint of Transcendence

In over 150 years, the aesthetic problem that plagued Darwin has not gone away. John Ruskin’s argument that evolution alone could not explain the complexity of natural beauty and aesthetic perception is just as valid today as it was in Darwin’s day. Ruskin’s insistence that there are both objective and subjective aspects to beauty seems to be correct, and his suspicion that there was a latent atheism within Darwin’s theory turns

¹²¹Richard Lewontin, “Billions and Billions of Demons,” *The New York Review*, January 9, 1997, 31.

out to have been correct as well. If it were not so, Darwin, like Alfred Russell Wallace, would have been willing to keep an open mind when he came across certain aspects of human nature that could not be accounted for by natural and sexual selection alone. Some would argue that invoking a theistic solution would have stopped the science. Nevertheless, science has had a go at explaining these complexities for over 150 years, and the more it is studied, the more complex these problems become. It would seem that exploring a possible theistic solution is long overdue.

In some of the more recent literature on aesthetics there appears to be movement toward the metaphysical. In *Beauty*, philosopher Roger Scruton affirms the transcendent nature of beauty:

Hence the experience of beauty also points us beyond this world, to a “kingdom of ends” in which our immortal longings and our desire for perfection are finally answered. As Plato and Kant both saw, therefore, the feeling for beauty is proximate to the religious frame of mind, arising from a humble sense of living with imperfections, while aspiring towards the highest unity with the transcendental.¹²²

While most non-religious authors do not go as far as Scruton, many affirm the objective nature of beauty and reject scientism, as well as materialistic reductionism.

In *Strange Tools: Art and Human Nature*, philosopher Alva Noë affirms that beauty is something real that exists independently of the human mind and cannot be reduced to a matter of personal opinion. He also affirms that the human desire for artistic expression cannot be explained through the reductionistic lens of scientism. Philosopher and musician David Rothenberg’s conclusion that the universe prefers beauty or possesses some sort of “universal idea of beauty” moves the discussion toward a metaphysical explanation. Philosopher Frederick Turner arrives at a similar conclusion. In “An Eco-poetics of Beauty and Meaning,” he writes,

The whole species must benefit from possessing a sense of beauty. This could only be the case if beauty is a real characteristic of the universe, one that it would be useful—adaptive—to know. How might this be? . . . I want to suggest that the

¹²²Scruton, *Beauty*, 175.

experience of beauty is a recognition of the deepest tendency or theme of the universe as a whole.¹²³

Turner's position, much like Rothenberg's, is that beauty is objective and a part of the innate structure of the universe. Commenting on Turner's conclusion, Ronald De Sousa explains, "Despite the suspect metaphysical flavor of Turner's grand proposal, it surely corresponds to something very real in the phenomenology of art and beauty."¹²⁴ The metaphysical direction in which Noë, Rothenberg, Turner and others are moving should make materialists nervous because they are not only affirming the objectivity of beauty, but also getting dangerously close to acknowledging that a "Divine Foot" is indeed in the door.

Summary: Opening the Door

When it comes to a critique of the evolutionary theory of aesthetics, one almost desires to say what Basil the Great said about the ancient Greek naturalists: "The philosophers of Greece have made much ado to explain nature, and not one of their systems has remained firm and unshaken, each being overturned by its successor. It is vain to refute them; they are sufficient in themselves to destroy one another."¹²⁵ The purpose of this chapter was to explore the evolutionary answer to the origin of beauty and aesthetic perception. Having examined the various theories and having offered a critique, one can conclude that beauty may defy all reductionistic explanations. The whole universe is infused with beauty, from golden sunsets to purple mountains to fields of flowers to brightly colored fish to the songs of the mockingbird, and it seems to be calling humanity to contemplate its presence, and quite possibly its purpose, in exchange for moments of aesthetic pleasure. Finally, if beauty is indeed objective, then there must be an outside or

¹²³Frederick Turner, "An Eco-poetics of Beauty and Meaning," in *Biopoetics*, ed. Brett Cooke and Frederick Turner (Lexington, KY: International Conference on the Unity of the Sciences, 1999), 124.

¹²⁴Sousa, "Is Art an Adaptation?," 117.

¹²⁵Basil, "The Hexaemeron," in *Nicene and Post-Nicene Fathers*, vol. 8, ed. Philip Schaff and Henry Wace (Peabody, MA: Hendrickson, 1995), 53.

transcendent source. The purpose of the next few chapters is to not only let a “Divine Foot in the door,” but to open the door wide to see if it yields a better explanation to the aesthetic problem.

CHAPTER 3

THE DIVINE ORIGIN OF BEAUTY

The human desire for beauty in the contemplation of nature and in artistic expression is very difficult to fit within a Darwinian narrative. Beauty and its perception must be reduced to a materialistic explanation, which is a monumental, if not impossible, task. However, what if the origin of beauty is not natural, but instead supernatural? Would a divine explanation render a simpler, and yet more comprehensive, explanation of beauty?

In this chapter, the possibility of beauty's divine origin is examined. It attempts to show that the answer concerning the origin of beauty and the human ability to perceive it is found in the Bible. It will also show that the biblical answers are not *ad hoc* or 'just-so stories' because the biblical narrative does not set out to specifically answer the problem of beauty, but the biblical narratives are comprehensive enough to point to the answer. This chapter also examines how Christians have recognized the transcendent qualities of beauty that point to the Creator, even from the earliest days. This examination is followed by a discussion of the doctrine of the *Imago Dei*, and whether God, revealed in the Trinity and in Christ, should be considered beautiful. Finally, it seeks to show why modern Evangelicalism, in spite of the rich Christian tradition, has understood beauty as mostly subjective, and why beauty almost disappeared as an important topic in Christian theology.¹ And, yet, there appears to be signs that a recovery of beauty in connection to God is currently underway.

¹Modern evangelicals seem to be just as likely to believe that "beauty is in the eye of the beholder" as non-Christians. With a few exceptions, systematic theologies published in the nineteenth and twentieth centuries rarely, if at all, mention beauty in connection to theology. The topic of beauty in theology, however, does seem to be making a comeback in the twenty-first century.

Biblical Foundation of Beauty

In the Genesis 1, one discovers three important truths: (1) there is one God who created all things, (2) the earth received special attention in God's creative activity, and (3) human beings are made in the image of God and are unique among the animals. These three biblical inferences may give some clues to the origin of beauty and its human perception. The first indicates that God is the source of all things, which would include beauty. The second implies that if the earth received special creative attention from the Creator, then one would expect beauty to be a distinguishing quality. The third suggests that the reason why humans are attracted to beauty and desire to create beautiful things is that humanity is (in some ways) like the Creator. These important assumptions should undergird a biblical understanding of beauty. However, one of the major difficulties of constructing a thorough biblical aesthetic is that the Bible seems to say very little about beauty.

In "Aesthetics in the Old Testament: Beauty in Context," theologian William Dyrness address the difficulty in building a biblical aesthetic:

When it comes to understanding the Biblical material, our modern conceptions of beauty offer a great handicap to understanding. So difficult to assess are Biblical statements that some students have simply concluded that there are no descriptions of beauty at all in our sense of the word. Walter Grundmann concludes for example that the whole problem of the beautiful is of no concern to the OT: "Beauty (kalon) does not occur at all as an aesthetic quantity; this is linked with the low estimation of art in the Biblical religion." Perhaps because it plays no role in Israel's history of tradition Gerhard von Rad claims: "There is no particular significance in many of the statements which ancient Israel made about beauty; and the reason why there is nothing characteristic in them is that they move in the place of the experience of beauty common to all men."²

This seeming lack of a specific focus on beauty, according to Dyrness, should not discourage one from attempting to build a biblical aesthetic:

For the Hebrew, beauty was nothing special simply because it shared in the ordered meaning of God's creation. We will see that the loveliness of an object (or event) was simply its being what it was meant to be. The beautiful was often what we might call merely the "fitting." Only later in the OT period does beauty become an isolable entity (see Wis 13:3). This is because beauty is only the splendor of a system of

²William A. Dyrness, "Aesthetics in the Old Testament: Beauty in Context," *Journal of the Evangelical Theological Society* 28 (1985): 1.

relationships; it is an aspect of the totality of meaning of the created order, which for God's people was immediately evident in the whole and in the art.

In the remainder of his article, Dyrness unpacks seven biblical words that “refer to beauty and the enjoyment of beauty” in the Old Testament.³ These seven Hebrew words are Šēbî (beauty or honor), Pā’ar (to glorify, to crown, to beautify), words associated with ḥāmad (to desire, to delight in), words associated with the verb yāpâ (to be fair or beautiful), words associated with the verb nā’â (pleasing or physically attractive), nā’ēm (to be pleasant or lovely), and hādar (to honor or glorify).⁴ However, Dyrness leaves out of his list two Hebrew words, Kābôd (“glory”) and ṭôb (“good”), because the former does not seem to ever mean beauty, and the latter means beauty only twice (2 Sam 11:2; Esth 2:7; with the possible exception in Gen 1:31).⁵

Concerning Dyrness's possible exception, Genesis 1:31 states, “And God saw everything he had made, and behold, it was very good [ṭôb].”⁶ For the entry “Good,” in *The New Bible Dictionary*, J. I. Packer states, “The Hebrew word is ṭôb (‘pleasant,’ ‘joyful,’ ‘agreeable’), signifying primarily that which gratifies the senses and derivatively that which gives aesthetic or moral satisfaction.”⁷ It is also worth noting that the Septuagint often renders ṭôb with the Greek word ‘kalos’ which means “good” or “beautiful.” The possible implication of Genesis 1:31 is that God was not only pronouncing his creation morally or functionally good, but aesthetically pleasing as well.

An important connection to the beauty of creation is also found in the construction of the Jewish temple. In *The Temple and the Church's Mission*, G. K. Beale

³Dyrness, “Aesthetics in the Old Testament,” 2.

⁴Ibid., 3-8.

⁵Ibid., 3.

⁶All Scripture references are from the English Standard Version, unless otherwise noted.

⁷J. I. Packer, “Good,” in *New Bible Dictionary*, ed. D. R. W. Wood et al., 3rd ed. (Downers Grove, IL: InterVarsity, 1996).

believes that both the Scripture and ancient Jewish tradition affirm that the temple was to be a “microcosm of the entire heaven and earth.”⁸ To make his case, Beale appeals to many verses in Scripture that support this understanding. For example, Psalm 78:69 says, “He built his sanctuary like the high heavens, like the earth, which he has founded forever.” The psalmist is saying that there is a kind of likeness or representation between the sanctuary (Jewish Temple) and the heavens and the earth. In Hebrews 8, the reader is told that the great High Priest (Christ) is seated at the right hand of God in heaven and serves in the “true tent” that God set up.⁹ In Hebrews 8:5, the author makes this even more explicit: “They serve a copy and shadow of the heavenly things. For when Moses was about to erect the tent, he was instructed by God, saying, ‘See that you make everything according to the pattern that was shown you on the mountain.’” After building scriptural support, Beale writes,

Israel’s temple was composed of three main parts, each of which symbolized a major part of the cosmos: (1) the outer court represented the habitable world where humanity dwelt; (2) the holy place was emblematic of the visible heavens and its light sources; (3) the holy of holies symbolized the invisible dimension of the cosmos, where God and his heavenly hosts dwelt.¹⁰

Beale next spends several pages showing how the items found in each of the three sections of the temple correspond to the cosmos.¹¹ For instance, the gems on the priest’s robes were designed to “reflect divine, heavenly glory.”¹² It is interesting that God’s stated purpose of these elements was for “glory and beauty.” Exodus 28:2 says, “And you shall make holy garments for Aaron your brother, for glory [כְּבוֹד , *kabod*] and for beauty [תִּפְאָרָה , *tipharah*].” The purpose of the lights and precious gems in the temple was to

⁸G. K. Beale, *The Temple and the Church’s Mission: A Biblical Theology of the Dwelling Place of God*, New Studies in Biblical Theology 17 (Downers Grove, IL: InterVarsity, 2004), 31.

⁹See also Ps 104:2: “Stretching out the heavens like a tent.”

¹⁰Beale, *The Temple and the Church’s Mission*, 32-33.

¹¹*Ibid.*, 33-36.

¹²*Ibid.*, 41.

reflect the glory and beauty of the heavenly bodies, such as the sun, moon, planets and stars. However, Isaiah 60:19-20, implies that the glory and beauty of the heavenly bodies are symbolic of the glory and beauty, or the glorious beauty of God.

The sun shall be no more your light by day, nor for brightness shall the moon give you light; but the LORD will be your everlasting light, and your God will be your glory [or beauty, תִּפְאָרָה , *tipharah*]. Your sun shall no more go down, nor your moon withdraw itself; for the LORD will be your everlasting light, and your days of mourning shall be ended.

Therefore, some of the items, such as precious stones, in the temple are symbolic of the glory and beauty of the heavenly bodies, and the heavenly bodies are symbolic of the glory and beauty of God. This can be further confirmed in Revelation 21, where the walls of the Holy City are bejeweled with many of the same stones as the priestly garments. Moreover, in fulfillment of Isaiah's prophesy, verses 22 and 23 state, "And I saw no temple in the city, for its temple is the Lord God the Almighty and the Lamb. And the city has no need of sun or moon to shine on it, for the glory of God gives it light, and its lamp is the Lamb." In other words, there will be no need for the very real but symbolic glory and beauty of the temple and of the heavenly bodies, when what was symbolized, namely the glory and beauty of God, is finally revealed.

It is also interesting to note that God was so interested in the glory and beauty of the temple, reflecting God's greater glory and beauty, that he provided artists and empowered them by his Spirit to produce beautiful works of art for the temple. Exodus 35:30-35 says,

Then Moses said to the people of Israel, "See, the Lord has called by name Bezalel the son of Uri, son of Hur, of the tribe of Judah; and he has filled him with the Spirit of God, with skill, with intelligence, with knowledge, and with all craftsmanship, to devise artistic designs, to work in gold and silver and bronze, in cutting stones for setting, and in carving wood, for work in every skilled craft. And he has inspired him to teach, both him and Oholiab the son of Ahisamach of the tribe of Dan. He has filled them with skill to do every sort of work done by an engraver or by a designer or by an embroiderer in blue and purple and scarlet yarns and fine twined linen, or by a weaver—by any sort of workman or skilled designer.

The first person mentioned in Scripture that was filled with the Holy Spirit of God was not a prophet, priest, or king, but Bezalel the artist. It would also not be a stretch to

understand Bezalel and the other artists as symbolizing the power, knowledge, and skill of God, the original artist and creator of the cosmos. From these passages, several key ideas can be established: (1) God is the original artist and has intentionally infused his whole creation with beauty; (2) the Jewish temple and all the items within were to symbolize the beauty of the heavens and the earth, therefore, skilled artists were appointed and empowered to insure the glory and beauty of creation was properly represented; and (3) the glory and beauty of the heavens and earth and of the temple are symbolic of God's ultimate glory and beauty.

Evidence from early Christian writings shows that many thinkers in the early church also understood Genesis 1 as pointing to the origin of beauty. An example can be found in a series of sermons on Genesis, known as the *Hexaemeron*, by Basil of Caesarea. Basil the Great, as he has come to be known, was one of the Cappadocian fathers in the fourth century. In his first sermon on Genesis 1:1, Basil concludes, "Let us glorify the supreme Artificer for all that was wisely and skillfully made; by the beauty of visible things let us raise ourselves to Him who is above all beauty."¹³ In a following sermon, Basil comments on God's pronouncement that each part of his creation was "good":

A hand, an eye, or any portion of a statue lying apart from the rest, would look beautiful to no one. But if each be restored to its own place, the beauty of proportion, until now almost unperceived, would strike even the most uncultivated. But the artist, before uniting the parts of his work, distinguishes and recognizes the beauty of each of them, thinking of the object that he has in view. It is thus that Scripture depicts to us the Supreme Artist, praising each one of His works; soon, when His work is complete, He will accord well deserved praise to the whole together.¹⁴

Basil understood God's use of the word "good" included the beauty of creation. However, Basil was not alone in recognizing that God is the original artist and the originator of all things beautiful. Early Christian literature has many examples of those who not only understood God as the source of beauty, but also used the existence of beauty in the

¹³Basil of Caesarea, "The Hexaemeron," in *St. Basil: Letters and Select Works*, ed. Philip Schaff and Henry Wace, trans. Blomfield Jackson, A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church, vol. 8, Second Series (New York: Christian Literature, 1895), 58.

¹⁴*Ibid.*, 71.

world as an argument against materialists who believed that all things came into existence by chance. In the history of Christian thought concerning beauty, three main ideas developed: (1) God is the Great Artist or Artificer that infused his creation with beauty; (2) beauty is transcendental, along with goodness, and truth that points beyond the physical world to God; and (3) God is not only the source of beauty, He is Beauty. However, before these ideas are discussed further, another important biblical concept needs to be explored that addresses the unique human ability to perceive beauty.

The *Imago Dei* and the Human Perception of Beauty

Humans are the most complex and unique beings on the earth. The abilities of the highest animals cannot match the average human ability. If one truly believed that all living things have common ancestry, one would expect an ascending scale of abilities from the lowest animal to human beings. One would expect some animals to have various degrees of human-like cognitive abilities, such as communication, that would be on the level of a small child.¹⁵ However, there is such a great gulf between human beings and animals. From a biblical perspective, the answer can be found in Genesis 1:26-27. After God created the plants and animals, as the last crowning act of creation, he created humanity, both male and female, uniquely in His image. The answer to why such vast differences exist between animals and humans is discovered in this one unique act of special creation.

Theologians have struggled to understand what exactly “being made” in the *Imago Dei* (image of God) means. Some have suggested the image of God exists in the human intellect, while others suggest it is in moral understanding. Still others believe that the *Imago Dei* is expressed in the uniqueness of the soul within the body, or the God-like dominion given to man over the earth (Gen 1:28). All of these, and many more attributes,

¹⁵A few examples of sign language being taught to primates seem to resemble child-like qualities; however, after years of working with human researchers, these primates are still unable to carry on intelligent conversations.

may constitute various expressions of the divine image that makes humanity distinctively human. However, in *The Mind of the Maker*, Dorothy Sayers focuses on one particular way she believed humanity was made in God's image:

In the beginning God created. He made this and He made that and He saw that it was good. And He created man in His own image; in the image of God created He him; male and female created He them. . . . The expression "in His own image" has occasioned a good deal of controversy. Only the most simple-minded people of any age or nation have supposed the image to be a physical one. The innumerable pictures which display the Creator as a hirsute old gentleman in flowing robes seated on a bank of cloud are recognized to be purely symbolic. . . . How then can he be said to resemble God? Is it immortal soul, his rationality, his self-consciousness, his free will, or what, that gives him a claim to this rather startling distinction? A case may be argued for all these elements in the complex nature of man. But had the author of Genesis anything particular in his mind when he wrote? It is observable that in the passage leading up to the statement about man, he has given no detailed information about God. Looking at man, he sees in him something essentially divine, but when we turn back to see what he says about the original upon which the "image" of God was modeled, we find only the single assertion, "God created." The characteristic common to God and man is apparently that: the desire and ability to make things.¹⁶

Sayers points out that man's God-given nature is to create. Of course, not *ex nihilo* like God, but to take existing materials and fashion them into something useful and/or beautiful. Therefore, the origin of all human creative activity, such as art and architecture, are a result of the *Imago Dei*. Yet, mankind's creative faculties must also include other necessary cognitive abilities. For instance, in order to create something, like a work of art, one must possess reason, imagination, and the ability to make value judgment. The imagination is needed to picture in the "mind's eye" various possibilities of what one wants to create. Both reason and value judgments must be employed to adjudicate between good and bad ideas, good and bad designs, and proper construction techniques. In the case of architecture, reason, imagination, and values must weigh other critical aspects, such as the balance between form and function. Therefore, humanity as a co-creator of sorts must possess many cognitive functions that are analogous to God. The *imago Dei* is, then, that

¹⁶Dorothy L. Sayers, *The Mind of the Maker* (New York: HarperCollins, 1987), 21-22.

which makes humanity much like the Creator, but also that which separates humanity from animals.

If Sayers is correct, then Mankind's aesthetic ability, the ability to perceive and create beauty through works of art and architecture, is directly related to being made in God's image. As theologian William Hendricks writes, "To state it theologically, God did not first create humans, then decide to give them special talents called arts. The arts, the ability to do them, and the ability to relate to the world through them are part of what it means to be human."¹⁷ Philosopher Michael Jones concurs with Hendricks when he states,

God created people with the ability to fashion and appreciate beauty, implying that He expected them to do so. If this is so, then beauty and art are natural and necessary aspects of human existence. They have intrinsic value in their own right, and do not need to be justified by any extrinsic utility. Human creativity and appreciation of beauty are both a right and a duty.¹⁸

Jones submits that if the appreciation of beauty is based on the *Imago Dei*, then there is an objective standard by which to judge what is beautiful or even what constitutes "good art." Art, therefore, should be informed and influenced by theology; artists should study theology and theologians should study art.¹⁹ Jones concludes, "Those interested in a holistic approach to the Christian life should notice that the relationship between the *imago dei* and the appreciation of beauty is the key to integrating art into the Christian life."²⁰

If God is the originator of beauty and artistic expression, then a theory or an understanding of art is needed that reflects this theological perspective. Modern ideas, such as "art for art's sake" or a limited understanding of the Kantian "disinterestedness,"

¹⁷William L. Hendricks, "Learning from Beauty," *Review and Expositor* 85 (1988): 108.

¹⁸Michael Jones, "Imago Dei and the Appreciation of Beauty," *Philosophia Christi* 18 (1995): 46.

¹⁹The mutual influence between art and theology can be seen throughout church history. Theological and artistic influences can be found in church architecture, paintings, stained glass windows, sculptures, music, etc. Some of the greatest names in art history, such as Michelangelo and Bach, used art to express certain theological understandings, such as the suffering of Christ or the grandeur of God.

²⁰Jones, "Imago Dei," 46.

as if art and beauty were an end in themselves, fall short of expressing this biblically informed perspective.²¹ A proper understanding of art and beauty should not only take into account the *Imago Dei*, but should also acknowledge the God who made beauty possible.

God as the Great Artificer

For better or worse, many early Christian thinkers adopted a platonic or neo-platonic metaphysical understanding of beauty. From a platonic perspective, beauty observed in the sensible realm was imperfect in comparison to the beauty in the realm of ideas. Plotinus, on the other hand, understood that beauty in the realm of ideas was the “archetype” of beauty in the sensible realm.²² Christians could easily adopt much of the platonic and neo-platonic thinking, with certain modifications, because the platonic division of the sensible world and the invisible world of ideas, in many ways, paralleled the biblical teaching that God is an invisible mind/spirit that created the physical world and is indeed separate from it. Many early Christians, such as Augustine, came to believe that Plato’s realm of ideas, where the universal perfect forms exist, was, in essence, the mind of God. Even though Christians adopted many platonic concepts, platonic philosophy was not absolutely essential to the Christian understanding of beauty; revealed biblical cosmology was more than sufficient to arrive at many of the same conclusions. For instance, if God is the source of the material world (Gen 1), then he must not only be the source of the idea of beauty, but the source of physical beauty in the material world. This is why Clement of Alexandria concluded, “God is the cause of everything beautiful.”²³

²¹This idea does not imply that non-Christians cannot produce beautiful works of art or know what beauty is, but it could mean that any philosophy of art and beauty that does not recognize the original Artist (God) may prove insufficient for sustaining a high view of both art and beauty. A quick walk through an art museum may be sufficient evidence to show that this is precisely what has happened.

²²Wladyslaw Tatarkiewicz, “The Great Theory of Beauty and Its Decline,” *The Journal of Aesthetics and Art Criticism* 31, no. 2 (1972): 170.

²³Tatarkiewicz, “The Great Theory of Beauty,” 170.

This simple concept permeated the early and medieval church's understanding of beauty. The following are a few examples of how some of the early Christian writers understood the beauty of creation as it relates to God.

Marcus Minucius Felix, writing sometime between the late second and early third century, wrote in *Octavius*,

They who deny that this furniture of the whole world was perfected by the divine reason, and asserted that it was heaped together by certain fragments casually adhering to each other, seem to me not to have either mind or sense, or, in fact, even sight itself. For what can possibly be so manifest, so confessed, and so evident, when you lift your eyes up to heaven, and look into the things which are below and around, than that there is some Deity of most excellent intelligence, by whom all nature is inspired, is moved, is nourished, is governed? . . . The very beauty of our own figure especially confesses God to be its artificer: our upright stature, our uplooking countenance, our eyes placed at the top, as it were, for outlook; and all the rest of our senses as if arranged in a citadel.²⁴

Felix argued that the obvious order and beauty in the world is sufficient evidence for those in their right mind to conclude that there must be a divine "artificer."

Writing about the same time as Felix, Hippolytus is considered by many as one of the most important theologians of the third century.²⁵ In *The Discourse on the Holy Theophany*, Hippolytus argues in much that same manner as Felix:

For what richer beauty can there be than that of the circle of heaven? And what form of more blooming fairness than that of the earth's surface? And what is there swifter in the course than the chariot of the sun? And what more graceful car than the lunar orb? And what work more wonderful than the compact mosaic of the stars? And what more productive of supplies than the seasonable winds? And what more spotless

²⁴Minucius Felix, "The Octavius of Minucius Felix," in *Ante-Nicene Fathers*, ed. Alexander Roberts and James Donaldson (Peabody, MA: Hendrickson, 1995), 4:182.

²⁵Concerning the importance of Hippolytus, G. Salmon writes, "He was at the beginning of the 3rd cent. unquestionably the most learned member of the Roman church, and a man of very considerable literary activity; his works were very numerous, and their circulation spread from Italy to the East, some having been translated into Syriac, Arabic, Armenian, Ethiopic, and perhaps other languages." Hippolytus was so revered in the third century by the church, that a marble statue was found in Rome depicting him sitting in a chair. On the back of the chair was inscribed in Greek a list of all of his works. G. Salmon, "Hippolytus," *A Dictionary of Christian Biography*, ed. Henry Wace and William C. Piercy (Peabody, MA: Hendricks, 1994), 482-90.

mirror than the light of day? And what creature more excellent than man? Very good, then, are all the works of our God and Savior.²⁶

Using aesthetic language, Hippolytus argues that the beauty of creation and the excellence of man points to the wonderful work of the Creator.

In *A Treatise of Novatian Concerning the Trinity*, Novatian argues for a proper rule of faith. He states that the existence of God should be understood because he

is the absolutely perfect Founder of all things. . . . And after these things, lest He should not also provide for the very delights of the eyes, He has clothed all things with the various colours of the flowers for the pleasure of the beholders. . . . And thus considering the greatness of the works, we should worthily admire the Artificer of such a structure.²⁷

Novatian understood that God was the source of objective beauty in the world and the human ability to perceive it, which should in return lead humanity to worship.

In fragments attributed to Dionysius, the Bishop of Alexandria, are found several references to beauty. In discussing the wonderment of the human body, Dionysius writes,

For all these things there is not one either idle or useless: not even the meanest of them—the hair, or the nails, or such like—is so; but all have their service to do, and all their contribution to make, some of them to the soundness of bodily constitution, and others of them to beauty of appearance. For Providence cares not only for the useful, but also for the seasonable and beautiful. Thus the hair is a kind of protection and covering for the whole head, and the beard is a seemly ornament for the philosopher.²⁸

To Dionysius, the mark of God’s providence is not just the creation of useful or functional objects, but also their beauty. Dionysius continues discussing the wonderful function and beauty of the human body by contrasting the differing opinions about its origin:

For there are some who refer this whole economy to a power which they conceive to be a true divinity, and which they apprehend as at once the highest intelligence in all things, and the best benefactor to themselves, believing that this economy is all the work of wisdom and a might which are superior to every other, and in themselves

²⁶Hippolytus, “The Discourse on the Holy Theophany,” in *Ante-Nicene Fathers*, 5:234.

²⁷Novatian, “A Treatise of Novatian Concerning the Trinity,” in *Ante-Nicene Fathers*, 5:611-12.

²⁸Dionysius, “The Works of Dionysius: Exegetical Fragments,” in *Ante-Nicene Fathers*, 6:114.

truly divine. And there are others who aimlessly attribute this whole structure of most marvelous beauty to chance and fortuitous coincidence.²⁹

Dionysius summarizes his argument by asking, “Who constructed this whole tabernacle of ours, so lofty, erect, graceful, sensitive, mobile, active, and apt for all things? Was it, as they say, the irrational multitude of atoms?”³⁰ He then questions how irrational atoms could produce human intelligence and reason and then gives an example of artisans who make images out of clay, stone, or silver. He concludes, “And if, even in these, representations and models cannot be made without the aid of wisdom, how can the genuine and original patterns of these copies have come into existence spontaneously?”³¹ If this is true, continues Dionysius, then even the Greeks must give up their belief that poetry, music, astronomy, geometry and all other arts and sciences are divinely inspired, and “shall have to allow that these atoms are the only muses with skill and wisdom for all subjects.”³² Arguing that good design logically implies a designer, Dionysius uses a *reductio ad incommodum* (“reduction to trouble or inconvenience,” i.e., trouble for the critic’s own position) to argue against these ancient naturalists (one is also reminded here of Richard Dawkins and selfish-genes).

Lactantius also wrote about the beauty of creation, especially the beauty of animals and the human body. He speaks of God as the “great Artificer” who made the various parts of the body functional and beautiful. After much detail about the outward parts of the body, he writes, “It necessarily follows that I should begin to speak of the inward parts also, to which has been assigned not beauty, because they are concealed from

²⁹Dionysius, “The Works of Dionysius,” 6:88-89.

³⁰Ibid., 6:89.

³¹Ibid.

³²Ibid.

view.”³³ In other words, God does not bother to make some things beautiful because they are hidden from sight.

Pseudo-Clementine also challenges the ancient naturalists who say that “these things [creation] are done by nature.” Quoting Plato’s *Timaeus*, he writes, “It is evident that all things which are of this sort have been made; but what has been made has doubtless an author, by whom it was made. This Maker and Father of all, however, it is difficult to discover.”³⁴ Then, preempting Paley’s watchmaker by about 1500 years, Pseudo-Clementine writes,

For what man is there, having even a particle of sense, who, when he sees a house having all things necessary for useful purposes, its roof fashioned into the form of a globe, painted with various splendor and diverse figures, adorned with large and splendid lights; who is there, I say, that, seeing such a structure, would not immediately pronounce that it was constructed by a most wise and powerful artificer? And so, who can be found so foolish, as, when he gazes upon the fabric of the heaven, perceives the splendor of the sun and moon, sees the courses and beauty of the stars, and their paths assigned to them by fixed laws and periods, will not cry out that these things are made, not so much by a wise and rational artificer, as by wisdom and reason itself?³⁵

To Pseudo-Clementine, the design, splendor, and beauty of creation should lead any rational person to conclude that it was fashioned by a Creator/Artist.

This brief survey of some of the ante-Nicene writers exemplifies how beauty played a major role in the thoughts and apologetics of the early church. To these Christian thinkers, God is the great Artisan who displays His power and wisdom through the design and beauty of the created order. The role of beauty, therefore, is not merely to give an experience of pleasure, but to point the observer to God who is the source of all things beautiful.

³³Lactantius, “On the Workmanship of God, or the Formation of Man,” in *Ante-Nicene Fathers*, 7:282-83.

³⁴Pseudo-Clementine, “Recognitions of Clement,” in *Ante-Nicene Fathers*, 8:170-71.

³⁵Ibid.

Truth, Goodness, and Beauty

In the Medieval period, Christian thinkers further developed the concept of beauty as not just a pointer to the divine Artisan, but also, along with truth and goodness, as an essential transcendent quality of being itself. Being consisting of Truth, Goodness, and Beauty was not original to Christian theology, it was borrowed from ancient Greek philosophers, particularly Plato and Plotinus. Roger Scruton writes,

There is an appealing idea about beauty which goes back to Plato and Plotinus, and which became incorporated by various routes into Christian theological thinking. According to this idea beauty is an ultimate value—something that we pursue for its own sake, and for the pursuit of which not further reasons need be given. Beauty should therefore be compared to truth and goodness, one member of a trio of ultimate values which justify our rational inclinations. . . . In the *Enneads* of Plotinus, that truth, beauty and goodness are attributes of the deity, ways in which the divine unity makes itself known to the human soul.³⁶

This ancient Greek idea of Truth, Goodness, and Beauty became incorporated, with some modification, in Christian theology. Theologians such as Gregory of Nyssa, Dionysius, and Thomas Aquinas were instrumental in this incorporation, not because they understood the Greeks to be authoritative, but because they believed the Greeks had come to comprehend an important metaphysical truth rooted in the God of creation.

In *Awakening Wonder: A Classical Guide to Truth, Goodness, and Beauty*, Stephen R. Turley explores the way both Gregory and Dionysius adopted the Greek concept into Christian theology. Turley explains that for Plato “true Beauty awakens *eros* or love or desire within a human person, which serves as the gravitational pull that draws us into an encounter with True and the Good.”³⁷ Whereas false Beauty “awakens not love but lust” and “draws us away from the True and the Good.”³⁸ Gregory, however, adopts the apostle Paul’s concept of *epekteinomai* in Philippians 3:13, which means “extension”

³⁶Roger Scruton, *Beauty* (Oxford: Oxford University Press, 2009), 2, 4.

³⁷Stephen R. Turley, *Awakening Wonder: A Classical Guide to Truth, Goodness & Beauty* (Camp Hill, PA: Classical Academic, 2014), 26-27.

³⁸*Ibid.*, 27. False beauty is like fools gold, it has the outward appearance but not the internal essence of the true and good. Pornography would be an example of false beauty.

or “reaching.” To Gregory, Paul is describing a strong desire or longing “to be filled with the inexhaustible plenitude of God’s infinite Beauty.”³⁹ Gregory also related this

“gravitational pull’ of divine Beauty to the life of Moses:

Such an experience seems to me to belong to the soul which loves what is beautiful. Hope always draws the soul from the Beauty which is seen to what is beyond, always kindles the desire for the hidden through what is constantly perceived. Therefore, the ardent lover of Beauty, although receiving what is always visible as an image of what he desires, yet longs to be filled with the very stamp of the archetype. And the bold request which goes up the mountains of desire asks this: to enjoy the Beauty not in mirrors or reflections, but face to face.⁴⁰

Because God is infinite, there is always fulfillment, but no end to the desire for God’s Beauty. According to Gregory, salvation in the Christian life is the restoration of the soul to the life of God that was drawn by love through divine Beauty.⁴¹ Turley concludes his section on Gregory:

Thus, while Gregory may sound like Plato, there is a radical difference in that Plato’s world of the forms cares nothing about us; it does not seek after us and certainly does not die for us. Hence, for Gregory, the *epektasis*, this eternal traversing of God’s infinity, involves an eternal communion with the God revealed in Christ, who is the self-replenishing fountain of love and delight, an infinite sea of absolute Beauty.⁴²

Dionysius the Areopagite believed that Truth, Goodness, and Beauty reveals God’s character. They represent God’s revealed names that draw humanity to union with Himself. According to Dionysius, God’s primary name is “Good” and Beauty draws all things to the Good.⁴³ Dionysius followed Plato’s lead by seeing the connection between the Greek word *Kalos* (beauty) and *Kalein* (to call). Therefore, Beauty is what calls all things back to the Truth of its divine source. Dionysius writes,

To put the matter briefly, all being derives from, exists in, and is returned toward the Beautiful and the Good. Whatever there is, whatever comes to be, is there and had

³⁹Turley, *Awakening Wonder*, 27.

⁴⁰Ibid.

⁴¹Other examples include Augustine and, in modern times, Peter Hitchens.

⁴²Turley, *Awakening Wonder*, 28.

⁴³Ibid., 29-31.

being on account of the Beautiful and the Good. All things look at it. All things are moved by it. All things are preserved by it. Every source exists for the sake of it, because of it, and in it and this is so whether such source be exemplary, final, efficient, formal, or elemental. In short, every source, all preservation and ending, everything in fact, derives from the Beautiful and the Good.⁴⁴

To Dionysius, God is Truth, Goodness, and Beauty and is the source of all that is True, Good, and Beautiful. Out of the three, however, Dionysius believed that Beauty played a particular role in drawing humanity back to its source.

The writing of Dionysius had a profound influence on the Medieval Christian thinkers, particularly Thomas Aquinas. Aquinas was introduced to the theology of Dionysius when he attended a lecture by Albertus Magnus, sometime between AD 1248 and 1252.⁴⁵ Aquinas agreed with Dionysius that the *ipsum bonum* is indeed God and that the beauty of God's creation is a reflection of divine Beauty. Aquinas writes,

The beautiful and beauty are distinguished with respect to participation and participants. Thus, we call something "beautiful" because it is a participant in beauty. Beauty, however, is a participation in the first cause, which makes all things beautiful. So that the beauty of creatures is simply a likeness of the divine beauty in which things participate.⁴⁶

Aquinas modified Dionysius by incorporating beauty as an attribute of being. God's pure being is expressed in Oneness, Goodness, Truth, and Beauty.⁴⁷ Aquinas understood that the origin of beauty in the cosmos is the very Being of God. The sense of beauty or the aesthetic sense of humanity was not only a source of pleasure, but also an aspect of true knowledge. Aquinas writes,

"Good" and "beautiful" have the same reference but differ in meaning. For the good, being what all things want, is that in which the appetite comes to rest; whereas the beautiful is that in which the appetite comes to rest through contemplation or knowledge. . . . "Beautiful" therefore adds to "good" a reference to the cognitive

⁴⁴Turley, *Awakening Wonder*, 32.

⁴⁵Umberto Eco, *The Aesthetics of Thomas Aquinas*, trans. Hugh Bredin (Cambridge, MA: Harvard University Press, 1988), 25-26.

⁴⁶*Ibid.*, 27.

⁴⁷*Ibid.*, 30.

powers; “good” refers simply to that in which the appetites takes pleasure, but “beautiful” refers to something the mere apprehension of which gives pleasure.⁴⁸

Aquinas was not advocating a purely subjective understanding of beauty when he states that beauty is that which “gives pleasure.” To Aquinas, beauty pleases because it is a cognitive apprehension of the Good, and both the Good and the Beautiful participate in the transcendental Being of God. In other words, beauty pleases because one comprehends that which is objectively Good and True. The aesthetic sense, therefore, can be a reliable source of knowledge.

This medieval formulation of the transcendentals, Truth, Goodness, and Beauty (and sometimes Oneness) continued to influence the objective understanding of beauty, particularly as it relates to God. Shaftsbury, Hutcheson, and Baumgarten all recognized this triad to certain degrees. Even Immanuel Kant seemed to formulate his three critiques based on the three transcendentals: Critique of Pure Reason (Truth), Critique of Practical Reason (Goodness), and Critique of Judgment (Beauty). However, as the Enlightenment progressed, philosophers tended to emphasize one of the three legs of the triad over the others until the unity of Truth, Goodness, and Beauty was no longer recognized. As the Enlightenment project ran out of steam, postmodern thinkers, beginning in the twentieth century, not only denied the unity of the triad, but also understood each one to be subjective. It is ironic that the Enlightenment, which began with the exaltation of human reason, fragmented toward irrationalism.

In *Restoration of Reason: The Eclipse and Recovery of Truth, Goodness, and Beauty*, Montague Brown suggests there is a way back. Brown has come to understand that reason includes all three realms of Truth, Goodness, and Beauty. He proposes that all three rest on separate “first principles.” With a slight modification of Aristotle and Aquinas in the distinction between theoretical reason (*theorein*, to look at) and practical reason (*prassein*, to do or to act), Brown believes that the “True” falls under “theoretical reason,”

⁴⁸Eco, *The Aesthetics of Thomas Aquinas*, 36.

the “Good” under “practical reason” as *doing*, and Beauty under “practical reason” as *making*.⁴⁹ According to Brown, however, there appears to be a theoretical and practical aspect to each one:

Consider the subject areas of theoretical reason. Although theoretical reason clearly seeks to discover the truth about things, such as seeking (the act of questioning) is itself an act of practical reason—a good to be done or pursued. And any method of understanding things is chosen for the sake of achieving truth and is thus a practical matter. Or consider the subject areas of practical reason. Here one can distinguish between the theoretical component of knowing the truth about what is good and what ought or ought not to be done, and the practical component of choosing the particular acts that will lead to the acquisition of virtuous or vicious habits. Finally, consider the last of the three areas, practical reason as making. Besides the making that is art, there clearly must be principles (like the first principles of ethics) by which we distinguish good art from bad art—the beautiful from the ugly. What is more, the appreciation of beauty does not fit the model of practical reason as oriented toward action: it is more like contemplation (an act of theoretical reason) where the beautiful thing is appreciated for its own sake.⁵⁰

The important point Brown is making is that the three realms of the True, the Beautiful, and the Good are essential elements of reason. As Brown writes, “When we reflect on the realms of the true, the good, and the beautiful, we find that they are in some sense mutually inclusive. Each realm, in a way, embraces and unifies the scope of human reason.”⁵¹ If Brown is correct, it would mean the modernist trend of separating beauty and goodness from reason has severely restricted the flourishing of human reason from the realm of ethics and aesthetics. Brown concludes,

The truth is that to understand, to pursue, and to appreciate are three distinct activities of the human being as rational, corresponding to three distinct objects: the true, the good, and the beautiful. We ought always to keep this in mind lest we cripple our intelligence, renounce our freedom and responsibility, and turn our backs on the beauty that surrounds us. Not only is human intelligence open to these three realms of reason so that we ought to guard against shutting down this openness; there is also great delight in appreciating the diverse riches of these three realms of human intellectual activity.⁵²

⁴⁹Montague Brown, *Restoration of Reason: The Eclipse and Recovery of Truth, Goodness, and Beauty* (Grand Rapids: Baker, 2006), 214.

⁵⁰Ibid., 214-15.

⁵¹Ibid., 239.

⁵²Ibid., 242.

It would seem that the Enlightenment, particularly scientific rationalism, has taken humanity down a dead end road by limiting human reason. Brown is pointing back to the wisdom of the ancients, both Greek and medieval Christianity, to rediscover and restore the full God-given power of human reason, which includes Truth, Goodness, and Beauty.

The Beauty of God

It was a widely held conviction in the medieval period that God is not only the source of beauty, but that God is beautiful. Augustine understood that the human experience of beauty was related to harmony, and harmony was unity in diversity.⁵³ However, his general understanding of beauty evolved as he broke with his Manichean and Neo-Platonist roots. In his earlier thoughts, Augustine depreciated the material world in preference for the spiritual. However, as he considered the doctrine of creation, he became more appreciative of the created order and its beauty.⁵⁴ James Martin suggests that beauty finally won over Augustine to the Christian faith.⁵⁵ Peter Leithart states that the question of beauty “dragged Augustine from a kind of materialism through Platonism and finally to Christianity, and *Confessions* may be seen as organized around this theme.”⁵⁶

Prior to his conversion, Augustine was schooled in the tradition of the Neo-Platonists. It was Cicero’s *Hortensius* that inspired Augustine to pursue philosophy, but he also found Cicero’s style to be beautiful and captivating.⁵⁷ Before his conversion, Augustine wrote a treatise entitled “The Beautiful and the Fitting.” In this work, he desired

⁵³Brown, *Restoration of Reason*, 40.

⁵⁴Carol Harrison, *Beauty and Revelation in the Thought of Saint Augustine* (Oxford: Clarendon, 1992), 272.

⁵⁵James Alfred Martin, *Beauty and Holiness: The Dialogue between Aesthetics and Religion* (Princeton, NJ: Princeton University Press, 1990), 18-19.

⁵⁶Peter J. Leithart, “Aesthetic Apologetics,” 1, Leithart.com, December 28, 2005, accessed August 17, 2010, <http://www.leithart.com/archives/001706.php>.

⁵⁷Martin, *Beauty and Holiness*, 19.

to understand God by considering the nature of beauty, but failed to make progress because he thought of beauty as corporeal, and therefore mutable. It was not until he discovered the works of Plotinus and Porphyry that he was able to see the beauty of God as immutable and eternal.⁵⁸ Nevertheless, he soon discovered that even his Neo-Platonism was insufficient to satisfy his deepest longing. Augustine wrote,

And I marveled to find that at last I loved You and not some phantom instead of You; yet I did not stably enjoy my God, but was ravished to You by Your beauty, yet soon was torn away from You again by my own weight, and fell again with torment to lower things.⁵⁹

Augustine caught a glimpse of God's beauty by

your invisible things which are understood by the things that are made; but I lacked the strength to hold my gaze fixed. . . . I returned to my old habits, bearing nothing with me but a memory of delight and a desire as for something of which I had caught the fragrance but which I had not yet the strength to eat.⁶⁰

The beauty of the world gave Augustine small glimpses of God's beauty, but he could not hold his gaze because of his own sinfulness. Soon, however, Augustine's greatest longing was satisfied: "Late have I loved Thee, O Beauty so ancient and so new; late have I loved Thee."⁶¹ To Augustine, God is Beauty, and the beautiful things that He created were intended to draw mankind to Himself.⁶²

Thomas Aquinas's view of beauty was similar to that of Augustine. Yet, there were subtle differences because of Augustine's Platonist influence and Aquinas's Aristotelian influence. Aquinas rejected the Platonist concept of the Forms and believed that Forms exist only in the material realm. He understood beauty in the Aristotelian

⁵⁸Leithart, "Aesthetic Apologetics," 1.

⁵⁹Augustine, *Confessions*, trans. F. J. Sheed (Indianapolis: Hackett, 1993), 121.

⁶⁰*Ibid.*, 122.

⁶¹*Ibid.*, 192.

⁶²Johan Cilliers, "The Beauty of Imagined Meaning: Profiling Practical Theological Aesthetics," *Practical Theology in South Africa* 24, no. 1 (2009): 40.

terms of integrity, proportion, and clarity, and defined beauty, as mentioned, as “that which, being seen, pleases.”⁶³

Aquinas was first introduced to beauty as a philosophical concept while attending Albertus Magnus lectures on Pseudo-Dionysius.⁶⁴ Dionysius understood God to be not only the source of all beauty, but also true Beauty. Considering Dionysius’s influence on Aquinas, James Martin traces Aquinas’s thought process that led him to conclude that God is Beauty. Martin suggests that from Aquinas’s idea of “clarity,” he developed the concept of “splendor,” and then related it to the biblical concept of “glory.”⁶⁵ The beautiful, to Aquinas, was “shining form,” which carried with it the idea of fire as the source of light. “Shining form” was a fitting description of God’s glory. Therefore, Aquinas viewed God’s glory as the source of order and beauty in the material world.⁶⁶

Many other thinkers in the medieval period also believed that God was Beauty, and by the thirteenth century it was a well-established understanding in the church.

Adrienne Chaplin writes,

By the time of Bonaventure, around 1250, God was not only considered to be the source of all beauty, He was considered to be beautiful Himself. Beauty was considered to be one of the essential attributes or transcendentals of God. For Bonaventure beauty even topped the other three transcendentals—oneness, goodness, and truth—so as to unite and reconcile these into a harmonious whole.⁶⁷

Chaplin, however, proposes that this idea—that God is beauty—was “more Greek than Hebrew,” and what has occurred has been a “conflation of the terms “beauty” and “glory.”⁶⁸ No doubt, Greek philosophy was instrumental in shaping the thoughts of the

⁶³Martin, *Beauty and Holiness*, 25.

⁶⁴Eco, *The Aesthetics of Thomas Aquinas*, 25-26.

⁶⁵Martin, *Beauty and Holiness*, 25.

⁶⁶Ibid.

⁶⁷Adrienne Chaplin, *Beauty Transfigured, It Was Good: Making Art to the Glory of God* (Baltimore: Square Halo, 2006), 39-40.

⁶⁸Ibid.

Church Fathers. Though, the truth of an idea should not be uncritically dismissed just because one knows its origin (the genetic fallacy), and the Fathers did not uncritically accept all that the Greeks taught, but rejected that which did not comport with Scripture or sound reason.

Perhaps the best way to understand how beauty and glory are related is to connect both to God's holiness. The overarching attribute of God found in Scripture is holiness (i.e., "Holy, holy, holy is the Lord of hosts" Isa 6:3). The glory of God is the outward manifestation of God's hidden attribute of holiness.⁶⁹ To say that God's glory is also beautiful does not diminish the concept of glory, but rather supports it or further describes it (i.e., "to gaze upon the beauty of the Lord." Ps 27:4). However, to say that God's glory is ugly not only seems wrong, but even blasphemous. If this is correct, then when one is speaking about the glory of God or the beauty of God, then one is speaking of the physical manifestation of God's holiness.

In the same way, it can be understood that truth and goodness are also aspects of God's holiness. To say that God is true, good, or beautiful is merely to recognize important descriptors of His holiness. Therefore, the platonic idea of universals as well as the transcendentals, which grounds Truth, Goodness, and Beauty in an objective standard, seems to fit within the biblical metaphysic. The universal forms and transcendentals all originate from the nature of God.

At this point, one may ask a question similar to Socrates's question to Euthyphro: "Is it beautiful because God made it or did God make it because it was beautiful." And like the Euthyphro dilemma, the former suggests arbitrariness and the latter suggests a standard outside of God. However, Christian philosophers have come to understand that this is a false dilemma because there is a third option: it is beautiful

⁶⁹James Leo Garrett, *Systematic Theology: Biblical, Historical, & Evangelical* (Grand Rapids: William B. Eerdmans, 1996), 1:228, states, "Glory is the recognized manifestation of God's holiness as majesty."

because beauty originates from the nature of God. As Jonathan Edwards writes in *The Nature of True Virtue*,

God is not only infinitely greater and more excellent than all other beings; but he is the head of the universal system of existence; the foundation and fountain of all being and all beauty; from whom all is perfectly derived, and on whom all is most absolutely and perfectly dependent; of whom, and through whom, and to whom is all being and all perfection; and whose being and beauty is as it were the sum and comprehension of all existence and excellence; much more than the sun is the fountain and summary comprehension of all the light and brightness of day.⁷⁰

In other words, beauty exists because God exists. When God created the universe, he created it beautiful because it is the outflow of all of His perfections. To Edwards, God is Beauty and the source and standard of all that is beautiful.

This notion that God is beautiful is not a foreign concept in Scripture. David wrote in Psalm 27:4 “One thing have I asked of the Lord . . . that I may dwell in the house of the Lord all the days of my life, to gaze upon the beauty of the Lord.” The desire to gaze upon the beauty of the Lord is the ancient desire to experience the eternally fulfilling “beatific vision,” a vision that all created beauty points to. A similar thought is found in Psalm 50:2 “Out of Zion, the perfection of beauty, God shines forth.” From this Psalm, one learns that God is the “perfection of beauty;” that is, He is the standard of all that is beautiful. One should also notice that this beauty “shines forth”: it is this visible beauty that can also be described as “glory.” In spite of these verses (as well as others), some Christian thinkers argue that God’s beauty cannot be established by Scripture.⁷¹ However, if God is full of “glory,” “splendor,” and “majesty,” how can it not also be appropriate, like the Psalmist, to call Him beautiful? Surely, that which is glorious, full of splendor, and majestic is also beautiful. Therefore, the beauty of the Lord seems to be affirmed in Scripture and is not just a Greek concept.

⁷⁰Jonathan Edwards, *The Nature of True Virtue* (Ann Arbor: The University of Michigan Press, 1960), 15.

⁷¹See also Job 40:9-10; 2 Chr 20:21; Ps 29:1-2; and Zech 9:16-17.

In Christian theology, God is understood as Trinity: Father, Son, and Holy Spirit. God the Father is the source, while the Son and the Holy Spirit eternally proceed from the Father, and, yet, all three Persons of the Trinity are eternal and one in essence. According to Scripture, all three Persons were involved in the creation of the heavens and earth. The Triune God is the source of creation's beauty. Beauty, therefore, should not only be ascribed to the Father, but also the Holy Spirit and the Son.

The Beauty of the Holy Spirit

Ambrose, in *The Holy Spirit*, discussed the connection between the Holy Spirit and beauty. As Gesa Elsbeth Thiessen writes concerning Ambrose,

God's Spirit—no longer the ideas or forms—is the one through whom God's beauty is communicated in natural creation and who inspires artistic creation, and therewith anticipates the eternal beauty of the eschaton (cf. Sherry, 2002, p. 160). . . . Although the Spirit and its creative, life-giving power features less often as a theme in the early writers than Christ as image of God, the Spirit's role as the one who communicates God's beauty, goodness, and truth in the world is an element in Christian thought right from the beginning.⁷²

In *Dogmatic Aesthetics*, Stephen John Wright discusses beauty as it relates to the work of the Holy Spirit:

The Spirit is the beautiful and gratuitous freedom of the Godhead; and within this economy, the Spirit is also the illuminator of divine beauty and the beautifier of creation. . . . If we follow the logic of appropriations, the Father is considered the creator, the Son the Redeemer, and the Spirit the perfecter. Augustine teaches that perfection means harmonizing and ordering. Perfecting, then, is a work of creating beauty. Within the triune being of God, the Spirit is the freedom and beauty of God; within the divine economy, the Spirit is the beautifier of creation—the light that illuminates the beauty of God, as well as the agent of the world's beauty.⁷³

The work of Holy Spirit is one of revelation, illumination, and perfection. The beauty infused in the created order by the Holy Spirit can also be used by the Spirit to open the human heart to the beauty and perfection of God. Karl Barth writes,

⁷²Gesa Elsbeth Thiessen, *Introduction, Theological Aesthetics: A Reader* (Grand Rapids: Wm. B. Eerdmans, 2004), 11.

⁷³Stephen John Wright, *Dogmatic Aesthetics: A Theology of Beauty in Dialogue with Robert W. Jenson* (Minneapolis: Fortress, 2014), 97.

It is as well to realize at this point that the Glory of God is not only the glory of the Father and the Son but the glory of the whole divine Trinity, and therefore the glory of the Holy Spirit as well. But the Holy Spirit is not only the unity of the Father and the Son in the eternal life of the Godhead. He is also, in God's activity in the world, the divine reality by which the creature has its heart open to God and is made able and willing to receive Him. He is, then, the unity between the creature and God, the bond between eternity and time. If God is glorified through the creature, this is only because by the Holy Spirit the creature is baptized, and born again and called and gathered and enlightened and sanctified and kept close to Jesus Christ in true and genuine faith.⁷⁴

One of the primary tasks of the Holy Spirit is to open the hearts and minds of humanity not only toward the glory of the Trinity, but particularly toward the beauty of Christ.

Jesus says in John 15:26, "But when the Helper comes, whom I will send to you from the Father, the Spirit of truth, who proceeds from the Father, he will bear witness about me."

The Beauty of Christ

One of the stated purposes of Jesus Christ's mission on earth was to reveal the Father. At one point Jesus said, "Whoever has seen me has seen the father" (John 14:9). If God the Father is beautiful, then in some way Jesus Christ will reflect His beauty. If the idea of glory and beauty are interrelated, as discussed, then Hebrews 1:3a confirms this: "He [Jesus] is the radiance of the glory of God and the exact imprint of his nature." The beauty of Jesus Christ is also confirmed when the apostle John wrote, "And the Word became flesh and dwelt among us, and we have seen his glory, glory as of the only Son from the Father, full of grace and truth" (John 1:14). These, and many other verses in Scripture tell that Jesus Christ, through his incarnation, life, teachings, substitutionary atonement, and resurrection, reveals the glory of God to humanity. John Navone explains,

The life story of Jesus Christ is the beautiful icon disclosing God, Beauty Itself, to the world (John 12:45; 14:9). . . . The perfect image of God, Jesus Christ, irradiates the transforming glory/beauty of God, the "splendor of his glory, the figure of his substance." (Heb 1:3). He is "the Lord of glory: (1 Cor 2:8), communicating the truth and goodness and beauty of God to mankind. The glory of God "on his face" (2 Cor 4:6) enables our vision of Supreme Beauty. God's glory accompanied his birth (Luke 2:9), baptism (Luke 4:21) and transfiguration (Luke 9:28-30; cf. 2 Pet

⁷⁴Karl Barth, *The Doctrine of God*, vol. 2, pt. 1, *Church Dogmatics* (Peabody, MA: Hendrickson, 2010), 669-70.

1:17-19). His illuminating goodness and truth and beauty both show the way to the Father and powerfully attract us to the Father. The illuminating beauty of Jesus Christ liberates us *from* the darkness that is alienation from Beauty Itself *for* the light that is communion with Beauty Itself.⁷⁵

By examining every aspect of the life of Jesus Christ, one can see the Glory/beauty of God revealed in human form. Karl Barth observes,

What is reflected in this determination of the relationship between the divine and the human nature in Jesus Christ is the form, the beautiful form of the divine being. In this way, in this rest and movement, God is the triune, and He has and is the divine being in the unity and fullness of all its determinations. Because He is this in this way, He is not only the source of all truth and goodness, but also the source of all beauty. And because we know that He is this in this way in Jesus Christ, we must therefore recognize the beauty of God in Jesus Christ.⁷⁶

Jesus Christ came to display to the world the fullness of God's glory and beauty. As the apostle Paul states, "For in him [Jesus Christ] the whole fullness of deity dwells bodily" (Col 2:9). In what way, then, is Christ beautiful? After all, the prophecy in Isaiah 53:2 would suggest that Christ's physical appearance would not be described as beautiful: "He had no form or majesty that we should look at him, and no beauty that we should desire him." Concerning this prophecy, David Murray states,

Isaiah also describes the servant as a tender shoot and dry root (53:2). He is neither tall and handsome, nor strong and imposing. There is nothing attractive nor compelling about His appearance or physique. It is as if the prophet says, "We look at Him, but there is nothing to look at." The whole picture is one of meekness. That does not, however, mean weakness. Though the servant will not break the bruised reed or extinguish the smoldering wick, He Himself will not be a smoldering wick or bruised reed (42:4). Weakness and fragility will not characterize Him. His light will not be extinguished. He beautifully merges gentleness and strength, meekness and courage.⁷⁷

One should not understand the beauty of Christ as having to do merely with his physical form or appearance. The beauty of God can be perceived through Jesus's nature and character, which is what Barth is getting at when he writes,

⁷⁵John Navone, *Toward a Theology of Beauty* (Collegeville, MN: Liturgical Press, 1996), 17.

⁷⁶Barth, *The Doctrine of God*, 664.

⁷⁷David Murray, *The Beauty of God's Servant, The Beauty and Glory of Christ* (Grand Rapids: Reformation Heritage, 2011), 9-10.

The Beauty of Jesus Christ is not just any beauty. It is the beauty of God. Or, more concretely, it is the beauty of what God is and does in Him. We must not fail at this point to see the substance or model of the unity of God's majesty and condescendence; His utter sublimity and holiness, and the complete mercy and patience in which this high and holy One not only turns towards man but stoops down to him; the unity of faithfulness to Himself and faithfulness to the creature with which He acts. Nor must we fail to see the love in which God is free here or the freedom in which He loves. If we do not see this, if we do not believe it, if it has not happened to us, how can we see the form of this event, the likeness of the essence of God in Jesus Christ, and how can we see that this likeness is beautiful? In this respect, too, God cannot be known except by God.⁷⁸

In other words, it is not the physical beauty of Christ that attracts humanity, but His words and deeds that reflect the true nature of God. Christ's outward glory was veiled, so God must reveal the hidden glory of Christ to sinful humanity, which is why "God cannot be known except by God."

To understand that Christ reveals the true nature of God and demonstrates God's glory/beauty (not through his physical appearance, but through his actions and words) is to understand why many theologians (including Barth and von Balthasar) have pointed to the cross as one of the highest expressions of God's glory. Even though the events surrounding the cross were ugly, the event itself demonstrates the holiness of God. At the crucifixion of Christ, God's character is demonstrated through attributes such as love, mercy, justice, humility, power, patience, kindness, and forgiveness. Concerning this demonstration, Tomas Dubay writes,

Far, far beyond the created beauties . . . is the divine glory that shines out from this unsurpassable love found in the torture of Holy Week: Perfection himself whipped to blood, crowned with thorns, mocked, spit upon, ridiculed, nailed, pierced—all because he loves you and me, who have in returned sinned against him. In this consummate ugliness, this unspeakable outrage, shines a picture of divine beauty immeasurably beyond all earthly splendors: utter love from the depths of *kenosis*, the divine emptying sung in a very early liturgical hymn reported by Paul to the Philippians (Phil 2:5-11).⁷⁹

The glory/beauty of God is demonstrated in a powerful way through the crucifixion of Jesus Christ. It is also through the message of the cross (the gospel) that God has chosen

⁷⁸Barth, *The Doctrine of God*, 665.

⁷⁹Thomas Dubay, *The Evidential Power of Beauty: Science and Theology Meet* (San Francisco: Ignatius, 1999), 311.

to save humanity, or at least a remnant of humanity. This is why the apostle Paul wrote in Romans 1:16–17, “For I am not ashamed of the gospel, for it is the power of God for salvation to everyone who believes, to the Jew first and also to the Greek. For in it the righteousness of God is revealed from faith for faith, as it is written, ‘The righteous shall live by faith.’” The proclamation of the gospel, which includes the ugliness of the cross, demonstrates Christ’s glory/beauty to the world. As prophet Isaiah writes, “How beautiful upon the mountains are the feet of him who brings good news” (Isa 52:7)

Another important aspect of the gospel is not just the ugliness of the crucifixion, but the exaltation, glory, splendor, and beauty of the resurrection. It is here that the Christian hope rests, and it is here, particularly at his enthronement at the right hand of the Father, that the veiled beauty of Christ is revealed in full glory. The last half of Hebrews 1:3 reads, “After making purification for sins, he sat down at the right hand of the Majesty on high.” Because of his obedience, even to death on the cross, the apostle Paul writes,

Therefore God has highly exalted him and bestowed on him the name that is above every name, so that at the name of Jesus every knee should bow, in heaven and on earth and under the earth, and every tongue confess that Jesus Christ is Lord, to the glory of God the Father. (Phil 2:9-11)

Before His crucifixion and resurrection, the glory of Christ was veiled, but after his resurrection and exaltation, the veil has been lifted so that the full beauty of Christ is revealed forever more.

The Fall and Rise of Divine Beauty in Christian Thought

In spite of the rich Christian history, the concept of beauty as a theological concept has almost been lost in the last few centuries. To say that something is beautiful, such as flowers or sunsets, is not saying something particular about the object, but about

one's particular feeling toward the object.⁸⁰ It is said that beauty is merely a matter of taste; it is in the "eye of the beholder." The result is that western civilization, in spite of its rich philosophical and theological history, has diminished the objective nature of beauty. Perhaps even worse is that modern Christianity, unlike the early church fathers, has lost confidence in the objective nature of beauty and its power to point to the creator. One often hears a Christian defense of the objective nature of truth or morality (goodness), but rarely a defense of the objective nature of beauty. Why has Christianity, until very recently, seem to have forgotten its history and lost confidence in the power of beauty?

The eighteenth century marked a dramatic shift in the cultural understanding of beauty. From the ancient Greeks to the Baroque Period, beauty was considered an important concept in metaphysics. Toward the end of the eighteenth to the beginning of the nineteenth century, however, there began a more subjective turn in the common understanding of beauty. This turn did not happen all at once. Many factors led to a new philosophical paradigm of beauty that, with a few exceptions, replaced the ancient and medieval Christian understanding. Ironically, many of the early modern thinkers responsible for this paradigm shift were professing Christians, or associated with a particular Christian denomination.

When tracing the factors that led to the secular and Christian disenchantment of beauty, a good place to begin is with René Descartes (1596-1650). Descartes was a French Catholic educated in a Jesuit college from age ten to nineteen. He became increasingly unhappy with what was being taught in the universities, which ultimately led him into doubt.⁸¹ These doubts guided him to seek a rational method that would become a proper foundation for knowledge. His goal was to establish a practical system of science

⁸⁰See C. S. Lewis, *Abolition of Man* (New York: Macmillan, 1955).

⁸¹Bernard Williams, "René Descartes," in *The Encyclopedia of Philosophy*, ed. Paul Edwards (New York: Macmillan, 1967), 344.

that would be void of mere speculation.⁸² Even though Descartes was a professing Christian, he did not begin his search in the Scriptures. God and the soul became an important proposition in his philosophy only after his own existence was established beyond any doubt. God's perfection, and with that the impossibility to deceive, is the basis by which one can trust the senses in order know the material world. However, the most important aspect of Descartes method was not the external material world, but the individual's immaterial thoughts. To Descartes, the material world can only be known as geometric "quantities" that extend in space. The "quality" of an object, such as beauty, must be supplied by the mind through feelings and imagination.⁸³ In a letter to a friend Descartes wrote, "Neither the beautiful nor the pleasant signifies anything other than the attitude of our judgment to the object in question."⁸⁴ In other words, beauty in Descartes's rationalistic system is reduced to "the attitude of our judgment" (i.e., subjective feelings), it does not exist in an objective way in material reality.

Another important philosopher denying any metaphysical connections to beauty was David Hume. Charles Taliaferro writes, "The eighteenth-century Scottish philosopher David Hume is the figure who most famously seemed to lay the groundwork for the notion that beauty is in the eye of the beholder."⁸⁵ Taliaferro supports this claim with a quote from Hume:

A thousand different sentiments, excited by the same object, are all right because no sentiment represents what is really in the object . . . beauty is no quality of things themselves; it exists merely in the mind which contemplates them; and each mind perceives a different beauty. One person may even perceive deformity where another is sensible of beauty and every individual ought to acquiesce in his own sentiment without pretending to regulate those of others.⁸⁶

⁸²Williams, "René Descartes," 345-46.

⁸³Brown, *Restoration of Reason*, 32.

⁸⁴Ibid.

⁸⁵Charles Taliaferro, *Aesthetics: A Beginner's Guide* (Oxford: Oneworld, 2011), 18.

⁸⁶David Hume, quoted in Taliaferro, *Aesthetics*, 18.

That is to say, since beauty exists only in the mind and not in the objects themselves, each person will perceive beauty in a different way with different standards.

This move toward subjectivity concerning beauty found in the influential writings of both Descartes and Hume was influential in modern aesthetics. Beauty became less of a topic in theology or metaphysics, and more of a topic concerning personal feelings or internal private impressions. Unfortunately, at the birth of aesthetics as a recognized branch in modern philosophy, influential Christian thinkers (who founded modern aesthetics) slowly ignored or abandoned the ancient Christian understanding of beauty for a more modern or secular understanding.

Lord Shaftesbury

The transition from metaphysical beauty to beauty as a subjective feeling did not happen quickly. However, Anthony Ashley Cooper, the third Earl of Shaftesbury (1677-1713), became an important transitional figure from medieval Christian aesthetics to modern aesthetics. Shaftesbury placed a great emphasis on the perception of beauty as an internal feeling, but he still maintained the objective nature of truth, goodness, and beauty.⁸⁷ After Shaftesbury, a few Christian thinkers continued to build on the traditional Christian understanding of beauty as a pointer to God (thinkers such as George Berkeley, Jonathan Edwards, and Thomas Reid). Though, many other influential thinkers abandoned the traditional Christian view for a more modern understanding.

Francis Hutcheson credited Shaftesbury for coming up with the important aesthetic idea of ‘disinterestedness.’ However, Shaftesbury’s idea of disinterestedness was not the same as the later idea defined by Paul Guyer as “the freedom of the imagination . . .

⁸⁷Paul Guyer, *A History of Modern Aesthetics* (New York: Cambridge University Press, 2014), 1:34.

from any form of external constraint.”⁸⁸ Disinterestedness to Shaftesbury meant taking pleasure in the cosmos that is ordered with both beauty and virtue.⁸⁹ Paul Guyer explains,

The key claims in this argument are, first, that what we love in all forms of beauty and virtue, free from the limits of personal interests, is order and proportion, but, second, that what we really admire in admiring order and proportion is not so much the manifestation of order and proportion in the object in which they are manifested itself, but rather the creative intelligence which is behind them, ultimately the divine intelligence which is behind all order and proportion, even when the immediate manifestation thereof might be produced by a human agent, for the latter is itself nothing but a product of the underlying divine intelligence.⁹⁰

In this regard, Shaftesbury’s understanding of beauty was on par with much of the Christian writings that had gone before him. This is particularly seen in his understanding of the connection between goodness (virtue) and beauty, as well as beauty being a pointer to God. Shaftesbury writes,

[T]he beautiful, the fair, the comely, were never in the matter but in the art and design, never in body itself but in the form or forming power. Does not the beautiful form confess this and speak the beauty of the design whenever it strikes you? What is it but the design which strikes? What is it you admire but mind or the effect of mind? It is the mind alone which forms. All which is void of mind is horrid, and matter formless is deformity itself.⁹¹

To Shaftesbury, the beauty in nature and in works of art, as well as the ability to perceive beauty is sufficient evidence that one is really admiring the mind behind them.⁹²

Unfortunately, Shaftesbury’s Christian understanding of beauty was soon downplayed.

⁸⁸Paul Guyer, *Values of Beauty: Historical Essays in Aesthetics* (Cambridge: Cambridge University Press, 2005), 10.

⁸⁹Ibid.

⁹⁰Ibid.

⁹¹Ibid., 11.

⁹²Ibid. To Shaftesbury, if one admires the beauty of a mountain range or a peacock, one is also admiring the mind of the creator. However, if a photographer sees an interesting pattern of rust on a dumpster, it still requires the mind of the photographer (artist) to recognize the interesting pattern, frame the picture in the viewfinder, take the picture, and present the photograph to others to appreciate. What is appreciated is not so much the rust on the dumpster, but the mind of the photographer that recognized and photographed something interesting and quite possibly beautiful.

The focus became more on how one perceives beauty rather than the origin of beauty. Francis Hutcheson seems to have led the way in this new focus.

Francis Hutcheson

Francis Hutcheson (1694-1746) was the son and grandson of Presbyterian ministers. Hutcheson himself became a licensed minister in 1719.⁹³ Shortly afterwards, he accepted an invitation to Dublin to found and head up a youth academy; a position he would remain in for the next ten years.⁹⁴ During this time, Hutcheson became a follower of Shaftesbury's philosophy and published two books. In 1730, the University of Glasgow elected him professor of moral philosophy, which he held until his death in 1746.⁹⁵ Hutcheson initially defended Shaftesbury's philosophy, but over time he modified his position. Two major departures from Shaftesbury's aesthetic philosophy became influential in modern aesthetics. The first was the separation of goodness (virtue) and beauty. Shaftesbury, like the ancient and medieval thinkers before him, saw a close relationship between truth, goodness, and beauty. Hutcheson, however, began to draw a sharp distinction between the two, which is observed in his book, *An Inquiry into the Original of Our Ideas of Beauty and Virtue*, where he divided "beauty" and "virtue" into two separate treatises.⁹⁶ If one of the marks of modern aesthetics is the disconnection of truth, goodness, and beauty, it appears that Hutcheson could be credited with beginning this departure.

The second major departure from Shaftesbury was the division between the object of beauty and the subjective perception of beauty. Whereas, Shaftesbury understood

⁹³Elmer Sprague, "Hutcheson, Francis," in *The Encyclopedia of Philosophy*, 99.

⁹⁴Ibid.

⁹⁵Ibid.

⁹⁶Guyer, *Values of Beauty*, 13.

both beauty within a physical object and the unique human perception of beauty as a gift of God, Hutcheson insisted that the gift of God was found in human perception alone: “There does not appear to be any necessary Connection, antecedent to the Constitution of the Author of Nature, between regular Forms, Actions, Theorems, and that sudden sensible Pleasure excited in us upon observation of them.”⁹⁷ He illustrates his point by showing that the supposed beauty of the various species of animals seems to be species specific, in other words, each species seems to prefer the beauty of its own species to the beauty of any other species. Hutcheson then writes,

This makes it probable, that the Pleasure is not the necessary Result of the Form it self, otherwise it would equally affect all Apprehensions in what Species soever; but depends upon a voluntary Constitution, adapted to preserve the Regularity of the Universe, and is probably not the Effect of Necessity but Choice in the Supreme Agent, who constituted our Senses.⁹⁸

Even though Hutcheson acknowledged a Supreme Agent or God as the source of the sense perception of beauty, he denies that beauty is “in the form it self.” The end result was that beauty was defined as a subjective feeling not based on any objective reality. After Hutcheson, the idea that God was the source of both objective and subjective aspects of beauty was further ignored. In essence, what remained was “beauty in the eye of the beholder.” Concerning Hutcheson’s move toward subjectivism, Paul Guyer writes,

Hutcheson is by no means the secular thinker that Hume would be even a few years later. Nevertheless, the core of his aesthetic theory is secular and modern: the object of aesthetic response is not characterized in theological terms, although the existence of our capacity for aesthetic response can be given a theological explanation.⁹⁹

For Hutcheson, his Christian faith played less of a comprehensive role in his understanding of beauty than those who had gone before him. The effect would be a more secular trajectory in the philosophy of aesthetics.

⁹⁷Francis Hutcheson, *An Inquiry into the Original of Our Ideas of Beauty and Virtue*, ed. Wolfgang Leidhold (Indianapolis: Liberty Fund, 2008), 80.

⁹⁸Ibid.

⁹⁹Guyer, *Values of Beauty*, 15.

Alexander Gottlieb Baumgarten

Alexander Gottlieb Baumgarten (1714-1762) was born in Berlin, Germany, to a Protestant evangelical preacher. His father was influenced by the writings of John Locke, and therefore, he highly valued education, as well as reason in both religious and secular matters.¹⁰⁰ After his father died, his brother, Siegmund Jacob, guided his interest in philosophy, particularly toward the philosophy of Christian Wolff.¹⁰¹ Wolff, who was a Leibnizian rationalist, became a controversial professor at the University of Halle, a school associated with Christian Pietism and early modern rationalism. Concerning this connection, Courtney Fugate and John Hymers write, “Pietism bore strong affinities with early modern rationalism Both movements rejected the authority of tradition and emphasized the autonomy of an individual’s judgment, and both were focused on the practical benefits to be gained from doing so.”¹⁰² This emphasis on individual judgment would also play a major role in Baumgarten’s understanding of aesthetics.

Baumgarten was educated and taught for a time at Halle, but later became a professor of philosophy at Frankfurt on the Oder.¹⁰³ He wrote several textbooks, including *Metaphysics*, which Kant not only used in his classroom, but also was influential in the formulation of Kant’s critical philosophy. However, Baumgarten’s greatest contribution to modern philosophy was aesthetics. It was, in fact, Baumgarten who introduced the term “aesthetics” to the philosophical nomenclature, and secured a place for aesthetics as a branch of modern philosophy. Even though Baumgarten adopted the rationalistic philosophy of Wolff, he had to modify it in order to make room for the aesthetic sense

¹⁰⁰Alexander Baumgarten, *Metaphysics: A Critical Translation with Kant’s Elucidations, Selected Notes, and Related Materials*, trans. Courtney D. Fugate and John Hymers (New York: Bloomsbury, 2014), 5.

¹⁰¹Ibid.

¹⁰²Ibid., 9.

¹⁰³Ibid., 7.

experience.¹⁰⁴ After a few revisions, Baumgarten defined the term: “Aesthetics (the theory of the liberal arts, lower gnoseology, the art of beautiful thinking, the art of the analogue of reason) is the science of sensitive cognition.”¹⁰⁵ Aesthetics, to Baumgarten, was rationalistic and scientific.

Baumgarten was a theist. He included two chapters at the end of his *Metaphysics* on the “concept” and “operations” of God.¹⁰⁶ Yet, because of the influence of rationalism and Pietism, his aesthetic theory moved away from the traditional Christian understanding of beauty where God is understood as the source of both beauty and the human perception of beauty. Even Frederick Copleston, in *History of Philosophy*, commented that “Baumgarten’s idea of aesthetics was humanistic in character.”¹⁰⁷ Because Hutcheson and Baumgarten were major influences, modern aesthetic philosophy seemed to take their lead by focusing more on the phenomenon of aesthetic perception rather than on the possible (theological) origins of beauty. This does not mean that Hutcheson and Baumgarten were completely responsible for the development of the more secularized aesthetic theories that came after them (the teacher is often undone by his students), nor does it call into question their genuine Christian commitment or their positive influence in philosophy. However, if the history of philosophy involves finding the influencing ideas and connections on any given philosophical movement, Hutcheson and Baumgarten both seem to have played at least an initial role in the development of a more secular approach in aesthetic philosophy.

¹⁰⁴Leonard P. Wessell, Jr., “Alexander Baumgarten’s Contribution to the Development of Aesthetics,” *The Journal of Aesthetics and Art Criticism* 30, no. 3 (1972): 337-38.

¹⁰⁵Guyer, *Values of Beauty*, 3.

¹⁰⁶Baumgarten, *Metaphysics*, 280-325.

¹⁰⁷Frederick Copleston, *A History of Philosophy* (Mahwah, NJ: Paulist, 1960), 6:116.

Immanuel Kant

According to John Milbank, “Kant remains the supreme theorist of the modern aesthetic.”¹⁰⁸ Immanuel Kant (1724-1804), in the *Critique of Judgment*, titled his first section the “Critique of Aesthetic Judgment.” In this section, Kant attempted to mediate between the reduction of aesthetics to mere feelings in the writings of Lord Shaftesbury and Francis Hutcheson, and the aesthetic as purely rational and scientific in the writings of Alexander Gottlieb Baumgarten.¹⁰⁹ Aesthetic judgments, or what Kant called, “judgments of taste,” rest on feelings and a claim to “universal validity.”¹¹⁰ However, Kant denied that aesthetics could be based on concepts universally valid for everyone because the judgment of taste is subjective, not objective.¹¹¹ Kant believed that one’s sense of beauty was due to the “free play” between “reason, understanding, imagination and sensation.”¹¹² Because of this free play, one cannot distinguish the subjective perception of beauty from an object of beauty.

Kant did not believe that the external world shapes human perception, but that human perception shaped one’s understanding of the external world. To Kant, the mind shapes and orders all sensory perceptions. He called this idea a “Copernican revolution,” where the center of reality resides in and is constructed by the mind. Among other things, this means that beauty is not something God created in the physical world, but a construct of the mind. Nancy Pearcey states,

In other words, the world is not a beautiful, ordered complexity created by God. Instead it is a chaotic flux, and *humans* give it order and structure. Though Kant remained a theist of some stripe, he did not acknowledge God as the source of the

¹⁰⁸John Milbank et al., *Theological Perspectives on God and Beauty*, Rockwell Lecture Series (Harrisburg, PA: Trinity Press International, 2003), 4.

¹⁰⁹W. H. Walsh, “Kant, Immanuel,” in *The Encyclopedia of Philosophy*, 319.

¹¹⁰Ibid.

¹¹¹Ibid.

¹¹²Milbank et al., *Theological Perspectives*, 4.

natural order, or give thanks. Instead “the human mind took over the creative role from God.”¹¹³

Another possible reason for Kant’s denial of beauty’s objectivity is that he did not want beauty to be used as an argument for God’s existence, particularly as a part of an argument from design.¹¹⁴ Kant’s stated project was not just to “save science,” but to “make room for belief.”¹¹⁵ In order to do this, he had to move the evidence for God’s existence out of the speculative realm and out of the reach of the rationalists. According to Kant, the classical arguments—ontological, cosmological, and physicotheological (argument from design)—all fail.¹¹⁶ As W. H. Walsh writes,

One of Kant’s motives for wanting to avoid making beauty an objective characteristic was that he thought such a view would lend force to the Argument from Design, and so encourage the revival of speculative theology. If things could be said to possess beauty in the same sort of way in which they possess weight, it would be a short step to talking about the Great Artificer who made them to delight us.¹¹⁷

After Kant’s influential philosophy became widely understood, beauty was robbed of its metaphysical power. The beauty of the visible world was no longer conclusive evidence of the invisible God who made it. However, not everyone was convinced. Fortunately, other thinkers after Kant continued to argue for beauty’s divine origin.

John Ruskin

John Ruskin (1819-1900) was an influential British art and social critic in the nineteenth century. He grew up in a devout Christian home and his aesthetic theory reflected a commitment to the Christian faith. Ruskin, like others before him, separated truth from beauty. He understood that truth was not the same as beauty, but both were

¹¹³Nancy Pearcey, *Saving Leonardo: A Call to Resist the Secular Assault on Mind, Morals, and Meaning* (Nashville: B & H, 2010), 182.

¹¹⁴Walsh, “Kant, Immanuel,” 316.

¹¹⁵Immanuel Kant, *Kant’s Critiques* (Radford, VA: A & D, 2008), 18.

¹¹⁶Walsh, “Kant, Immanuel,” 316.

¹¹⁷Ibid.

important for works of art.¹¹⁸ To Ruskin, truth in art “is the recreation and communication of our impressions or experiences of nature.”¹¹⁹ By beauty, he meant “the communication of the underlying order and divine source of nature—the truth of thought rather than of impression, what we might conceive of as metaphysical rather than phenomenological truth.”¹²⁰ Ruskin believed (at least in his earlier works) that mankind was created with the ability to perceive beauty and that beauty was designed to communicate the truth of the divine order of nature.¹²¹ In other words, beauty is a sign and the human perception of beauty is the ability to recognize the sign’s significance.¹²² Beauty, therefore, has a moral aspect; the recognition of beauty in nature is ultimately the recognition of the glory of God.¹²³ Ruskin writes,

[T]he mere animal consciousness of the pleasantness I call aesthesis; but the exulting, reverent, and grateful perception of it I call theoria. For this, and this only, is the full comprehension and contemplation of the beautiful as a gift of God, a gift not necessary to our being, but added to, and elevating it.¹²⁴

Ruskin’s metaphysical understanding of beauty can be understood as a continuation (albeit more nuanced) of the medieval Christian tradition. However, many artists, writers, and philosophers with an ever-increasing secular bent immediately rejected Ruskin’s metaphysical aesthetic theory, and with it, what seems to be one of the last vestiges of the Christian tradition. This reaction to metaphysical aesthetics was so strong and lasting it was given a name, “aestheticism.”

¹¹⁸Guyer, *A History of Modern Aesthetics*, 2:192.

¹¹⁹*Ibid.*, 199.

¹²⁰*Ibid.*

¹²¹*Ibid.*, 203-4.

¹²²*Ibid.*, 208.

¹²³*ibid.*, 205.

¹²⁴*Ibid.*, 206.

Aestheticism

Aestheticism, which became a highly recognized cultural movement in the nineteenth century, can be summarized in the phrase “art for art’s sake.” This movement began as a protest against thinkers such as Ruskin who believed art was for the sake of something else, such as truth, morality, the state, or metaphysics.¹²⁵ In other words, art can be enjoyed for its aesthetic merits alone, no other purpose is needed for its justification. The artists and thinkers most influential in aestheticism include Walter Pater, Edgar Allan Poe, Oscar Wilde, Charles Baudelaire, and John Dewey. Although aestheticism as a movement did not deny beauty as an essential aspect of art, it did, however, disconnect the idea of art and beauty from truth and goodness. Some, like Oscar Wilde, even equated the pursuit of beauty with the pursuit of sensual pleasure. This concept of beauty elicited a strong reaction in both Kierkegaard and Tolstoy. Yet, rather than correcting the misunderstanding and reaffirming the Christian tradition, both of their critiques reinforced this negative fleshly understanding of beauty.

Kierkegaard

According to Hans Urs von Balthasar, Søren Kierkegaard (1813-1855) bears some responsibility for the degradation of beauty in the Christian faith.¹²⁶ In Kierkegaard’s time, the true, the beautiful, and the good were no longer viewed as a cohesive whole. Instead, beauty, logic, and ethics were isolated as three separate and distinct values.¹²⁷ Beauty in Kierkegaard’s time had almost been stripped of its transcendent values and had come to be equated with excess and worldly pleasures. In his book *Either/Or*, Kierkegaard distinguishes three stages of existence: (1) the aesthetic, (2) the ethical, and (3) the

¹²⁵Guyer, *A History of Modern Aesthetics*, 2:229.

¹²⁶Hans Urs von Balthasar, *The Glory of the Lord: A Theological Aesthetics* (San Francisco: Ignatius, 1983), 49.

¹²⁷*Ibid.*, 50.

religious. Gene Edward Veith, Jr., writes, “According to Kierkegaard, living in the aesthetic sphere means to live for oneself, to live one’s life solely for personal pleasure. . . . This ego-centered quest for personal pleasure . . . must ultimately prove unsatisfying. The aesthetic stage ends in despair.”¹²⁸ For Kierkegaard, aesthetics as the first stage of existence was equated with hedonism. However, Balthasar’s accusation that Kierkegaard was at least partially responsible for the degradation of beauty in the Christian faith may be a little unfair. Certainly Kierkegaard left himself open to the possibility of being misunderstood concerning his position on aesthetics, but it is clear that Kierkegaard did not completely abandon the redeeming value of aesthetics either. After all, he wrote beautiful poetry and prose that extolled the value of true Christianity. What Kierkegaard seemed to be against was not aesthetics, but the Oscar Wilde kind of aestheticism.

Leo Tolstoy

Russian novelist Leo Tolstoy (1828-1910) also divided beauty from divine goodness. Tolstoy wrote that beauty is “the reception by us of a certain kind of pleasure, i.e. we call ‘beauty’ that which pleases us without evoking in us desire. . . . There is and can be no explanation of why one thing pleases one [person] and displeases another.”¹²⁹ In other words, beauty is subjective. Concerning Tolstoy’s view of beauty, Richard Viladesau writes, “By this standard, it is not obvious that God can be called beautiful or that beauty leads to God. Indeed, Tolstoy insists that the pursuit of beauty leads us away from God. Goodness consists in the universal love of neighbor, not in seeking pleasure.”¹³⁰ Tolstoy professed to be a Christian (he practiced his own modified version of Christianity) and yet he seemed unable to appreciate beauty as a gift of God.

¹²⁸Gene Edward Veith, Jr., *State of the Arts: From Bezalel to Mapplethorpe* (Wheaton, IL: Good News, 1991), 139-40.

¹²⁹Richard Viladesau, “Theosis and Beauty,” *Theology Today* 65 (2008): 181.

¹³⁰*Ibid.*

Naturalism

These influences, as well as other factors, have led to the slow erosion of Christian confidence in the objective nature of beauty. If beauty is subjective, and if it leads one into the pursuit of worldly passions, then beauty is dangerous and deceptive. It certainly cannot be a conduit of truth, especially divine truth. However, along with the factors mentioned, another major contributor to the Christian abandonment of beauty has been the rise of “naturalism.”

Most Christians in the twentieth century were educated in institutions that increasingly embraced naturalism as a worldview. One of the hallmarks of the naturalistic ideology is the denial of transcendence; all things are reduced to matter in motion with no ultimate purpose. Beauty, therefore, is unable to point to anything beyond itself. As Nancy Pearcey writes,

The naturalists asserted that the universe does *not* have an author and therefore things do *not* have a secondary, higher meaning. Humans are trapped in a one-dimensional world of sheer biological existence. Nature is “red in tooth and claw.” Life is harsh, dog-eat-dog struggle for survival. This was a dark, gloomy picture of the world, and many naturalists responded by dismissing the very concept of beauty. “The time for Beauty is over,” Flaubert stated bluntly. The public has a hard time understanding why many modern artists have rejected the ideal of beauty. But it is understandable when we realize that it was a consequence of a ruthless naturalistic worldview. Works by naturalist writers typically featured sordid settings, violent plots, coarse characters, and language laced with slang and obscenities.¹³¹

Such has been the trend in western culture for well over a century. The connection between truth, goodness, and beauty has not only been lost in the larger culture, but in the church as well. For the most part, Christians have not been taught the great Christian tradition concerning beauty, and at the same time they have been largely influenced by the ideas of aestheticism and naturalism. It should be no surprise that many Christians today not only believe that beauty is totally subjective, but are also blind to the transcendent nature of beauty as a powerful pointer to God.

¹³¹Pearcey, *Saving Leonardo*, 156.

In an essay entitled “Meditation in a Toolshed,” C. S. Lewis diagnoses this modern problem, even among Christians. In this essay, Lewis recalls going into a toolshed where he saw a sunbeam shining through a crack in the top of the door. The brightness of the beam illuminated dust particles, but overpowered everything else around it. Lewis moved his head to look into the beam, and what he observes was that the beam itself, as well as the whole interior of the toolshed disappeared. What appeared as he looked into the beam were the green leaves of a tree outside of the shed and the sun. Then Lewis observed, “Looking along the beam, and looking at the beam are very different experiences.”¹³² When a young man meets a girl and falls in love with her, his experience is all together different from a scientist that sees only genes and “biological stimulus.” Lewis writes,

This is the difference between looking *along* the sexual impulse and looking *at* it. . . . The people who look *at* things have had it all their own way; the people who look *along* things have simply been brow-beaten. It has even come to be taken for granted that the external account of a thing somehow refutes or “debunks” the account given from inside. “All these moral ideals which look so transcendental and beautiful from inside,” says the wiseacre, “are really only a mass of biological instincts and inherited taboos.” And no one plays the game the other way round by replying, “If you will only step inside, the things that look to you like instincts and taboos will suddenly reveal their real and transcendental nature.” That, in fact, is the whole basis of the specifically “modern” type of thought.¹³³

When it comes to the experience of beauty, Christians have been taught by the modern world to look *at* beauty rather than look *along* beauty. This is why the modern voices calling one to merely look *at* beauty (such as the psychologist who has determined that the experience of beauty is related to genes, or survival; or the philosopher who suggests beauty is merely a construct of the mind) overpower the historical Christian voices calling modern Christians to once again look *along* beauty and discover the vision of divine transcendence. This is not to say that there is no place for psychology and philosophy. As

¹³²C. S. Lewis, *God in the Dock* (Grand Rapids: Wm. B. Eerdmans, 1970), 212.

¹³³Ibid.

Lewis concludes, “We must, on pain of idiocy, deny from the very outset the idea that looking *at* is, by its own nature, intrinsically truer or better than looking *along*. One must look both *along* and *at* everything.”¹³⁴ For Christians, however, the modern world has taught them that there is nothing to see if one looks *along* beauty; therefore, the psychologist or the philosopher who looks *at* beauty is said to have the truer vision.

Theological Aesthetics

This modern way of looking at beauty has been so thoroughly ingrained in Christian thought that Chris Crain, in a paper presented to the Evangelical Theological Society, proclaimed, “Evangelical systematic theology is beastly.”¹³⁵ Crain states, “When it comes to speaking about beauty in a systematic, theological manner Evangelicals are silent and this silence renders by default evangelical theology beastly.”¹³⁶ To prove his point, Crain, quickly references many of the pre-modern theologians who “all spoke of the beauty of God and Christ.” Crain acknowledges that there has been substantial work in the area of Christianity and the arts by Christian thinkers such as Gene Edward Veith, Leland Ryken, and William A. Dyrness. In this area, at least, there are signs of beauty’s restoration into Christian thought and culture. However, Crain is mostly concerned about the absence of any theological connection to beauty in prominent Evangelical systematic theologies. He discovered that most modern theologians have failed to give beauty a serious treatment. Toward the end of his address, Crain suggests ways modern evangelicalism can recover beauty as an important theological category. Along with rediscovering the literary beauty of the Bible and meditating on the biblical descriptions

¹³⁴Lewis, *God in the Dock*, 215.

¹³⁵Chris Crain, “Is Beauty Beyond the Boundary? The Beastly Nature of Evangelical Theology” (paper presented at the Evangelical Theological Society Convention, Colorado Springs, November 16, 2001), 1, accessed December 14, 2015, <http://www.reclaimingthemind.org/papers/ets/2001/Crain/Crain.html>.

¹³⁶Ibid.

of beauty, Crain suggests that Evangelicals should learn from history (such as the works of Jonathan Edwards) and other non-Evangelical theologians (such as Hans urs Von Balthasar). “These sources mentioned above,” Crain concludes, “can offer ideas and images for contemporary Evangelicalism to use as we expand our boundaries to recover the lost beauty that ought to characterize our theology.”¹³⁷

If modern evangelicals earnestly desire to follow Crain’s advice, then the influence of two theologians in particular from the twentieth century could lead to a full-fledged recovery of beauty in Evangelical theology. These two theologians are Karl Barth and Hans urs Von Balthasar. Concerning these two theologians, Richard Viladesau writes, “The twentieth-century recovery of the patristic theology of beauty owes much to the theologians Karl Barth and Hans Urs von Balthasar. Both developed their notion of the divine beauty from the biblical notion of God’s glory.”¹³⁸

Karl Barth (1886-1968), in his massive tome *Church Dogmatics*, discusses beauty as it relates to God. Because of Kierkegaard’s influence, one would expect Barth to deal with aesthetics in a more pejorative way. However, Barth was fully aware of the church’s historical practice of attributing beauty to God. Barth writes, “He alone is that which is pleasant, desirable and full of enjoyment. God loves us as the One who is worthy of love as God. This is what we mean when we say that God is beautiful. . . . When we say this we reach back to the pre-Reformation tradition of the Church.”¹³⁹ He mentions Augustine’s *Confessions* and Pseudo-Dionysius, which he describes as “hardly veiled

¹³⁷Crain, “Is Beauty Beyond the Boundary?,” 16.

¹³⁸Viladesau, “Theosis and Beauty,” 184.

¹³⁹Barth, *The Doctrine of God*, 651.

Platonism.”¹⁴⁰ The ancient concept of beauty, Barth suggests, was “completely ignored” by the “Reformation and Protestant Orthodoxy.” He then states,

Theology at any rate hardly knew what to make of the idea and would have nothing to do with it. Even Schleiermacher, in whom we might have expected something of this kind, did not achieve anything very striking in this direction. . . .It may well be asked if it is a good thing to follow its example. Owing to its connection with the ideas of pleasure, desire and enjoyment (quite apart from its historical connection with Greek thought), the concept of the beautiful seems to be a particularly secular one, not at all adapted for introduction into the language of theology, and indeed extremely dangerous.¹⁴¹

Clearly, Barth was concerned about aestheticism, or what von Balthasar called aesthetic theology, rather than theological aesthetics. Barth was also concerned that to predicate beauty to God would depreciate God’s other attributes, but he also understood that if beauty was extricated from one’s idea of God, it might create a void in understanding. However, Barth confirms his confidence in God’s beauty when he writes,

If we can and must say that God is beautiful, to say this is to say how He enlightens and convinces and persuades us. It is to describe not merely the naked fact of His revelation or its power, but the shape and form in which it is a fact and is power. It is to say that God has this superior force, this power of attraction, which speaks for itself, which wins and conquers, in the fact that He is beautiful, divinely beautiful, beautiful in His own way, in a way that is His alone, beautiful as the unattainable primal beauty, yet really beautiful. He does not have it, therefore, merely as a fact or a power. Or rather, He has it as a fact and a power in such a way that He acts as the One who gives pleasure, creates desire and rewards with enjoyment. And He does it because He is pleasant, desirable, full of enjoyment, because first and last He alone is that which is pleasant, desirable and full of enjoyment. God loves us as the One who is worthy of love as God. This is what we mean when we say that God is beautiful.¹⁴²

As Barth further developed the concept of God’s beauty, he isolated three important aspects: “God’s being in its perfections, the triunity of God, and the incarnation of Christ.”¹⁴³ According to Barth, the knowledge of God’s beauty must come through

¹⁴⁰Barth, *The Doctrine of God*, 652.

¹⁴¹Ibid.

¹⁴²Ibid., 650-51.

¹⁴³JinHyok Kim, *The Spirit of God and the Christian Life: Reconstructing Karl Barth’s Pneumatology* (Minneapolis: Fortress, 2014), 202.

revelation and be centered on the person of Jesus Christ; God's beauty can be understood through the message of the cross.

The work of Swiss Roman Catholic theologian Hans Urs Von Balthasar (1905-1988) marks a key turning point in the use of aesthetics in theology and apologetics. Influenced by Barth's Christology, Von Balthasar produced a three-part series exploring the ancient transcendentals: the beautiful, the good, and the true. The first part, entitled *Herrlichkeit* (*The Glory of the Lord* in English), focuses primarily on theological aesthetics.¹⁴⁴ He uses the concept of "beauty" to describe God's revelation of Himself to His creation. Balthasar points out that since the time of Descartes and Kant, modernity has been skeptical of the Christian faith. This skepticism was due to an incessant focus on epistemology, specifically concerning the nature of truth. Balthasar contends that one will not believe the truth of God's revelation unless one first sees it as beautiful.¹⁴⁵ The aesthetic response to God frees one from subjectivity and causes one to act. This action results in visibly showing Christian theology to be true.¹⁴⁶

Balthasar contrasted worldly beauty and divine glory. He compared Plato's *kalon* with God's *kabod* in the Old Testament and Christ's *doxa* in the New Testament. He believed that both the Platonic concept of beauty and the biblical concept of glory are "enrapturing." However, the difference is that Platonic beauty is an end in itself, while the glory of God is missional. This missional aspect of God's revelation through Christ produces the "drama" of redemption whereby each soul must accept or reject God.¹⁴⁷

Edward Oakes writes,

¹⁴⁴J. B. Webster, "Balthasar, Hans Urs von," in *New Dictionary of Theology*, ed. Sinclair B. Ferguson et al. (Downers Grove, IL: InterVarsity, 1988), 68.

¹⁴⁵Edward T. Oakes, "Hans Urs von Balthasar (1905-88) The Wave and the Sea," *Theology Today* 62 (2005): 366.

¹⁴⁶Ibid.

¹⁴⁷Ibid.

Only by standing within the ‘hermeneutical circle’ of a response already made to the beauty of revelation and the goodness of mission can one approach the truth of the triune God who plans to bring the whole world to his redemptive ends through the (to us) disconcerting means of the Cross.¹⁴⁸

To Balthasar, this drama has the effect of overriding Kant’s subjectivity (especially of the sublime) and allows one to access the beautiful, the true, and the good of ultimate reality, correlating directly to the divine Trinity.¹⁴⁹

Balthasar sought to unite apologetics and dogmatic theology as closely as possible. Though, he did not want to combine them for fear that it would result in fideism.¹⁵⁰ Balthasar believed that the central question of apologetics is how one perceives form, or what he terms the “aesthetic problem.”¹⁵¹ The modern neglect of this aesthetic issue in theology, according to Balthasar, has been a detriment to theology. The modern mind hears the claims of Christ, but demands rational verification. The problem, to Balthasar, was the offering of reasons to substantiate Christ’s claim. If one believes Christ because of rational certainty, then one has rejected Christ’s divine authority. Then again, one can have faith in Christ and dismiss all rational certainty or probability, but then one’s faith would not be rational. According to Balthasar, apologetic methods attempting to find a right balance with this dilemma have failed to see the form that God has given—namely, Christ. Balthasar believed that the historical Christ is the answer to the aesthetic problem. The image of Christ, then, as Balthasar writes, is “something that could not have been invented by man—an image that can be read and understood and, therefore, believed only as an invention of God’s love.”¹⁵²

¹⁴⁸Oakes, “Hans Urs von Balthasar,” 366-67.

¹⁴⁹Ibid.

¹⁵⁰Aidan Nichols, “Von Balthasar’s Aims in His Theological Aesthetics,” *Heythrop Journal* 40 (1999): 414.

¹⁵¹Balthasar, *The Glory of the Lord*, 173.

¹⁵²Ibid.

Balthasar's theological aesthetics can be difficult to understand. However, the result of his thought has stimulated a renewed focus on beauty as it relates to theology and apologetics. Since the time of Kant, most Christian thinkers had dropped the concept of beauty because of its supposed subjectivity. Balthasar's writings (along with many others) are helping the church to backtrack past the days of Kant, where the objective beauty in the world was grounded in the existence of God.

Summary

This chapter examined the historical Christian understanding of beauty as a metaphysical quality that points to the Creator. Even though many early Christian theologians were influenced by platonic philosophy, the concept of beauty, particularly as it relates to the beauty of creation and the beauty of God, is not foreign to Scripture. The doctrine of the *Imago Dei* was also examined as an important explanation for why humanity not only recognizes beauty, but also desires to create beautiful artifacts. This was followed by a survey of early Christian writers who recognized God as the great Artificer, fashioning the cosmos like a work of art. Then, it was shown that in the medieval period, Beauty was added to Truth and Goodness to formulate what has come to be known as the transcendentals. These transcendentals not only established that God is the source of all that exists, but also affirmed that God's very Being is Truth, Goodness, and Beauty. Finally, several factors were examined that lead to a decline in the historical Christian understanding of beauty. However, two particular theologians were discussed that could lead the way to a full recovery of a Christian theology of beauty in the twenty-first century.

CHAPTER 4

BEAUTY AS A SIGN

Semiotics can be defined simply as “the study of signs,” or as the late philosopher Umberto Eco states, “Semiotics is concerned with everything that can be taken as a sign.”¹ Subsequently, a “sign” can be defined as anything that “stands for” something else.² In this chapter, beauty is examined as a sign that “stands for” or “points to” the presence of a mind. It is widely understood that the presence of beauty in a painting or in a *concerto* can “signify” or “point to” the creative mind of the artist. Likewise, some have made the case that beauty found in nature signifies the Mind of the Creator.³ This chapter examines how several Christian thinkers of the past have understood beauty as a sign of God. The theological semiotics of Augustine are discussed, followed by an analysis of the semiotics of George Berkeley, Jonathan Edwards, Thomas Reid, and one of the founding fathers of modern semiotics, C. S. Peirce. The emerging field of Biosemiotics is analyzed and critiqued, and finally, a modest common sense proposal for beauty as a sign of God is suggested.

The Cosmos as Divine Communication

Psalm 19:1-4 says,

The heavens declare the glory of God, and the sky above proclaims his handiwork. Day to day pours out speech, and night to night reveals knowledge. There is no speech, nor are there words, whose voice is not heard. Their voice goes out through all the earth, and their words to the end of the world.

¹Daniel Chandler, *Semiotics: The Basics* (New York: Routledge, 2007), 2.

²Ibid.

³For example, John Ruskin as discussed in chap. 3.

The Psalmist is stating that the cosmos is communicating to humanity. Creation is “declaring” God’s glory, not with human speech, but in a “voice” that should be clear to all. Jonathan Edwards observes, “The Son of God created the world for this very end, to communicate Himself in an image of His own excellency.”⁴ The Psalmist submits that the material creation should be understood as a form of communication (or as a sign) pointing to God and his glory. The idea that the physical creation is a form of divine communication is not isolated to this one passage of Scripture.⁵ The creation account in the book of Genesis describes God speaking the physical universe into existence. Genesis 1 is marked by the continual phrase, “And God said.” John Frame writes,

Creation also demonstrates God’s lordship attribute of authority, for creation is by God’s *word*. How did God make the world? By speaking. He said, “Let there be light,” and there was light (Gen. 1:3). He is like a commander issuing orders to his servants and gaining their obedience. And even more remarkably, they obey him before they even exist. They spring into existence by his command. His speaking is not an incidental part of his creative work.⁶

To further support his claim, Frame quotes Psalm 33:6, 9: “By the word of the Lord the heavens were made, and by the breath of his mouth all their host. . . . For he spoke, and it came to be: he commanded, and it stood firm.”⁷ Clearly, Scripture teaches that the physical universe came into being when God spoke it into existence. Moreover, if the material universe is indeed the result of God’s speech, then one would expect the universe to communicate something important. This divine communication, however, cannot be one-sided; God would not send a message unless there was a receiver of the message.

⁴Terrence Erdt, *Jonathan Edwards, Art and the Sense of the Heart* (Amherst: University of Massachusetts Press, 1980), 123.

⁵See Rom 1:20.

⁶John M. Frame, *Systematic Theology: An Introduction to Christian Belief* (Phillipsburg, NJ: P & R, 2013), 187-88.

⁷Ibid., 188.

Therefore, one would expect God to also create conscious beings with the ability to perceive His message. Quoting Christopher Wright, Thomas R. Schreiner writes,

Since God is the creator, it follows that “the creation exists for the praise and glory of its creator God.” “The earth is full of God’s glory [Ps. 24:1] because what fills the earth constitutes his glory.” In other words, we see the glory of God when we delight in, reflect upon, and enjoy the world he has created.⁸

Therefore, God is not only communicating through his creation, but he has created beings that should understand “delight,” and even “enjoy” the message.

If God is the creator of all things, then the beauty found throughout the universe is no accident. It was intended by God to be perceived and enjoyed by humanity, which should rightly produce a response of praise and thanksgiving. In this respect, the creation should not only be understood as communication, but as a special kind of communication, possibly from a similar category as poetry or music. In poetry, beauty is not just perceived in words, but in the rhyme and rhythm of well-chosen words. In music, beauty is not perceived in just sounds, but in the well-arranged sounds of the melody and harmony. In the same way, beauty in the physical universe is not just perceived in physical objects, but in the well-chosen, well-placed arrangements of those objects communicating something wonderful about the loving care, power, and wisdom of the Creator. Perhaps this is why C. S. Lewis, in *The Magician’s Nephew*, pictures Aslan singing the physical world into existence.⁹ If the creation is “declaring the glory of God” and “proclaiming his handiwork,” then why do many people not perceive this message?

Jonathan Edwards understood God as a communicative being. He viewed creation like a book and each created object like words in the book.¹⁰ He also understood

⁸Thomas R. Schreiner, *The King in His Beauty: A Biblical Theology of the Old and New Testaments* (Grand Rapids: Baker, 2013).

⁹C. S. Lewis, *The Magician’s Nephew* (New York: Macmillan, 1970), 104.

¹⁰Stephen H. Daniel, “The Philosophy of Jonathan Edwards: A Study in Divine Semiotics,” *Review of Metaphysics* 50 (1996): vii. See also chap. 2.

that human sinfulness has attempted to silence the voice of creation,¹¹ which is in agreement with the apostle Paul when he writes,

For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who by their unrighteousness suppress the truth. For what can be known about God is plain to them, because God has shown it to them. For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made. So they are without excuse. (Rom 1:18-20)

This verse tells at least two things: (1) The knowledge of God and his attributes should be perceived in the created order by all humanity, and (2) sinful humanity has willfully suppressed this truth. In essence, many people have rejected the intended message of creation, and, in return, have attempted to substitute his or her own meaning.¹² The biblical worldview, then, should include the understanding that God has not only communicated through Scripture, but He is currently communicating to humanity “through the things that have been made.” As discussed next, the idea that both Scripture and the physical creation function as Divine communication has deep roots in the Judeo/Christian tradition, and may even be studied within the burgeoning field of semiotics.

Rediscovering Semiotics

C. S. Peirce, founder of the American semiotic tradition, writes, “The entire universe . . . is perfused with signs, if it is not composed exclusively of signs.”¹³ Peirce was not known for being a devoutly religious man, but in this case, he sounded much like the Psalmist. The problem with Peircian semiotics is identifying what these signs signify, since both theists and atheists have cited C. S. Peirce to help support their case. However, thinking of nature as a sign or form of divine communication is not only supported by

¹¹Daniel, “The Philosophy of Jonathan Edwards,” 20-22.

¹²See Rom 1:21-23.

¹³Andrew Robinson and Christopher Southgate, “God and the World of Signs: Semiotics and Theology,” *Zygon* 45 (2010): 15.

Scripture, but the tools and categories of modern semiotics may assist in recovering this ancient idea that nature (which includes beauty) has a voice and is proclaiming the glory of God.

As mentioned, according to Daniel Chandler, semiotics, in its simplest definition, is “the study of signs.”¹⁴ However, after acknowledging other variations, Chandler writes,

One of the broadest definitions is that of Umberto Eco, who states that “semiotics is concerned with everything that can be taken as a sign” (Eco 1976, 7). Semiotics involves the study not only of what we refer to as “signs” in everyday speech, but of anything which “stands for” something else. In a semiotic sense, signs take the form of words, images, sounds, gestures and objects. Contemporary semioticians study signs not in isolation but as part of semiotic “sign-systems” (such as a medium or genre). They study how meanings are made and how reality is represented.¹⁵

The modern term “semiotics” originated from John Locke’s *Essay Concerning Human Understanding* (1690). In this essay, Locke suggested a science to study “signs the mind makes use of in acquiring knowledge.”¹⁶ The study of signs has been recognized as an important discipline since the ancient Greeks, who studied “natural signs” primarily to diagnose medical ailments.¹⁷ Other Christian thinkers, such as Augustine, developed a theory of signs to assist in acquiring the knowledge of God.¹⁸

Philosopher David K. Naugle, believes that the discipline of semiotics is necessary in the study of worldviews.¹⁹ Following the lead of Umberto Eco, Naugle writes,

¹⁴Chandler, *Semiotics*, 2.

¹⁵Ibid.

¹⁶Silver Rattasepp and Kalevi Kull, “Semiotics,” in *The Wiley Blackwell Encyclopedia of Consumption and Consumer Studies*, ed. Daniel Thomas Cook and J. Michael Ryan (West Sussex, UK: John Wiley & Sons, 2015), 492.

¹⁷Ibid.

¹⁸See the discussion of Augustine below.

¹⁹David K. Naugle, *Worldview: The History of a Concept* (Grand Rapids: Wm. B. Eerdmans, 2002), 292.

In his book *A Theory of Semiotics*, Umberto Eco subsumes the entire edifice of human culture under the discipline of semiotics. His two propositions are that “(i) the whole of culture *must* be studied as a semiotic phenomenon; (ii) all aspects of culture *can* be studied as the contents of semiotic activity.” Stating it a bit differently, he suggests that “the whole of culture *should* be studied as a communicative phenomenon based on signification systems” and that “only by studying it in this way can certain of its fundamental mechanism be clarified.” In other words, semiotics is best conceived as a general theory of culture, and all cultural realities can best be explained and understood under the rubric of semiotics. This would include the cultural reality and the fundamental mechanism of *Weltanschauung*.²⁰

To Naugle, semiotics is connected to a general theory of culture and to the study of worldviews because human beings are made in the *imago Dei*. Among other things, this means that humanity possesses the *logos*—the ability to communicate or the “ability to use one thing to stand for another thing (*aliquid stans pro aliquo*).”²¹ This communication often takes the form of speech or writing where sounds and letters become signs of “thoughts, feelings, and ideas as well as people, places, and things in the world.”²² Another factor of the *Imago Dei* is what Naugle calls the “*vestigium trinitatis*”:

[Human beings] are signs or images of a Trinitarian God whose own personal nature and relations may be conceived semiotically: the ingenerate, unimaginable Father is known only to himself by beholding his own image in his Son, who is eternally begotten or created (2 Cor. 4:4; Col. 1:15; Heb. 1:3), and who with the Father is revealed in power by the Holy Spirit, who eternally proceeds forth from the Father and the Son in a coequal and coeternal relation (John 15:26). The communicative acts of human beings consisting of the assertion of meanings with power through signs and symbols testify to their creation as the image of trinitarian God whose personal relations may be construed semiotically.²³

If Naugle is correct in that God can be “conceived semiotically,” then humanity, made in His image, would not only possess the ability to communicate through signs, but also possess the ability to perceive the signs.

²⁰Naugle, *Worldview*, 292, emphasis original.

²¹Ibid.

²²Ibid.

²³Ibid., 293.

If God has given humanity the unique ability to comprehend the significance of signs, including signs in nature, then many modern scientists who are committed to materialism may be missing this important semiotic aspect of nature. Jürgen Moltmann illustrates this point in his article entitled, “Sighs, Signs, and Significance: Natural Science and a Theological Hermeneutics of Nature.”²⁴ Moltmann begins his article by telling the story of Jakob von Uexküll, a biologist who was among the first scientists to study animal habitats:

He not only wanted to know what something was, he also wanted to understand what it meant. In debate with a famous chemist of his day, he provides the following illustration: Let us assume that a chemist is standing in front of Raphael’s Sistine Madonna in Dresden and analyzes it with the eyes of a chemist. What does he perceive? He perceives the colors, but he does not see the picture. He is “blind to the significance.” This is also the stance he takes towards the “face of nature.” He perceives much, but he understands little. Life can also only be understood if we understand its significance, von Uexküll concluded. All actions of living beings are characterized by “perceiving and acting.” They are “not a mechanical set of rules, but are full of significance.”²⁵

Moltmann suggests that scientists need to go back to the “original scientific curiosity.”²⁶ Rather than the modern “pragmatic . . . commercialized . . . anthropocentric . . . and utilitarian . . . hermeneutic of nature . . . [that seeks to] control nature,”²⁷ the original hermeneutic of nature that seeks “to know in order to be able to understand”²⁸ is what is needed.

Moltmann proposes that modern scientists rediscover the Christian tradition of God’s “Two Books,” in order to have an “acceptable and productive hermeneutic of

²⁴Jürgen Moltmann, “Sighs, Signs, and Significance: Natural Science and a Theological Hermeneutics,” *Sino-Christian Studies* 5 (2008): 67-87.

²⁵*Ibid.*, 69.

²⁶*Ibid.*, 70.

²⁷*Ibid.*

²⁸*Ibid.*

nature.”²⁹ Moltmann notes that some of the early scientists, like Kepler and Galileo, held to this tradition. The ‘Two-Book’ tradition recognizes that God is the author of Scripture and nature, and both communicate something important about God in their own particular way:

Nature speaks to human beings through a language of signs which must be decoded corresponding to the analogy of language that is foreign to us. Theologically speaking, all created things are creatures of the divine word: “God said: ‘Let there be light’ and there was light.” What we get to see in nature are, therefore, God’s word creations. In the beginning was the Word and “all things were made through Him” (Jn 1:1,3) Their comprehensible reality is an expression of the eternal Logos. Therefore, human intellect corresponds to the intelligibility of nature.³⁰

However, concerning the relationship between Scripture and nature, He writes,

The Book of Nature was always read in light of the Scriptures. Wisdom hidden in nature become readable as the wisdom of God through revelation. This means, conversely, that only what corresponds to the revelation of God according to the Bible can be read and understood as the wisdom of God. This distinction and correspondence are important. A person becomes wise through understanding God in nature, but is not saved. A person becomes saved by understanding revelation, but, unfortunately, is not yet wise.³¹

Moltmann is recognizing the traditional distinction between God’s “general” revelation of nature and God’s “special” revelation through Scripture. Nature may be able to point humanity to the existence of a powerful and wise God, but the Scripture is needed to clarify exactly who this God is and what kind of relationship humanity has to Him.

However, concerning nature as one of God’s books, Moltmann writes,

The “Book of Nature” can only be read when one ceases to understand nature as a world of facts, but rather, when one sees it as a world of significance. Only when everything is first full of signs is it also full of significance. Thus, the hermeneutic of nature is the art of interpreting the natural world of signs.³²

Moltmann is suggesting that in the last few hundred years, mankind made a wrong turn along the way. This wrong turn has made humanity disoriented and lost, unable to

²⁹Moltmann, “Sighs, Signs, and Significance,” 71.

³⁰Ibid., 72.

³¹Ibid., 73.

³²Ibid., 74.

understand God's signs in nature. In order to recover, one must go back in history and read the writings of those who were not so lost.

Reading the Signs of Nature in the Early and Medieval Church

Augustine

Some scholars consider Augustine bishop of Hippo (354-430) the father of semiotics.³³ Augustine, however, was not the first philosopher to write about signs. Discussions of the meanings and uses of signs can be found in the writings of Aristotle, as well as the Epicurean and Stoic philosophers. However, Augustine seemed to be mostly influenced by Plotinus and Cicero. R. A. Markus suggests that Augustine learned the concept of "signification" in language from Plotinus.³⁴ Concerning Augustine's theory of signs, Stephan Meier-Oeser writes,

A sign, as he defines it in line with the descriptions given by Cicero and the Latin tradition of rhetoric, is "something that shows itself to the senses and something other than itself to the mind" (*Signum est quod se ipsum sensui et praeter se aliquid animo ostendit*) (Augustine *De dial.* 1975, 86).³⁵

Augustine's theory of signs developed and matured throughout his works (i.e., *De magistro* and *De Trinitate*), but it was in *De Doctrina Christiana* (*Teaching of Christianity*) where Augustine's theory of signs became most refined.

In *De Doctrina Christiana*, Augustine seeks to define what signs are:

A sign, after all, is a thing, which besides the impression it conveys to the senses, also has the effect of making something else come to mind; as when we see a spoor, we think of the animal whose spoor it is; or when we see smoke, we know there is fire underneath; and when we hear the cry of a living creature, we can tell what its

³³Scholars such as U. Eco, R. Simone, T. Todorov, and S. A. Handelman. See R. A. Markus, *Signs and Meanings: World and Text in Ancient Christianity* (Liverpool: Liverpool University Press, 1996), 1.

³⁴*Ibid.*, 78.

³⁵Stephan Meier-Oeser, "Medieval Semiotics," *Stanford Encyclopedia of Philosophy*, May 2011, accessed December 15, 2014, <https://plato.stanford.edu/entries/semiotics-medieval/>.

mood is; and when the trumpet sounds, soldiers know that they must advance or retreat, or whatever else the battle requires.³⁶

Augustine next discusses the types of signs that are possible:

Among signs, then, some are natural, some conventional. Natural ones are those which have the effect of making something else known, without there being any desire or intention of signifying, as for example smoke signifying fire. . . . Conventional or given signs, on the other hand, are those which living creatures give one another in order to show as far as they can, their moods and feelings, or to indicate whatever it may be they have sensed or understood. Nor have we any purpose in signifying, that is in giving a sign, other than to bring out and transfer to someone else's mind what we, the givers of the sign, have in mind ourselves.³⁷

To Augustine, all signs communicate. However, natural signs are signs that have no mind or “intention” behind them, but it still takes a mind to understand its meaning. Smoke can be a natural sign of fire, just as an approaching cumulonimbus cloud can be a sign of a potential thunderstorm in the mind of the observer. However, conventional signs are signs that originate from a mind in order to “transfer” certain information or ideas to another mind. For instance, Augustine believed that the Scriptures, through the sign of human language as it is translated into various language, reveals the mind and will of God.³⁸ However, Augustine also proposed that creation is a sign through which God communicates to humanity.

Augustine understood God's creation in terms of “things” (*res*) and “signs” (*signum*):

All teaching is either about things or signs; but things are learned about through signs. . . . From this it will be easy to understand what I am calling signs; those things, that is, which are used in order to signify something else. Thus every sign is also a thing, because if it is not a thing at all then it is simply nothing. But not every single thing is also a sign. And therefore, in this distinction between things and signs, when we are speaking of things let us so speak that even if some of them can be employed to signify, this will not prevent us from dividing up the work in such a way, that we first discuss things, later on sign; and let us bear in mind all the time that what has to

³⁶Augustine, *Teaching Christianity (De Doctrina Christiana)*, ed. John E. Rotelle, trans. Edmund Hill (Hyde Park, NY: New City, 2003), 129.

³⁷Ibid.

³⁸Ibid., 131.

be considered about things is that they are, not that they signify something else besides themselves.³⁹

Not only did Augustine make a distinction between ‘things’ and ‘signs’ (*res* and *signum*), but he also drew a distinction between things ‘enjoyed’ (*frui*) and things to be ‘used’ (*uti*). Augustine understood that there are ‘things’ meant for enjoyment and ‘things’ meant for use. He states, “Things that are to be enjoyed make us happy; things which are to be used help us on our way to happiness.”⁴⁰ However, Augustine warns,

So if we wish to enjoy things that are meant to be used, we are impeding our own progress, and sometimes are also deflected from our course, because we are thereby delayed in obtaining what we should be enjoying, or turned back from it altogether, blocked by our love for inferior things.⁴¹

When Augustine insists that things, like people, are to be used he does not mean in a negative sense; things are to be used for the sole purpose of enjoying God. In other words, all created things are signs that pointed one to the ultimate enjoyment of the creator. This is further underscored by Rowan Williams, who understands Augustine as drawing a parallel between *signum* and *res* (sign and things) and *uti* and *frui* (use and enjoyment).⁴² Following William’s insight, Susannah Ticciati concludes,

The equivalence can briefly be stated as follows: to use is to treat as a sign, while to enjoy is to treat as a thing. Augustine argues that the world is to be used for the end of the enjoyment of God. Translated into the language of signification, . . . the world is (to be treated as) a sign of God; or that all creatures are signs of God.⁴³

Simply put, God is the only “supreme thing” and of which all other things are mere “signs.”⁴⁴ In another article, Ticciati writes, “What Augustine means is that God is the

³⁹Augustine, *Teaching Christianity*, 106-7.

⁴⁰Ibid., 107.

⁴¹Ibid.

⁴²Susannah Ticciati, “The Human Being as Sign in Augustine’s *De Doctrina Christiana*,” *Neue Zeitschrift für Systematische Theologie Und Religionsphilosophie* 55 (2013): 22.

⁴³Ibid.

⁴⁴Augustine, *Teaching Christianity*, 106-8, 129-31.

only self-sufficient reality which does not gain its meaning by virtue of its signification of something else. . . . God is the context within which everything else makes sense.”⁴⁵

Therefore, creation is to be understood as a sign and “a means to the end of the contemplation of God.”⁴⁶

In *De Doctrina Christiana*, Augustine does not specifically cite beauty as a sign pointing to God. However, in his *Confessions*, he does speak of beauty as a “voice” or a sign. Concerning the “things” of nature, Augustine states,

I asked the earth; and it answered, “I am not He;” and what soever are therein made the same confession. I asked the sea and the deeps, and the creeping things that lived, and they replied, “We are not thy God, seek higher than we.” I asked the breezy air, and the universal air with its inhabitants answered, “Anaximenes was deceived, I am not God.” I asked the heavens, the sun, moon, and stars: “Neither,” say they, “are we the God whom thou seekest.” And I answered unto all things which stand about the door of my flesh, “Ye have told me concerning my God, that ye are not He; tell me something about Him.” And with a loud voice they exclaimed, “He made us.” My questioning was my observing of them; and their beauty was their reply. . . . Is not this beauty visible to all whose senses are unimpaired? Why then doth it not speak the same things unto all? Animals, the very small and the great, see it, but they are unable to question it, because their senses are not endowed with reason to enable them to judge on what they report. But men can question it, so that “the invisible things of Him . . . are clearly seen, being understood by the things that are made.”⁴⁷

Augustine understood the beauty of creation as a universal sign or language (voice) that directs humanity to the Creator. As Augustine specifically affirms a few lines down, “their voice (that is their beauty)” speaks to all if they “compare that voice received from without with the truth within.”⁴⁸ Augustine’s semiotic understanding of the world had a profound influence on both medieval and modern thinkers, and much like Augustine, some modern thinkers understood beauty in nature as a type of divine language.

⁴⁵Susannah Ticciati, “The Castration of Signs: Conversing with Augustine on Creation, Language and Truth,” *Modern Theology* 23, no. 2 (2007): 165-66.

⁴⁶*Ibid.*, 167.

⁴⁷Augustine, *The Confessions of St. Augustine*, vol. 1, *Nicene and Post-Nicene Fathers* (Peabody, MA: Hendrickson, 1995), 144-45.

⁴⁸*Ibid.*, 145.

Modern Semiotics

George Berkeley

George Berkeley (1685-1753) was born in Ireland on March 12, 1685, and by the time he was nineteen he had received a B.A. from Trinity College, Dublin. In 1707, he published his first work in mathematics and became a Fellow of Trinity College.⁴⁹ Along with his teaching career, he was active in the Protestant church. He was made a deacon in 1709, a priest in 1710, and in 1734, he was appointed bishop in Cloyne.⁵⁰ In 1709, Berkeley published *An Essay towards a New Theory of Vision*, and in 1710, he published Part I of *A Treatise concerning the Principles of Human Knowledge*. One of Berkeley's concerns in *Principles* was John Locke's materialistic and mechanistic universe, which he believed could lead to the idea of causal determinism and ultimately atheism. Locke recognized that God was the creator, but designed the material world to run on its own like a well-oiled machine. However, Locke was not a complete materialist—he believed that minds were “immaterial substances”; thereby making room for the Christian understanding of the soul.⁵¹ Berkeley was concerned, though, that Locke's theory paved the way for the idea that the material universe was eternal and uncreated, and that the properties of the mind were purely physical. In essence, Berkeley believed that Locke left God with nothing to do, therefore opening the door to atheism.⁵²

Berkeley's response to materialism was to propose that the only things that exist in the world are finite and infinite perceivers. To Berkeley, material objects can only exist if they are perceived (*esse est percipi*). He argued that every so-called material object must be perceived by the senses, and that which the senses perceive can be understood as

⁴⁹Frederick Copleston, *A History of Philosophy*, (Mahwah, NJ: Paulist, 1959), 5:202.

⁵⁰*Ibid.*, 5:202-3.

⁵¹Geoffrey Warnock, “Berkeley, George,” in *The Oxford Guide to Philosophy*, ed. Ted Honderich (New York: Oxford Press, 2005), 92.

⁵²*Ibid.*

ideas. Therefore, all material objects are ideas.⁵³ In this Berkeleyan idealism, would it mean that the physical world would not exist if no one perceived it? The answer is, “yes.” However, since the physical world originated from, is held to gather by, and is perceived by God, then the physical world continues to exist even if there are no humans to perceive it. In other words, the physical world is dependent on the mind of God for its existence. Berkeley believed this avoided the idolatry of materialism since nothing can exist independent of God. Berkeley writes,

The existence of matter, or bodies unperceived, has not only been the main support of *atheists* and *fatalists*, but on the same principle doth idolatry likewise in all its various forms depend. Did men but consider that the sun, moon, and stars, and every other object of the senses, are only so many sensations in their minds, which have no other existence but barely being perceived, doubtless they would never fall down, and worship their own ideas; but rather address their homage to the Eternal Invisible Mind which produces and sustains all things.⁵⁴

Berkeley imagined the world to be completely dependent on the mind of God. This idealism was a repudiation of the mechanistic view of the world where God, if he existed at all, was perceived as irrelevant to the machine’s day-to-day function. Berkeley set out to show that God is not only relevant, but necessary for anything to exist at all.

The human perception of the world is directly connected to the mind of God. Because of this connection, Berkeley concluded that the physical world is a sign or divine language that proceeds from God in order to instruct humanity. Concerning Berkeley’s understanding of communication, philosopher Kenneth Pearce writes, “The purpose of the language as a whole . . . is to communicate information to us about other minds, including God, which can inform our actions, thus creating a linguistic context for

⁵³George S. Pappas, “Berkeley, George,” in *The Cambridge Dictionary of Philosophy*, ed. Robert Audi (Cambridge: Cambridge University Press, 1999), 84.

⁵⁴George Berkeley, *A Treatise Concerning the Principles of Human Knowledge*, ed. Jonathan Dancy (New York: Oxford University Press, 1998), 137.

meaningful interaction among a community of minds.”⁵⁵ In *An Essay toward a New Theory of Vision*, Berkeley explains,

Upon the whole, I think we may fairly conclude that the proper objects of Vision constitute an Universal Language of Nature; whereby we are instructed how to regulate our actions, in order to attain those things that are necessary to the preservation and well-being of our bodies, as also to avoid whatever may be hurtful and destructive of them. It is by their information that we are principally guided in all the transactions and concerns of life. And the manner wherein they signify and mark out unto us the objects which are at a distance is the same with that of languages and signs of human appointment; which do not suggest the things signified by any likeness or identity of nature, but only by an habitual connexion that experience has made us to observe between them.⁵⁶

Throughout his writings, Berkeley continually affirms his belief that the physical world is a divine language. In the *Principles*, he writes,

And it is the searching after, and the endeavoring to understand those signs instituted by the Author of Nature, that ought to be the employment of the natural philosopher, and not the pretending to explain things by corporeal causes; which doctrine seems to have too much estranged the minds of men from that active principle, that supreme and wise spirit, *in whom we live, move, and have our being*.⁵⁷

In *Siris*, Berkeley writes,

As the natural connexion of signs with the things signified is regular and constant, it forms a sort of rational discourse (sect. 152), and is therefore the immediate effect of an Intelligent Cause. . . . Therefore, the phaenomena of nature, which strike on the senses and are understood by the mind, do form not only a magnificent spectacle, but also a most coherent, entertaining, and instructive Discourse; and to effect his, they are conducted, adjusted, and ranged by the greatest wisdom. This Language or Discourse is studied with different attention, and interpreted with different degrees of skill. But so far as men have studied and remarked its rules, and can interpret right, so far they may be said to be knowing in nature. A beast is like a man who hears a strange tongue but understands nothing.⁵⁸

⁵⁵Kenneth L. Pearce, “The Semantics of Sense Perception in Berkeley,” *Religious Studies* 44, no. 3 (2008): 250.

⁵⁶George Berkeley, “An Essay toward a New Theory of Vision,” in *The Works of George Berkeley* (Oxford: Clarendon, 1901), 1:199-200.

⁵⁷Berkeley, *A Treatise*, 127.

⁵⁸George Berkeley, “Siris,” in *The Works of George Berkeley*, 3:245.

In other words, if humanity studies and perceives the world correctly, God's message will be understood. However, if humanity does not perceive the world correctly, then nature will be speaking unintelligibly, as if in speaking a foreign language.

Berkeley clearly believed that the physical world was arranged like a language in order to convey meaning to the observer. Nevertheless, if the physical world is communication from God, then how does one read it and what is it saying? James Danaher states that one of the problems of seeing a direct correlation between the physical world and a written or spoken language is that it lacks an agreed upon meaning to the observer:

To begin with, Berkeley claims that as with language, where sounds or marks on a page signify something beyond what we actually perceive, likewise, with the visible world what we actually perceive are "light and colours," but show perceptions signify something more than themselves.⁵⁹

However, how are these "light and colors" used to convey meaning? Danaher suggests that this language would better be understood as a 'poetic language,' communicating a "mood" instead of a "conceptual understanding"⁶⁰:

If meaning can sometimes be carried in the sound alone or in the larger visual image rather than in the atomic concepts, the visual world may be a language after all in spite of the fact that we are not aware of the concepts which the signifiers of the visual language signify. . . . If the visual world is a visual, poetic language whose meaning is meant to communicate a mood or an attitude rather than a conceptual understanding, then some people may understand such communication while other people miss it because they are intent only upon a conceptual understanding.⁶¹

If Danaher is correct, then the language God is speaking through the created order is aesthetic in nature. God, therefore, is communicating something about Himself to humanity through the beauty and complexity of nature. This seems to be Berkeley's conclusion when he writes,

As in reading other books, a wise man will choose to fix his thoughts on the sense and apply it to use, rather than lay them out in grammatical remarks on the

⁵⁹James P. Danaher, "Is Berkeley's World a Divine Language?" *Modern Theology* 18, no. 3 (2002): 362.

⁶⁰Ibid., 370.

⁶¹Ibid.

language; so in perusing the volume of Nature, it seems beneath the dignity of the mind to affect an exactness in reducing each particular phenomenon to general rules, or shewing how it follows from them. We should propose to our selves nobler views, such as to recreate and exalt the mind, with a prospect of the beauty, order, extent, and variety of natural things: hence, by proper inferences, to enlarge our notions of the grandeur, wisdom, and beneficence of the Creator: and lastly, to make the several parts of the Creation, so far as in us lies, subservient to the ends they were designed for, God's glory, and the sustentation and comfort of our selves and fellow-creatures.⁶²

What humanity should learn from the language of God, found in the “beauty, order, extent and variety of natural things,” is that God is great, good, and wise, and that all these things were designed to communicate the glory of God. As Danaher explains, “The visual language may be able to express larger, non-conceptual images of things like God's goodness and majesty, and thus produce within us a sense of awe, reverence, and humility in a way that concepts cannot.”⁶³ Beauty, therefore, is an important part of God's visual language. This conclusion would also imply that the human aesthetic sense is essential to the proper perception of this divine communication.

George Berkeley was not intending to develop a complex theory of semiotics, but his belief that all things in nature can be understood as a sign anticipated the semiotic theory of C. S. Peirce by a couple of hundred years. Peirce even cited George Berkeley as a major influencer of his philosophy. It is also important to note that Berkeley was not the only thinker in the eighteenth century who understood the world, which included beauty, as a sign from God. Jonathan Edwards and Thomas Reid had similar views.

Jonathan Edwards

Jonathan Edwards (1703-1758) was born to a Congregationalist pastor, Timothy Edwards, in East Windsor, Connecticut. Around age twelve, he wrote several essays on natural science, revealing a brilliant young mind with incredible powers of

⁶²Berkeley, *A Treatise*, 142-43.

⁶³*Ibid.*, 371.

perception and reason.⁶⁴ At the age of thirteen, he began his studies at Yale under the tutelage of Samuel Johnson who introduced Edwards to John Locke's *Essay Concerning Human Understanding*. In 1720, Edwards began graduate studies in theology at Yale to prepare for the ministry.⁶⁵ However, sometime before graduation in 1720, Edwards wrote two essays "Of Being" and "The Mind." In these essays, Edwards develops a theory of "idealism" that resembled, in many ways, Bishop Berkeley's theory. In "Of Being" Edwards writes,

I will frame my reasoning thus: If nothing has any existence at all but in some consciousness or idea or other; and therefore the things that are in us created consciousness have no existence but in the divine idea; or, supposing the things in this room were in the idea of none but of God, they would have existence no other way, *as we have shown in the natural philosophy*, and if the things in this room would nevertheless be real things; then God's idea, being a perfect idea, is really the thing itself; and if so, and all God's ideas are only the one idea of Himself, as has been shown, then God's idea must be his essence itself, it must be a substantial idea, having all the perfection of the substance perfectly; so that by God's reflecting on Himself the Deity is begotten: there is a Substantial Image of God begotten. I am satisfied that though this word *begotten* had never been used in Scripture, it would have been used in this case; there is no other word that so properly expresses it.⁶⁶

Edwards believed that all things have their existence in reality because they exist in the mind of God. Edwards's idealism is so similar to Berkeley's theory that some scholars claim that he must have borrowed from Berkeley. However, several journal articles from the late 1800s to the early 1900s discussed the origin of Edwards's idealism, and concluded that Edwards was unaware of Berkeley's work.⁶⁷ For example, John H. MacCracken, in

⁶⁴Armand A. Maurer, "Edwards, Jonathan," in *The Encyclopedia of Philosophy*, ed. Paul Edwards (New York: Macmillian, 1967), 460.

⁶⁵Edwards would later become the pastor of a Congregational Church in Northampton, MA, a missionary to the Indians, and finally president of New Jersey College (which later became Princeton) in 1757, about a year prior to his death.

⁶⁶Egbert C. Smyth, "Jonathan Edwards' Idealism. With Special Reference to the Essay 'of Being' and to Writings Not in His Collected Works," *The American Journal of Theology* 1, no. 4 (1897): 954.

⁶⁷Ibid. H. N. Gardiner, "The Early Idealism of Jonathan Edwards," *The Philosophical Review* 9, no. 6 (1900): 573-96; and John H. MacCracken, "The Source of Jonathan Edwards's Idealism," *The Philosophical Review* 11, no. 1 (1902): 26-42.

his article “The Source of Jonathan Edwards’s Idealism,” written in 1902, discussed the differences between Edwards and Berkeley:

Edwards does not concern himself especially with a theory of vision. Newton’s theory of light and the subjectivity of colors he practically takes for granted. Had he read Berkeley, the perception of things at a distance would probably have been a prominent subject of discussion. Again, at the opening of the introduction of the *Principles*, Berkeley attacks universals and shows the evils resulting from admitting abstract ideas. We can only be conscious, he maintains, of the concrete and particular, and of relations between these ideas of the concrete. Edwards, on the other hand, finds in the abstract the true realities. Berkeley attacks the reality of space. Edwards gives it supreme reality, identifying it with God. To Berkeley, spirit which is viewed as activity or power can be known only by its effects. For Edwards, God is substance, and the ideas of God which are imparted to us give us knowledge of the consciousness which is the true reality of God.⁶⁸

After disusing other differences between Edwards and Berkeley, MacCracken concludes,

This wide divergence on a primary point, and the fact that Edwards begins where Berkeley ends, and that they develop in contrary directions, as well as the different modes of treatment of the subject, the different positions on the question of abstract ideas and free will, make it very evident that Edwards could not have become acquainted with idealism first through Berkeley. Whatever of resemblances there may be, must be accounted for by the fact of their common sources, Locke, Malebranche, Descartes, Newton, and Clark.⁶⁹

Some have argued that Edwards’s idealism was too lofty for a boy in his teens to come up with on his own. Though, Berkeley was not that much older than Edwards when he proposed his theory.

One common agreement between the idealism of Edwards and Berkeley is that both understood creation as a divine language. In *Images or Shadows of Divine Things*, Edwards writes,

It is very fit and becoming of God, who is infinitely wise, so to order things that there should be a voice of His in His works, instructing those that behold them and painting forth and shewing divine mysteries and things more immediately appertaining to Himself and His spiritual kingdom. The works of God are but a kind of voice or language of God to instruct intelligent beings in things pertaining to Himself. And why should we not think that He would teach and instruct by His works in this way as well as in others, viz., by representing divine things by His works and

⁶⁸MacCracken, “The Source of Jonathan Edwards’s Idealism,” 30-31.

⁶⁹Ibid., 34.

so painting them forth, especially since we know that God hath so much delighted in this way of instruction.⁷⁰

If everything that exists is a result of God's mind, then nature, like a language, can communicate important ideas about God to the mind of humanity, much like art can communicate something about the mind and ability of an artist. In comment number 70, Edwards writes,

If we look on these shadows of divine things as the voice of God purposely by them teaching us these and those spiritual and divine things, to show of what excellent advantage it will be, how agreeably and clearly it will tend to convey instruction to our minds, and to impress things on the mind and to affect the mind, by that we may, as it were, have God speaking to us. Wherever we are, and whatever we are about, we may see divine things excellently represented and held forth. And it will abundantly tend to confirm the Scripture, for there is an excellent agreement between these things and the holy Scripture.⁷¹

Edwards understood that God did not leave humanity on its own to interpret the "images or shadows of divine things," He also gave humanity the Scriptures. Edwards explains,

The book of Scripture is the interpreter of the book of nature two ways, viz., by declaring to us those spiritual mysteries that are indeed signified and typified in the constitution of the natural world; and secondly, in actually making application of the signs and types in the book of nature as representations of those spiritual mysteries in many instances.⁷²

Here, as well as in his other works, Edwards adopted the medieval concept of God communicating through two books: the book of nature and the book of Scripture. To Edwards, Scripture helps one to see that nature is a sign from God and that it can communicate spiritual mysteries concerning the character and work of God. However, like Augustine, Edwards not only saw nature as divine communication, he also recognized beauty as an important quality of this communication.

Edwards articulated much of his Calvinist theology in aesthetic language. In his work, "The Nature of True Virtue," Edwards writes,

⁷⁰Jonathan Edwards, *Images or Shadows of Divine Things*, ed. Perry Miller (New Haven, CT: Yale University Press, 1948), 61.

⁷¹Smyth, "Jonathan Edwards' Idealism," 69-70.

⁷²*Ibid.*, 109.

For as God is infinitely the greatest Being, so he is allowed to be infinitely the most beautiful and excellent: and all the beauty to be found throughout the whole creation, is but the reflection of the diffused beams of that Being who hath an infinite fullness of brightness and glory.⁷³

Edwards divided the concept of beauty between “primary beauty” and “secondary beauty.” God’s beauty is primary, whereas secondary beauty is a mere reflection of God’s beauty. Secondary beauty to Edwards is the perception of harmony, including proportion and agreement, which can be seen in nature, music, art, math, science, logic and many other human expressions.⁷⁴ Edwards understood secondary beauty as a sign or a form of communication that ultimately pointed humanity to the beauty (glory) of God. In his, “A Dissertation Concerning the End for Which God Created the World,” Edwards states,

When God was about to create the world, he had respect to that *emanation of his glory*, which is *actually* the consequence of the creation, both with regard to himself and the creature. He had regard to it as an *emanation* from himself, a *communication* of himself, and, as the *thing communicated*, in its nature *returned* to himself, as its final term. And he had regard to it also as the *emanation* was *to* the creature, and as the *thing communicated* was *in* the creature, as its subject. . . . Thus it is easy to conceive, how God should seek the good of the creature, consisting in the creature’s knowledge and holiness, and even his happiness, from a supreme regard to *himself*; as his happiness arises from that which is an image and participation of God’s own beauty; and consists in the creature’s exercising a supreme regard to God, and complacency in him; in beholding God’s glory, in esteeming and loving it, and rejoicing in it, and in his exercising and testifying love and supreme respect to God: which is the same thing with the creature’s exalting God as his chief good, and making him his supreme end.⁷⁵

God’s beauty (glory) was infused in creation and became a form of communication from God to humanity. It is through this expression of beauty in nature (secondary beauty), that humanity can learn to see God’s beauty (primary beauty) and love Him as the highest good and ultimate end. Nonetheless, Edwards was well aware that the human ability to

⁷³Jonathan Edwards, “The Nature of True Virtue,” in *The Works of Jonathan Edwards* (Peabody, MA: Hendrickson, 1998), 1:125.

⁷⁴Joseph D. Wooddell, “Jonathan Edwards, Beauty, and Apologetics,” *Criswell Theological Review* 5 (2007): 88.

⁷⁵Jonathan Edwards, “A Dissertation Concerning the End for Which God Created the World,” in *The Works of Jonathan Edwards*, 120, emphasis original.

see God's "excellency" in creation is greatly hampered by sin. Humanity often confuses secondary beauty with primary beauty, and therefore worships the creation rather than the creator. For this reason, Edwards believed that God's grace was necessary to open the ears and eyes of sinful humanity in order to properly hear God's voice and see God's glory on display in creation.

Thomas Reid

Thomas Reid (1710-1796) was born in Strachan, Scotland. At age twelve, he attended Marischal College in Aberdeen, where Thomas Blackwell and George Turnbull became major influences. Turnbull held to a theory of common sense that was grounded in the idealism of Berkeley. Reid later abandoned this Berkeleyianism, but continued to embrace Turnbull's common sense philosophy.⁷⁶ After graduation, Reid became a presbytery clerk, and then a parish minister. He also became an accomplished astronomer, as well as a respected philosopher.⁷⁷ In 1764, He was appointed Regent in Philosophy at King's College, where he published *An Inquiry into the Human Mind, on the Principals of Common Sense* (1764). The following year he was appointed to Adam Smith's former position as Professor of Moral Philosophy in Glasgow.⁷⁸

Thomas Reid's common sense philosophy was in many ways a reaction to the philosophy of both Hume and Berkeley. Like many thinkers in the eighteenth century, Reid wrestled with the ideas of both empiricism and rationalism. He believed that one could learn through empiricism, but, unlike Hume or Berkeley, he did not believe that all human knowledge could be derived from "atomistic sensations."⁷⁹ Reid was also unique

⁷⁶Keith Lehrer, "Reid, Thomas," in *The Cambridge Dictionary of Philosophy*, 783.

⁷⁷Vincent Hope, "Reid, Thomas," in *The Oxford Guide to Philosophy*, 797.

⁷⁸Ibid.

⁷⁹David O. Robbins, "The Aesthetics of Thomas Reid," *The Journal of Aesthetics and Art Criticism* 2, no. 5 (1942): 30.

in that he pursued the concept of taste and beauty from a common sense intuitional philosophy.⁸⁰ One of the key questions for Reid was the relationship between sensation and the object of experience. As Bernard Rollin writes, “It is in this attempt to answer this question that Reid took over and developed Berkeley’s notion of the language of nature.”⁸¹ Reid proposed that the best metaphor for understanding the connection between sensation and perception is the linguistic sign. Berkeley rejected the Cartesian-Newtonian mechanistic-geometrical account of vision by insisting “that nature be seen as a language, rather than as a mathematical machine.”⁸² Rollin continues,

Causality, for example, was for Berkeley closer to a sign-signified relation than to a mathematical entailment. But for Berkeley, signification always proceeded from idea to idea. It was Reid’s innovation to turn this metaphor back against Berkeley, and to point out that it is precisely by signification that we proceed from sensations to objects . . . whereas Berkeley was content with a more or less traditional account of signs which he applied to nature, Reid both implicitly and explicitly extended the analysis of signification and, correlatively, extended its possibility as an explanatory device in metaphysics.⁸³

In Hume and Berkeley’s empiricism, what can be known of the external world can only be found in one’s internal perception. This conclusion is the source of Hume’s skepticism and Berkeley’s idealism. However, Reid suggests that one can avoid these radical conclusions, by embracing a more common sense solution. Reid proposes that the external world should be understood as a “sign” or as a “language.” For example, in English, the word “apple” has no resemblance to a physical apple on a table. However, when someone says, “hand me that apple,” the listener knows by the context that a physical apple is being referenced. In other words, the word “apple” operates as a sign in one’s mind that signifies a physical apple. Reid understood that one’s perception of the physical world functions in much the same way. Internal sensations are like words, when they are experienced through

⁸⁰Robbins, “The Aesthetics of Thomas Reid,” 30.

⁸¹Bernard E. Rollin, “Thomas Reid and the Semiotics of Perception,” *The Monist* 61 (1978): 262.

⁸²*Ibid.*, 263.

⁸³*Ibid.*

sight, sound, taste, touch, or smell, they do not point to themselves, but point to external objects. In this way, sensations function like a language communicating quantity and qualities of the external world. To Reid, if sensations are signs of external objects, then humanity can escape the skepticism of Hume's or the supposed solipsism of Berkeley's by allowing the external world to have a voice.

As Reid developed his theory of signs, he made a distinction between natural signs and artificial signs. He also distinguished between three types of natural signs: (1) sensation as a sign immediately understood to be the external quality of that which caused it (i.e., hardness), (2) causal effects in nature that need to be investigated in order to understand its meaning (i.e., natural science), and (3) a combination of (1) and (2), that is, a sign that is a causal effect external to one's self in which the meaning is immediately understood (i.e., a facial expression).⁸⁴ Surprisingly, unlike Berkeley or Edwards, Reid does not often refer to the sign of nature signifying a Creator. However, in his discussion on beauty, he does not hesitate to attribute the beauty of nature as a sign of the Creator.

In "On the Intellectual Powers," in the two sections "Of Grandeur" and "Of Beauty," Reid particularly sees the mark of the Creator. Reid laments that in the spirit of modern philosophy, which has been influenced by the likes of Descartes and Hume, "beauty, harmony, and grandeur, the objects of taste, as well as right and wrong, the objects of the moral faculty, are nothing but feelings of the mind."⁸⁵ Reid, however, argues that a real excellence in objects does not depend on one's feelings. This is supported in the fact that people "uniformly ascribe excellence, grandeur, and beauty to the object, and not to the mind that perceives it."⁸⁶ True to his project, Reid adds, "I believe in this, as in

⁸⁴Nicholas Wolterstorff, *Thomas Reid and the Story of Epistemology* (Cambridge: Cambridge University Press, 2004), 166-67.

⁸⁵Thomas Reid, *The Works of Thomas Reid* (Edinburgh: Elibron Classics, 2005), 1:495.

⁸⁶*Ibid.*

most other things, we shall find the common judgment of mankind and true philosophy not to be at variance.”⁸⁷ Concerning the quality of grandeur found in nature, Reid writes,

When we contemplate the earth, the sea, the planetary system, the universe, these are vast objects; it requires a stretch of imagination to grasp them in our minds. But they appear truly grand, and merit the highest admiration, when we consider them as the work of God, who, in the simple style of scripture, stretched out the heavens, and laid the foundation of the earth. . . . [But] when we contemplate the world of Epicurus, and conceive the universe to be a fortuitous jumble of atoms, there is nothing grand in this idea. The clashing of atoms by blind chance has nothing in it fit to raise our conceptions, or to elevate the mind. But the regular structure of a vast system of beings, produced by creating power, and governed by the best laws which perfect wisdom and goodness could contrive, is a spectacle which elevates the understanding, and fills the soul with devout admiration. A great work is a work of great power, great wisdom, and great goodness, we contrived, for some important end. But power, wisdom, and goodness, are properly the attributes of mind only. They are ascribed to the work figuratively, but are really inherent in the author: and by the same figure, the grandeur is ascribed to the work, but is properly inherent in the mind that made it.⁸⁸

In other words, just like the greatness of a piece of art points to the mind of the artist, greatness perceived in nature points to the mind of the Creator.

In the section entitled “On Beauty,” Reid discusses the perception of beauty. The problem is that many vastly different things are called beautiful, such as speech, thought, the arts, sciences, action, affections, and character. What, then, is the common quality of beauty that unites all of these things? Reid concludes that all objects of beauty have two things in common:

First, when they are perceived, or even imagined, they produce a certain agreeable emotion or feeling in the mind; and, secondly, this agreeable emotion is accompanied with an opinion or belief of their having some perfection or excellence belonging to them.⁸⁹

When entertaining the possibility that man’s perception of beauty could be fallacious, he writes,

⁸⁷Reid, *The Works of Thomas Reid*, 1:495.

⁸⁸Ibid., 1:496.

⁸⁹Ibid.

But we have no ground to think so disrespectfully of the Author of our being; the faculties he hath given us are not fallacious; nor is that beauty which he has so liberally diffused over all the works of his hands, a mere fancy in us, but a real excellence in his works, which express the perfection of their Divine Author.⁹⁰

Reid clearly understood that beauty, wherever it is found, is a result of a mind. This conclusion seems to be in line with Berkeley's idealism. However, Reid also affirms the necessity of the material world as the only medium of the mind's expression:

But neither mind, nor any of its qualities or powers, is an immediate object of perception to man. We are, indeed, immediately conscious of the operations of our own mind; and every degree of perfection in them gives the purest pleasure. . . . Other minds we perceive only through the medium of material objects, on which their signatures are impressed. It is through this medium that we perceive life, activity, wisdom, and every moral and intellectual quality in other beings. The signs of those qualities are immediately perceived by the senses; by them the qualities themselves are reflected to our understanding; and we are very apt to attribute to the sign the beauty or the grandeur which is properly and originally in the things signified.⁹¹

Reid insisted that in order to perceive the mind of others, one must look to the expression of the mind's imprinted in material objects. As Reid affirms, "Thus, the beauties of mind, though invisible in themselves, are perceived in the objects of sense, on which their image is impressed." However, not only is the relationship between mind and object true of humanity, but Reid believed that it is particularly true of the mind of God expressed in creation:

The invisible Creator, the Fountain of all perfection, hath stamped upon all his works signatures of his divine wisdom, power, and benignity, which are visible to all men. If we consider, on the other hand, the qualities in sensible objects to which we ascribe beauty, I apprehend we shall find in all of them some relation to mind, and the greatest in those that are most beautiful.⁹²

Unlike many philosophers at the time who believed that beauty was mostly subjective, Reid's theory of signs was able to strike a balance between the subjective and objective nature of Beauty. In her article on Reid's aesthetics, Josefine Nauckhoff concludes,

⁹⁰Reid, *The Works of Thomas Reid*, 1:500.

⁹¹Ibid., 1:503.

⁹²Ibid.

I hope to have shown that Reid’s objectivism is compatible with his claim that mind is the source of beauty. Matter *is* beautiful when it is the sign of a mental excellence; thus, it is possible for beauty to reside both in mind and in matter. In locating original beauty in perfections of mind, Reid is sensitive to the subjective side of our experience of beauty—to its capacity to awaken love and kind affection in perceivers. And by explaining the sense in which beauty resides in objects, he avoids subjectivism. In these ways, Reid’s theory balances subjective and objective elements, providing a stable framework for the justification of claims of taste.⁹³

In the later eighteenth and nineteenth century, the semiotic approach to God and the world found in Augustine, Berkeley, Edwards, and Reid seemed to lay dormant among philosophers. However, in the late nineteenth and early twentieth century, the work of an American philosopher not only built on these ideas, but also helped develop semiotics into its own unique branch of philosophical inquiry.

Charles Sanders Peirce

C. S. Peirce (1839-1914) was born in Cambridge, Massachusetts. His father was the Perkins professor of mathematics and astronomy at Harvard University. Charles, showing the same aptitude for science as his father, graduated from Harvard in 1859, and from Lawrence Scientific School in 1863 (*summa cum Laude*) with a degree in chemistry. Peirce worked as an astronomer at Harvard Observatory, as a physicist for the United States Coast Guard and Geologic Survey, and on his off hours, worked in philosophy and logic. In 1879, he became a lecturer in logic at John Hopkins University, a position he held until 1884.⁹⁴

C. S. Peirce was a brilliant thinker. He advanced practically every field of study on which he focused, from astronomy and physics to philosophy. However, his work in logic and philosophy has been his most enduring legacy. He was the founder of “pragmatism” and is credited, along with Ferdinand de Saussure, as the founder of modern “semiotics.” Along with Leibniz, Duns Scotus, Kant, and Hegel, Peirce named George

⁹³Josefine C. Nauckhoff, “Objectivity and Expression in Thomas Reid’s Aesthetics,” *The Journal of Aesthetics and Art Criticism* 52, no. 2 (1994): 189.

⁹⁴C. J. Hookway, “Peirce, Charles Sanders,” in *The Encyclopedia of Philosophy*, 685.

Berkeley and Thomas Reid as the most important influencers of his work.⁹⁵ In fact, he identified Reid as the primary source for his category of “Secondness” in his semiotic theory.⁹⁶

Peirce’s semiotics theory, as it developed, became difficult and complex. He advanced his theory of signs as an explanation of Kant’s theory of knowledge. Kant believed that “knowledge occurs only when the manifold is reduced to the unity of a proposition.”⁹⁷ Peirce, therefore, set out to define how the unity of a proposition is achieved by defining a proposition in terms of a subject and predicate. In other words, he wanted to explore how a predicate can be connected to a subject. Peirce’s solution to this problem was semiotics.⁹⁸ Murray G. Murphey writes,

He began with the problem of unifying the manifold by joining the predicate to the subject through the sign relation and then analyzed signhood into the three aspects of reference: reference to abstraction, reference to an object, and reference to an interpretant. These three aspects are then made the basis for a systematic classification of signs according to the prominence given to each reference, and this mode of classification is applied to terms, propositions, and arguments.⁹⁹

Another major influence on Peirce’s semiotics was John Locke’s, *Essay Concerning Human Understanding*. At the end of his *Essay*, Locke proposed that the sciences should be divided between philosophy, practical philosophy, and “semeiotica” (the doctrine of signs). In his third division of signs, Locke writes,

Thirdly, the third branch may be called *Σημειωτική*, or the doctrine of signs; the most usual whereof being words, it is aptly enough termed also *λογική*, logic: the business whereof is to consider the nature of signs, the mind makes use of for the understanding of things, or conveying its knowledge to others. For, since the things the mind contemplates are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers,

⁹⁵Joseph Brent, *Charles Sanders Peirce: A Life* (Bloomington: Indiana University Press, 1998), 327.

⁹⁶*Ibid.*, 52.

⁹⁷*Hookway*, “Peirce, Charles Sanders,” 685.

⁹⁸*Ibid.*

⁹⁹*Ibid.*

should be present to it: and these are *ideas*. And because the scene of *ideas* that makes on man's thoughts cannot be laid open to the immediate view of another, nor laid up anywhere but in the memory, a no very sure repository: therefore to communicate our thoughts to one another, as well as record them for our own use, signs of our *ideas* are also necessary: those which men have found most convenient, and therefore generally make use of, are articulate sounds. The consideration, then, of *ideas* and *words* as the great instruments of knowledge, makes no despicable part of their contemplation who would take a view of human knowledge in the whole extent of it. And perhaps if they were distinctly weighed, and duly considered, they would afford us another sort of logic and critic, than what we have been hitherto acquainted with.¹⁰⁰

Locke proposed that within a doctrine of signs, a new or “another sort of logic” could emerge. Peirce followed Locke's suggestion by developing a theory of signs that would advance logic, (i.e., abduction) and thereby aid in the advancement of human knowledge.¹⁰¹

One of the first contributions Peirce made to the theory of signs was to change the medieval dyadic (*aliquid pro aliquo*) [something for something] understanding of signs to a triadic understanding. The three elements in Peirce's triadic system are (1) the sign-vehicle (or the *representamen*), (2) the object, and (3) the interpretant. To Peirce, the *sign-vehicle* stands for the *object*, which in return leads to the sign's translation or what Peirce calls the *interpretant*. Peirce also understood that the interpretant of a sign is determined by the relationship between the sign and the object. This relationship for Peirce was also triadic, which can take the form of an *Icon*, *Index*, or a *Symbols*. Peirce explains,

A sign is either an *icon*, an *index*, or a *symbol*. An *icon* is a sign which would possess the character which renders it significant, even though its object had no existence; such as a lead-pencil streak as representing a geometric line. An *index* is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant. Such, for instance, is a piece of mould with a bullet-hole in it as a sign of a shot; for without the shot there would have been no hole; but there is a hole there, whether anybody has the sense to attribute it to a shot or not. A *symbol* is a sign which would lose the character which renders it a sign if there were no interpretant. Such is any utterance of speech which

¹⁰⁰John Locke, *An Essay Concerning Human Understanding* (Indianapolis: Hackett, 1996), 336-37.

¹⁰¹See chap. 6 for Peirce's use of abduction.

signifies what it does only by virtue of its being understood to have that signification.¹⁰²

Peirce's sign system grew even more complex when he added other triads, such as *qualisigns*, *sinsigns*, and *legisigns*.¹⁰³ Philosopher Cornelis de Waal writes, "Put briefly, by first starting off from the qualities of the sign, then take into account how these different signs can be determined by their objects, and then considering how the result can determine an interpretant, Peirce came to distinguish ten types of signs."¹⁰⁴ However, de Waal goes on to show that Peirce developed 28 classes of signs, with six trichotomies, and then another 66 classes of signs with ten trichotomies, which comes to 59,049 different combinations of signs.¹⁰⁵ Nevertheless, de Waal explains why Peirce's table of signs grew so complex:

What Peirce is doing here, is to establish for semeiotic—and thus for logic—something like Mendeleev's periodic table. He gives structure to its subject matter by providing a table of elements that displays their recurring, or periodic, properties. And just like Mendeleev's periodic table, Peirce's typology provides us with a structured way of asking questions. It allows us not only to see what sort of questions are relevant (and what sort of questions are not) but also provides us with some measure as to the completeness of our inquiry.¹⁰⁶

When considering semiotics, Peirce explored two particular areas that are relevant to the present topic: theology and Darwinian Evolution.

¹⁰²Charles Sanders Peirce, *Peirce on Signs: Writings on Semiotic by Charles Sanders Peirce*, ed. James Hoopes (Chapel Hill: The University of North Carolina Press, 1991), 239-40.

¹⁰³Concerning these three types of signs, de Waal writes, "A *qualisign* has no identity through time. Take the experience of twice squeezing an avocado to see whether it is ripe. To say we are dealing with the same *qualisign* is not an issue of identity, Peirce argues, but of similarity, and the two experiences need to differ that much for them to count as different *qualisigns* (SS:32f). A *sinsign* is a token, which may be an actual existent thing or event, that is a sign (EP2:291). A *legisign* is a type that is a sign. Each single instance of a *legisign* is a token, or, as Peirce also calls it, a *replica*." Cornelis de Waal, *Peirce: A Guide for the Perplexed* (New York: Bloomsbury, 2013), 88.

¹⁰⁴Ibid., 91.

¹⁰⁵Ibid.

¹⁰⁶Ibid.

Peirce's theology, like much of his philosophy, developed over time. Annette Ejsing proposes that two branches of thought have developed out of Peirce's philosophy of religion: the "theosemiotics" of Michael Raposa and the "ecstatic naturalism" of Robert Corrington.¹⁰⁷ In explaining the difference between the two, Leon J. Niemoczynski writes,

Raposa uses "theosemiotic" to refer to the process by which the self becomes attuned to the traces of the divine signmaker in the world where there is connection between person and theosign. Raposa's general claim is that if Peirce's semiotic is already theosemiotic then everything is potentially a sign of God's presence. Corrington's ecstatic naturalism, on the other hand, is "a philosophical dialogue between Continental phenomenology on the one side and classical American pragmatism on the other. The metaphysical perspective of ecstatic naturalism is anti-supernaturalist while remaining open to the religious dimensions of nature as these dimensions are manifest in the 'sacred fold' of nature (semiotic orders with special numinous power)." According to Ejsing, Raposa's work relies too heavily upon medieval Scholasticism when interpreting Peirce's philosophy of religion, and she claims that the work of Corrington remains within the realm of espousing a speculative Schellingian metaphysics when interpreting Peirce's philosophy of religion.¹⁰⁸

These two schools of thought leading to two very different conclusions are likely due to superimposing a particular philosophical grid onto Peirce's writings and the ambiguity and continual modification of Peirce's theological views. However, it seems clear from Peirce's writings that he was both a philosophical theist and an evolutionist. Therefore, there should be no mystery in why his semiotic theory is used by both theists and evolutionists alike. For instance, William L. Power understands that for Peirce, at the

level of acritical thought, action, and feeling, the universe can be viewed as "vast representament" of God (6.459). The cosmos can be viewed as a system of interconnected signs which, if interpreted correctly, can signify the divine reality. For Peirce, the universe is God's symbol, with indexical and iconic features (6.459). The general features of the cosmos as a vast developing environmental or ecological system can be taken as a symbol of God's purposes for the creatures; the emergence and movements of actual things and existents in the spatiotemporal order can be taken as indexical signs of the creative producer; and the objective and subjective qualities and relations manifest in experience can be taken as iconic signs of the

¹⁰⁷Annette Ejsing position is discussed in Leon J. Niemoczynski, *Charles Sanders Peirce and A Religious Metaphysics of Nature* (New York: Lexington, 2011), 13.

¹⁰⁸Ibid., 13-14.

divine nature and identity. For Peirce, the cosmos is God's "great poem" (5.119) which signifies the divine artist and artistry.¹⁰⁹

In this respect, Peirce semiotics led him to a similar conclusion to that of Augustine, Berkeley, Reid, and Edwards. However, in spite of his belief in God (which for most of his life seemed to be a mix between Christian theism and something akin to pantheism), Peirce believed that all things evolved by chance. Peter Skagestad writes,

What particularly appealed to Peirce in Darwin's theory was an aspect which Darwin himself tried to conceal in embarrassment, namely the employment of chance as a mode of explanation. Peirce was, to my knowledge, the first thinker who explicitly recognized the statistical character of Darwin's theory, and recognized this as a scientifically respectable mode of explanation.¹¹⁰

However, in spite of his attraction to chance as an explanation, Peirce did not seem to have a problem reconciling Christian Trinitarianism to the concept of evolution. He affirmed that God was the creator of the universe (to Peirce, the three universes), and that there is evidence in nature of God's creative power. As Gary Alexander points out,

Peirce refers to God in aesthetic terms, arguing that "the very meaning of the word 'God' implies . . . aesthetic spiritual perfection" (6.510). The only evidence for "the existence of a governor of the universe" that he finds plausible is the lawful character of that universe. In particular, the "character of those laws themselves," which he describes as "benevolent, beautiful, economical, etc.," leads Peirce to assert the presence of God within the developing cosmos (6.395).¹¹¹

Peirce does not seem to answer the apparent contradiction of how God could be the creator of the universe and at the same time evolution be governed by chance. Perhaps Peirce believed God established the "benevolent, beautiful, economical" laws of the universe and then let chance work within the parameters of these laws to allow biological life to evolve. After all, "theistic evolution," the belief that God and evolution are compatible,

¹⁰⁹William L. Power, "Peircean Semiotics, Religion, and Theological Realism," in *New Essays in Religious Naturalism*, ed. W. Creighton Peden and Larry E. Axel (Macon, GA: Mercer University Press, 1994), 222-23.

¹¹⁰Peter Skagestad, "Peirce on Evolution and Progress," in *The Relevance of Charles Peirce*, ed. Eugene Freeman (La Salle, IL: The Hegeler Institute, 1983), 352.

¹¹¹Gary Alexander, "The Hypothesized God of C. S. Peirce and William James," *The Journal of Religion* 67, no. 3 (1987): 313-14.

was not an uncommon position in Peirce's day. Darwin himself suggested such a solution in his second edition of *On the Origin of Species*.¹¹²

Peirce's "Neglected Argument" for God

In his essay "A Neglected Argument for the Reality of God," many important features of Peirce's philosophy are evident, including semiotics, pragmatism, abduction, and philosophy of religion. He begins his essay by asserting his belief that God is the creator of all three "Universes of Experience." In Peirce's philosophy, the first Universe is *Ideas*, which are "those airy nothings to which the mind of poet, pure mathematician, or another might give local habitation and a name within that mind."¹¹³ The second Universe "is that of the Brute Actuality of things and facts."¹¹⁴ The third Universe, "comprises everything whose being consists in active power to establish connections between different objects, especially between objects in different Universes."¹¹⁵

The crux of Peirce's "argument" is that one's mind will readily accept God's existence if it is allowed a small portion of time during the day to engage in what he calls an exercise in "pure play" or "musement." This "musement" takes the form of meditation on one or all three Universes. Peirce writes,

¹¹²Darwin writes, "I believe that animals have descended from at most only four or five progenitors, and plants from an equal or lesser number. Analogy would lead me one step further, namely, to the belief that all animals and plants have descended from some one prototype. But analogy may be a deceitful guide. Nevertheless all living things have much in common, in their chemical composition, their germinal vesicles, their cellular structure, and their laws of growth and reproduction. We see this even in so trifling a circumstance as that the same poison often similarly affects plants and animals; or that the poison secreted by the gall-fly produces monstrous growths on the wild rose or oak-tree. Therefore I should infer from analogy that probably all the organic beings which have ever lived on this earth have descended from some one primordial form, into which life was first breathed by the Creator." Charles Darwin, *On the Origin of Species by Means of Natural Selection*, 2nd ed. (London: John Murray, 1860), 484, accessed December 15, 2015, http://darwin-online.org.uk/converted/pdf/1860_Origin_F376.pdf.

¹¹³Peirce, *Peirce on Signs*, 262.

¹¹⁴Ibid.

¹¹⁵Ibid.

The particular occupation I mean—a *petite bouchée* [small bite] with the Universes—may take either the form of esthetic contemplation, or that of distant castle-building (whether in Spain or within one’s own moral training), or that of considering some wonder in one of the Universes, or some connection between two of the three, with speculation concerning its cause.¹¹⁶

What Peirce is getting at is that one should take in the wonderment of the world, and as one contemplates ideas, or tangible objects in the world, one should allow the mind to freely consider the best explanation (abduction) of their ultimate source. A proper explanation must also include how humanity came to possess the cognitive ability to even consider these things. Peirce writes,

Darwinians, with truly surprising ingenuity, have concocted, and with still more astonishing confidence have accepted as proved, one explanation for the diverse and delicate beauties of flowers, and others for those of butterflies, and so on; but why is all nature—the forms of trees, the compositions of sunsets—suffused with such beauties throughout, and not nature only, but the other two Universes as well?¹¹⁷

In other words, Peirce’s ‘Neglected Argument’ (N. A.), which he laments is not used by many theologians in his day, includes contemplating the beauty of nature as a sign of God’s reality. He believed that if one’s mind were allowed this regular “musement,” God’s reality would be understood as the best, most beautiful, and most satisfying explanation.¹¹⁸

Anticipating a response from the naturalistic determinists, Peirce explains,

Tell me, upon sufficient authority, that all cerebration depends upon movements of neuritis that strictly obey certain physical laws, and that thus all expressions of thought, both external and internal, receive a physical explanation, and I shall be ready to believe you. But if you go on to say that this explodes the theory that my neighbour and myself are governed by reason, and are thinking beings, I must frankly say that it will not give me a high opinion of your intelligence. But however that may be, in the Pure Play of Musement the idea of God’s Reality will be sure sooner or later to be found an attractive fancy, which the Muser will develop in various ways. The more he ponders it, the more it will find response in every part of his mind, for its beauty, for it supplying an ideal of life, and for its thoroughly satisfactory explanation of his whole threefold environment.¹¹⁹

¹¹⁶Peirce, *Peirce on Signs*, 263.

¹¹⁷Ibid., 265.

¹¹⁸Ibid., 267.

¹¹⁹Ibid., 266-67.

Peirce understood that one has the ability to contemplate nature because God not only made the universe, but He also gave humanity the ability to comprehend it:

There is a reason, an interpretation, a logic, in the course of scientific advance, and this indisputably proves to him who has perceptions of rational or significant relations, that man's mind must have been attuned to the truth of things in order to discover what he has discovered. It is the very bed-rock of logical truth.¹²⁰

Following the logic and semiotic theory in the N. A. (and other sources), one can conclude that Peirce understood that (1) beauty is a result of God's creation, (2) beauty in nature is a sign that points to the Creator, and (3) God has "attuned" the human mind through the senses to perceive beauty.

C. S. Peirce was no orthodox theologian. However, he developed tools of logic, such as semiotics and abduction, which have not only assisted philosophers and scientists, but theologians as well. Unlike many scientists, Peirce was not afraid to follow the evidence in order to formulate the best explanation, even if the evidence pointed to God. He understood that if one would pay close attention to the world, one might just come to understand that all the signs, including beauty, may ultimately point to the Creator.

The founding father of modern semiotics, by means of his complex logical system, seems to be in perfect agreement with the Psalmist, Augustine, Berkeley, Edwards, and Reid. The universe, along with its grand design and beauty, is a sign that points to the Creator. Peirce seems to believe that this conclusion is in accordance with common sense, or at least the natural conclusion of one who clears his or her mind of preconceived notions and lets the signs of nature speak directly to one's soul. There are, however, those who attempt to follow Peirce's semiotic system, and understand nature as a sign, but come to very different conclusion concerning the meaning and source of the sign.

Biosemiotics

In the past few decades, there has been an interesting development in evolutionary biology in connection with semiotics. This new study is based on the idea

¹²⁰Peirce, *Peirce on Signs*, 272.

that all life is rooted in semiosis, meaning that life is based on a logical system of signs and codes. This new system is called “biosemiotics,” a term first used by the German psychologist Frederich Solomon Rothschild in the early 1960s. Theoretical biologist Marcello Barbieri states,

Semiotics is the study of signs, and biosemiotics can be defined, therefore, as the study of signs in living systems. This is the “literal” definition of the discipline, a version that can be referred to as a *sign-based biosemiotics* because it is explicitly based on the concept of sign. Biosemiotics, however, can also be defined as the study of codes in living systems, a version that is referred to as code-based biosemiotics. There have been historical disputes between the two versions but, as we will see, they are not incompatible, and both share the idea that every living creature is a semiotic system, i.e., that semiosis (the production of sign) is fundamental to life. The evidence for this conclusion comes primarily from the genetic code.¹²¹

It is widely recognized that C. S. Peirce was one of the founders of biosemiotics. Molecular biologist Jesper Hoffmeyer suggests that biosemiotics is “principally anchored in the evolutionary philosophy of C. S. Peirce.”¹²² Concerning Peirce’s influence, Finnish philosopher Tommi Vehkavaara writes,

Presumably, Peirce was originally studied by biosemioticians because of his *semeiotic*, but it seems that his metaphysical insights (and the metaphysical reading of his *semeiotic*) have inspired more influentially the biosemioticians of the Copenhagen-Tartu school. The Peircean concept of sign and scheme of *semiosis* are nevertheless primarily *logical* conceptions, the prototype of *semiosis* is clearly an *inquiry* or the *scientific* process of investigation. How could such scheme of *semiosis* be applicable also in *natural processes* that seem to be—at least on the surface—of a quite different nature? . . . Part of the fascination of Peirce’s metaphysics is that it includes elements that can be applied—or abused—by both those who are attracted to the transcendental argumentation of *a priori* philosophy and those who are more naturalistically minded. It seems to fulfill both underlying intellectual needs of biosemioticians: a longing for an *experientially* understood metaphysical union of man and nature as well as a need for an *experimentally* relevant (and justified) biosemiotic theory.¹²³

¹²¹Marcello Barbieri, “Biosemiotics: A New Understanding of Life,” in *Essential Readings in Biosemiotics: Anthology and Commentary*, ed. Donald Favareau (New York: Springer, 2010), 756-57.

¹²²Jesper Hoffmeyer, *Biosemiotics: An Examination into the Signs of Life and the Life of Signs* (Chicago: University of Scranton Press, 2008), 4.

¹²³Tommi Vehkavaara, “From the Logic of Science to the Logic of the Living: The Relevance of Charles Peirce to Biosemiotics,” in *Introduction to Biosemiotics*, ed. Marcello Barbieri (Dordrecht: Springer, 2008), 263-64.

The idea that biosemiotics implies a new or different metaphysical insight has caused many scientists holding to the traditional view of biology to be extremely skeptical and resistant to the idea. Because of the influence of Peirce and the implications of all life being reduced to a code, or a form of communications, these traditionalists suspect a Trojan horse designed to attack the long-held and fortified position of philosophical naturalism. In other words, naturalists suspect that hidden within biosemiotics is an acceptance of some kind of vitalism, panpsychism, or theism.¹²⁴ While it is true that some who are working on biosemiotics have rejected philosophical naturalism for a more “spiritual” solution, still many leading thinkers in the field deny any attempt to undermine the modern assumption of atheistic evolution.¹²⁵ These thinkers do not see themselves as conquerors of modern science, but as liberators. Particularly liberators from Cartesian dualism separating the mental realm from the material realm, and the reductionistic idea that life is nothing but matter and chemistry.¹²⁶ What biosemioticians seem to be after is nothing short of a Kuhnian paradigm shift. To Hoffmeyer, biosemiotics will change the way scientists interpret the data after careful observation and examination.¹²⁷ Hoffmeyer even questions whether

one can at all understand advanced biochemistry and molecular biology without thinking in semiotic terms. . . . We must thus plead guilty to the charges of the experimentalists. The biosemiotic idea certainly implies metaphysical views that have no place in traditional biology. But rather than narrowing down the options—as Driesch’s vitalism does—biosemiotics will have a liberating influence on a biology which seriously needs a way to displace the big-brother role that physics has claimed for all too long. Biosemiotics does not turn experimental biology to metaphysics but instead replaces an outdated metaphysics—the thought that life is only chemistry and molecules—with a far better, more contemporary, and more

¹²⁴Hoffmeyer, *Biosemiotics*, 8-15.

¹²⁵On Peirce’s “panpsychism,” see Arthur W. Burks, “Peirce’s Evolutionary Pragmatic Idealism,” *Synthese* 106, no. 3 (March 1996): 323-72. On vitalism, see Kalevi Kull, “Biosemiotics in the Twentieth Century: A View from Biology,” *Semiotic* 127 (1999): 385-414.

¹²⁶Hoffmeyer, *Biosemiotics*, 40.

¹²⁷*Ibid.*, 14.

coherent philosophy. Life rather than natural law—and signs rather than atoms—must become natural science’s fundamental phenomena. Life is composed of molecules, which manifest themselves as signs (Hoffmeyer 1993; 1996; Kawade 1996).¹²⁸

One essential point with major metaphysical ramifications is the question of whether the signs or information found in living organisms is semantic in nature or not. If it is semantic, such as words forming a sentence to convey meaning, then it seems that intelligence is required for both the construction and extraction of the meaning. Those who deny that intelligence is necessary will have the added burden of proving how complex codes, such as DNA, can form naturally apart from intelligence. No matter how the issue is resolved in the future, most biosemioticians agree that the old way of reducing life to “chemistry and molecules” is an outdated paradigm that has run its course. The materialist quest to search deeper and deeper for the smallest particle is an exercise in futility if the material order is semiotic in nature. It would be much like concentrating on a single letter of a word that is a part of a sentence and expecting to find a deeper meaning. The letter only makes sense in the larger context of words and sentences. Concerning information and the reductionistic tendency of materialism, William Dembski writes,

Information, as we’ll see, is relational and holistic. Matter, by contrast, is individualistic and isolative. With matter, it doesn’t matter how many repetitions of it exist, at least not for its identity as a particular type of material object. If the universe, conceived in purely material terms, contains a few more or less electrons than it presently has, nothing will be fundamentally affected. Yes, material objects interact with other material objects. But material objects maintain their identity even as other material objects are added or removed. This helps explain the materialist impulse to analyze matter into its ever finer constituents so that these constituents may then be considered individually. That’s why particle accelerators are today’s preeminent shrine to the cult of materialism. And that’s why so much excitement exists at the time of this writing about the discovery of the Higgs boson at the Mecca of materialism, namely, CERN (the European Organization for Nuclear Research). Indeed, why else do materialists refer to the Higgs boson as “the God particle”?

While many working in biosemiotics would reject Dembski’s Christian theism, most would likely agree with the above critique of materialism.

¹²⁸Hoffmeyer, *Biosemiotics*, 15.

One of the problems with Darwinian materialism is that it does not allow for any kind of teleology. Teleology can be understood as an explanation of a phenomenon by its end goal or purpose. In theological terms, teleology may include design (and beauty) in the material world. The idea of an “end goal,” “purpose,” or “design” implies an intelligence, and since there is no overarching intelligence in nature, according to the materialists, then any appearance of teleology is illusory. As geneticist Jerry Coyne writes, “If we’re to defend evolutionary biology, we must defend it as a science: a non-teleological theory in which the panoply of life results from the action of natural selection and genetic drift acting on random mutations.”¹²⁹ For well over a century with scientific discoveries such as DNA, it has become more difficult for Darwinian materialists to deny what seems obvious to all; that nature has a teleology, an overarching purpose and design.

Richard Dawkins has been a staunch defender of Darwinian materialism. The subtitle of his book, *The Blind Watchmaker*, is “Why the Evidence of Evolution Reveals a Universe Without Design.”¹³⁰ The cover of the 1987 edition reads,

Natural selection is the blind watchmaker, blind because it does not see ahead, does not plan consequences, has no purpose in view. Yet the living results of natural selection overwhelmingly impress us with the appearance of design as if by a master watchmaker, impress us with the illusion of design and planning.¹³¹

On the first page, Dawkins writes, “Biology is the study of complex things that appear to have been designed for a purpose.”¹³² According to Dawkins, any appearance of teleology (purpose or design) is only an illusion. Dembski explains,

Within materialism, the nuts and bolts of nature are elemental material entities devoid of any inherent teleology. It follows that within materialism any inherent teleology that matter exhibits must result from teleology being imposed on matter and thus by

¹²⁹William A. Dembski, *Being as Communion: A Metaphysics of Information* (Burlington, VT: Ashgate, 2014), 49.

¹³⁰Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: Norton, 1987).

¹³¹Ibid., cover.

¹³²Ibid., 1.

external design. External design, within materialism, thus comes to subsume all of teleology. Yet because matter is all that exists within materialism, any design will just be one item of matter causing a change in another item of matter. And since matter at root is nonteleological, any teleology associated with such design is, in the end, merely a byproduct of underlying nonteleological material processes. In this way, materialism destroys any fundamental or real teleology in nature.¹³³

However, there is a growing dissatisfaction with the materialistic nonteleological hypothesis among scientists and philosophers. Atheist philosopher Thomas Nagel, in his book *Mind and Cosmos*, rejects the materialistic answer and suggests that a nonmaterialistic, nonpurposive teleology could serve as a better solution:

Admittedly, the idea of teleology explanation is often associated with the further idea that the outcomes have value, so that it is not arbitrary that those particular teleological principles hold. That in turn poses the question whether an explanation that appeals to value can be understood apart from the purpose of some being who aims at it. Nonpurposive teleology would either have to be value-free or would have to say that the value of certain outcomes can itself explain why the laws hold. In either case, natural teleology would mean that the universe is rationally governed in more than one way—not only through the universal quantitative laws of physics that underlie efficient causation but also through principles which imply that things happen because they are on a path that leads toward certain outcomes—notably, the existence of living, and ultimately of conscious, organisms.¹³⁴

This naturalistic nonmaterial teleology Nagel is proposing seems to fit very well within the project of biosemiotics.

In *The Biologist's Mistress*, Victoria N. Alexander, much like Nagel, desires to reassert a naturalistic nonmaterial teleology back into biology. Alexander writes,

Biologists—whose subject compels them to deal with questions about for example, what organs are for—must constantly remind themselves that official functionality is just a side effect of predictable material causal processes. As J. B. S. Haldane is said to have claimed, teleology is like a mistress to a biologist: he may not be able to live without her but he's unwilling to be seen with her in public. The serious and sensible scientists resolutely resist teleology and her meretricious allure. And so despite biology's occasional flirtation, in general science measures its progress in terms of the distance it has put between itself and teleology.¹³⁵

¹³³Dembski, *Being as Communion*, 56-57.

¹³⁴Thomas Nagel, *Mind & Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (Oxford: Oxford University Press, 2012), 67.

¹³⁵Victoria N. Alexander, *The Biologist's Mistress: Rethinking Self-Organization in Art, Literature, and Nature* (Litchfield Park, AZ: Emergent, 2011), 7.

Alexander, however, considers herself a teleologist.¹³⁶ She also believes that biosemiotics holds the greatest promise in developing a self-organizing teleology. After dismissing the idea that teleology is theological in nature, she suggests,

Teleology comes closer to a transcendental way of animating nature and recognizing some kind of proto-intelligence and creativity *in events themselves* rather than attributing their organization to a Being in control of nature. I say, *comes closer to* because it does not go that far or quite in that direction. Teleology seeks naturalistic explanation for real, natural phenomena. Nature is, as we are, self-organizing.¹³⁷

Alexander's self-organization of nature would also include, among other things, the presence of beauty within nature, as well as the human desire to produce beautiful works of art. Beauty, in biosemiotics, is understood as a sign, but not a sign of an intelligent creator, it is a sign of nature's ability to self-organize. According to Alexander, the beauty of a work of art will not just be "pretty," but will somehow show the meaning and purpose of nature that "has self-organized and evolved spontaneously."¹³⁸

Hoffmeyer, in the section of *Biosemiotics* entitled "Biosemiotics and the Human Being," does not attempt an original answer concerning the origin of the human aesthetic sense, but, like the evolutionary psychologists, points to the developmental needs of human ancestors:

Art is presumably the most uniquely human way to express one's aesthetic being—and for that reason, it has traditionally been the point of departure for most attempts at defining human aesthetic psychology. Seen from a biosemiotic perspective, however, the essential question that must be asked is if a key to an understanding of our human aesthetic being might eventually be discovered through an analysis of the daily biosemiotic challenges that our big-brained ancestors of millions of years ago had to cope with.¹³⁹

Hoffmeyer then points to a possible ancient psychological need:

I shall suggest, then, that the biosemiotic core at the heart of the human aesthetic sense is rooted in an easing of the burden of interpretive inventiveness, or—in cases

¹³⁶Alexander, *The Biologist's Mistress*, 7.

¹³⁷Ibid., 10.

¹³⁸Ibid., 69.

¹³⁹Hoffmeyer, *Biosemiotics*, 323.

where this fails us—in the lowering of the level of social confusion that necessarily follows from the formalization, and thus the making sensible, of human expression and feelings.¹⁴⁰

In other words, the human aesthetic sense developed to interpret the outward expressions of human feelings and emotions accurately. To Hoffmeyer, aesthetics as well as ethics immersed in society because both became an important “framework for considering the possible existence of some universal constituents in the way that human beings biosemiotically value their life-world.”¹⁴¹ To put it otherwise, according to Hoffmeyer, the human aesthetic sense evolved as an important faculty of social awareness, particularly for the sending and receiving of sociological signs.

Critique of Biosemiotic Aesthetics

The critique of the biosemiotics can be approached from several angles. Much of the critique can be repeated from chapter 2, particularly concerning the development of the conscious mind. However, one should at least begin by appreciating the willingness of those working in biosemiotics to take on the materialistic reductionism of the scientific establishment. This is no easy task, and the stakes are high.¹⁴² Yet, this questioning should be considered healthy because of the possibility of sparking new avenues of inquiry and advancing the field of biology. It should also be appreciated that those working in biosemiotics understand the physical world as something more than just matter in motion. They desire to comprehend biological systems as a comprehensive whole rather than seeking to break down matter into smaller and smaller parts. However, holding these positive points in mind, a few serious problems need to be examined.

To begin, one should revisit the definition of “semiotics” and “biosemiotics.” Consider the definition quoted above by Barbieri, “Semiotics is the study of signs, and

¹⁴⁰Hoffmeyer, *Biosemiotics*, 324.

¹⁴¹Ibid.

¹⁴²I.e., reputation in the scientific community, tenure, and grant money.

biosemiotics can be defined, therefore, as the study of signs in living systems.”¹⁴³ This definition is simple enough, but one must further consider the origin, purpose, and nature of these signs. Consider once more John Locke’s definition:

Thirdly, the third branch may be called Σημειωτική, or the doctrine of signs; the most usual whereof being words, it is aptly enough termed also λογική, logic: the business whereof is to consider the nature of signs, the mind makes use of for the understanding of things, or conveying its knowledge to others.¹⁴⁴

According to Locke, one must first “consider the nature” of the sign. Did a particular sign originate in a mind with the intent of “conveying its knowledge to others,” or did the sign have a non-mental source with its significance only understood in the mind of the sign interpreter. In other words, when considering a particular sign, one must first understand if two minds are involved or only one. This question parallels Augustine’s distinction between “natural” and “conventional” signs. “Natural” signs are usually understood as signs that do not originate from a mind; for instance, smoke as a sign for fire, or the Grand Canyon signifying water erosion. The natural sign seems to have only one mind involved, the interpreter. A “conventional” sign on the other hand is a sign (i.e., words, pictures, gestures, etc.) that transfers meaning from the mind of the sender to the mind of the receiver. So, which of these two types of signs are involved in the field of biosemiotics? Given the two categories of signs, most scholars working in biosemiotics would reduce all biological signs to natural signs that would either include one mind or no mind at all.

One of the major problems in biosemiotics is that these “natural” signs are not necessarily interpreted by a human mind, but by something else within the organism. What is even more confusing is that these so-called non-human “interpreters” do not have a mind or possess consciousness. As Tommi Vehkavaara writes,

It has become evident that when studying . . . signs meaningful for *non-human* subjects, we need to give up certain conceptual common sense intuitions. Because biosemiological subjects do not (in general) have any sort of mind (nor consciousness),

¹⁴³Barbieri, *Biosemiotics*, 756.

¹⁴⁴Locke, *An Essay Concerning Human Understanding*, 336-37.

we have to redefine the concepts of meaning, subject, and interpretation (of a sign) ‘naturalistically’, i.e. avoiding anthropocentric or mentalistic pre-understanding of these concepts.¹⁴⁵

If this is true, then how do “biosemiotical subjects” “interpret” a sign if the subjects have no mind or consciousness? Vehkavaara does not say, but instead he doubles down on the idea that subjects need to “perceive” signs and “understand” their “meaning” or “significance” without possessing a mind or any kind of consciousness. Vehkavaara explains,

What then is required for the concept of subject? First of all, consciousness has to be dropped as a defining character of subjectivity. We are interested in the kinds of subjects that are capable of interpreting signs. Therefore the minimum requirement is that this kind of subject must be able to ‘perceive’ signs (specific to the subject), i.e. it must be able to differentiate a sign from ‘non-significant stuff’ (and from other differentiable signs). The second requirement is that the object, which is represented by a sign for a subject, has to be ‘meaningful’ or ‘significant’ for the subject, i.e. the subject has to *react* to the sign appropriately. There must be some subjectively active component through which the sign has an effect on the subject, an effect of significance for it. I would like to define this ‘appropriate reaction’ as a result of the interpretive act. The (subjectively interpreted) *meaning* of the perceived sign, the *interpretant* in Peircean terminology, becomes thus defined as the (appropriate) *reaction of an interpreter* when the sign starts to work as a sign, i.e. when the sign starts to represent the object for the interpreter—or when the interpreter interprets the sign.¹⁴⁶

Vehkavaara is suggesting that no mind is necessary in biosemiotics. Notice, however, that he cannot avoid the language of mind or consciousness when using terms such as “interpreting,” “perceive,” “differentiate,” “meaningful,” “significant” “react appropriately,” and “interpretive act.” How can Vehkavaara use the terms of a conscious mind, and yet deny that a conscious mind is necessary? This would be like suggesting something does not have legs, but can still walk, run, skip, hop, and jump. How is that even possible? It might make more sense if he understood the biosemiotics systems as functioning like a computer program. The “programmer” (mind) developed the “code” (signs) in order for the bio-system to function a certain way, but the code itself is not

¹⁴⁵Tommi Vehkavaara, “Extended Concept of Knowledge for Evolutionary Epistemology and for Biosemiotics: Hierarchies of Storage and Subject of Knowledge,” in *Emergence, Complexity, Hierarchy, Organization*, ed. G. L. Farre and T. Oksala (Espoo, Finland: Finnish Academy of Technology, 1998), 214.

¹⁴⁶Ibid.

conscious. In other words, the “programmer” gets the whole system started and then the unconscious system runs according to its “programming.” However, Vehkavaara denies this possibility when he writes,

Who (or what) was the subject of the process that created the first subject? The answer is obvious (if God is excluded): this subject must be the first subject itself—the first subject must be capable of creating itself. It must contain the distinction necessary for its own identification—a kind of self-representation.¹⁴⁷

Vehkavaara clearly wants to exclude the “common sense” definition of semiotics (or biosemiotics) by denying the need for a “mind” anywhere in the system. How, then, is biosemiotics any better than the old Darwinian evolutionary system that smuggles in the language of “design” and “purpose,” but denies that “true” design and purpose (teleology) is possible.

Affirming a “teleology” (i.e., design, end goal, or purpose) without affirming a Designer (God), after all, seems to be the heart of much of the biosemiotic project. The allure of biosemiotics is that one may once again speak of “teleology” and “design” without being religious. However, what also seems to be at the heart of the project is to construct a theory showing how a biological system has “evolved spontaneously” and has “self-organized.”¹⁴⁸ One wonders at this point what advantage the biosemiotics project has over the old system of materialistic reductionism? One also wonders how there can be a true “teleology” in biology without a “mind” planning, designing, and overseeing the end goal? Indeed, it seems more than a little suspicious that a human mind is required to recognize, comprehend, and write about these biological signs and codes (i.e., DNA, or beauty), and yet to suggest the mere possibility that a greater mind could have produced these signs is strictly denied.

¹⁴⁷Vehkavaara, “Extended Concept of Knowledge,” 214.

¹⁴⁸See quotes by Victoria N. Alexander.

A Modest Common Sense Proposal for Natural Signs

In *Natural Signs and the Knowledge of God*, philosopher C. Stephen Evans, influenced by Thomas Reid's "common sense" philosophy, suggests that certain natural signs could be a means by which "a person becomes aware of God."¹⁴⁹ While God may be the ultimate cause of all natural signs, not all natural signs immediately impress upon human perception the idea of God's existence. Concerning this distinction, Evans writes,

To look at the hypothesis that there are natural signs for God, it is legitimate to employ the content of the hypothesis, which in this case includes the existence of God. If God exists, then God is the creator and sustainer of every finite reality, so the idea of a causal link between God and the sign is unproblematic. However, just because God is the creator of everything finite, such a causal connection seems insufficient. Presumably, natural signs for God will be distinctive in some way. There may be some sense in which everything in the natural world can serve as a natural sign for God. However, if everything is a natural sign for God, then there will be no theistic natural signs in any distinctive sense. What is needed, I think, is the idea not only that God is the cause of the existence of the sign, but that God created the sign to be a sign. The function of the sign needs to be part of the reason why the sign exists, and this function must be anchored in God's creative intentions.¹⁵⁰

When considering these particular natural signs that God placed in creation, Evans proposes two hypotheses: the Wide Accessibility Principle and the Easy Resistibility Principle.¹⁵¹ The concept of the Wide Accessibility Principle is that whatever sign(s) God uses to point humanity to himself would not be so complicated that only philosophers could understand, it would be something easily recognizable by every human being no matter how intelligent or educated. In other words, God would leave plenty of signs in his creation pointing to his existence that would be accessible to all human beings with properly functioning faculties.

However, along with the Wide Accessibility Principle, Evans also proposes the Easy Resistibility Principle. This principle suggests that even though the knowledge of

¹⁴⁹C. Stephen Evans, *Natural Signs and Knowledge of God: A New Look at Theistic Arguments* (Oxford: Oxford University Press, 2010), 35.

¹⁵⁰Ibid.

¹⁵¹Ibid., 14-15.

God would be available to all through certain natural signs, they could be easily rejected or resisted. Evans suggests,

According to this principle, though the knowledge of God is widely available, it is not forced on humans. Those who would not wish to love and serve God if they were aware of God's reality find it relatively easy to reject the idea that there is a God. To allow such people this option, it is necessary for God to make the evidence he provides for himself to be less than fully compelling. It might, for instance, be the kind of evidence that requires interpretation, and include enough ambiguity that it can be interpreted in more than one way.¹⁵²

Why would God not make the evidence of his existence so overwhelming that no one could possibly deny it? In anticipation of this question, Evans explains,

The plausibility of this principle stems from the assumption that God wants the relationship humans are to enjoy with him to be one in which they love and serve him freely and joyfully. Since God is all-powerful and all-knowing, one can easily imagine that people who do not love God would nevertheless, if his reality were too obvious, come to the conclusion that it would be foolish and irrational to oppose God and God's purposes, however grudgingly the conclusion might be held.¹⁵³

Evans readily acknowledges that his two principles can be found in a well-known passage in the *Pensées* by French mathematician and philosopher Blaise Pascal. Pascal writes,

If he had wished to overcome the obstinacy of the most hardened, he would have done so by revealing himself to them so plainly that they could not doubt the truth of his essence. . . . It was therefore not right that he should appear in a manner manifestly divine and absolutely capable of convincing all men, but neither was it right that his coming should be so hidden that he could not be recognized by those who sincerely sought him. He wished to make himself perfectly recognizable to them. Thus wishing to appear openly to those who seek him with all their heart and hidden from those who shun him with all their heart, he has qualified our knowledge of him by giving signs which can be seen by those who seek him and not by those who do not. "There is enough light for those who desire only to see and enough darkens for those of a contrary disposition."¹⁵⁴

This section of the *Pensées* reinforces Evans's Wide Accessibility Principle and Easy Resistibility Principle; natural signs pointing to the knowledge of God should be widely accessible, but easily deniable by those who refuse see them.

¹⁵²Evans, *Natural Signs and Knowledge of God*, 15.

¹⁵³Ibid.

¹⁵⁴Ibid., 16.

What kind of sign(s), according to Evans, could point humanity to God's existence? To begin, Evans suggests that it is highly likely that a natural sign pointing to God has a corresponding hardwired human ability to perceive it:

On the one hand, to be a natural sign at all, there must be some in-built propensity, when the sign is encountered, to form some relevant judgment as a result of the encounter with the reality mediated by the sign. If there are such theistic natural signs, we would then expect belief in God to be widespread, found in reasonably young children and across many cultures, and we would expect that those beliefs would be typically occasioned by the same types of experiences.

What kind of sign(s) would have both an external and internal connection? Evans describes several types of signs that would qualify, including what he called "cosmic wonder," and "beneficial order." Cosmic wonder signs consist of experiences that are "mysterious" or "puzzling" that are "crying out for some explanation."¹⁵⁵ When certain wondrous aspects of the universe are encountered, it may very well be a "calling card," that reflects God's "creative work."¹⁵⁶ Evans writes,

It would not only be the case that the sign naturally tends to produce belief in God; it would do this because God created a contingent universe and gave humans a natural sense of wonder when they encounter that universe. We do find it natural to see the universe as something whose existence is surprising, something that "cries out" for explanation and naturally suggests to us that behind the universe lies something—or someone—that exists in a deeper and less surprising way.¹⁵⁷

The "beneficial order" signs are "orderly, complex structures" that seem to exist for the purpose of bringing about "some good."¹⁵⁸ This "beneficial order" sign may be best understood through the experience of the natural world. Evans explains,

It is no accident that people often find an encounter with the natural world to be in some way "spiritual," and that experiences of the natural world frequently seem to

¹⁵⁵Evans, *Natural Signs and Knowledge of God*, 60.

¹⁵⁶Ibid., 63.

¹⁵⁷Ibid., 63-64.

¹⁵⁸Ibid., 90.

produce, in a perfectly spontaneous way, a belief that some kind of purposive intelligence lies behind the beauty and order we find in nature.¹⁵⁹

What is noteworthy about Evans's "beneficial order" idea is that it is very similar to C. S. Peirce's previously mentioned essay, "A Neglected Argument for the Reality of God."

The cosmic wonder and beneficial order signs are natural signs that are a result of certain experiences of the natural world. According to Evans, these experiences could include "the beauty or grandeur of a sunset over the ocean or mountain vista."¹⁶⁰ In fact, the presence of beauty in the universe seems to fit perfectly within Evans proposed criteria for a natural sign that points to God's existence. Beauty is "widely assessable" in that it exists everywhere and is recognized by all cultures, and is, more often than not, recognized as originating from God. It is also "easily resistible" as a sign for God's existence in that it can be ignored or explained away with theories, such as evolutionary aesthetics or biosemiotics. Beauty also has a corresponding hard-wired human ability to perceive it. This ability is known as the "aesthetic sense" or "aesthetic perception." Therefore, God not only created beauty, but gave humanity the ability to perceive it. Finally, beauty also qualifies as a "cosmic wonder" and a "beneficial order." It is for these reasons that beauty should be understood as a particular kind of natural sign that points humanity to the reality of God's existence. If metaphysical naturalism is true, then the beauty found throughout the universe and the human ability to perceive is an inexplicable gratuitous accident. However, if God does exist, then beauty is likely one of the many "signs" or "voices" designed to declare God's glory to the whole human race, or at least to those willing to hear it.

Summary

This chapter examined beauty as a sign, particularly as a natural sign pointing to God's existence. The semiotics of Augustine, Berkeley, Edwards, Reid, and Peirce were explored. Even though their projects differed from one another, one of the

¹⁵⁹Evans, *Natural Signs and Knowledge of God*, 98.

¹⁶⁰Ibid., 38.

commonalties between them is that they understood beauty as a sign from God. The new field of biosemiotics (inspired by the semiotics of C. S. Peirce) was examined and found to be a difficult theory to hold in the absence of a creator and/or an interpreter of signs with a conscious mind. Finally, C. Steven Evans's theory concerning natural signs that lead to the knowledge of God helps to reinforce the idea that the beauty of creation and the human ability to perceive it is indeed a sign pointing to the great sign maker—God. The next chapter examines the nature of beauty, and how it is infused into every area of the universe.

CHAPTER 5

PERCEIVING THE WORLD OF BEAUTY

In chapter 1, beauty was defined as a particular quality (or qualities) of an idea, object, or sound that pleases, delights, or enchants when perceived by a person whose mind and faculties are sound. This definition affirms both an objective and subjective aspect of beauty. It recognizes that an “idea, object, or sound” contains a “particular quality” that is real and external to the perceiver. The subjective aspect of the definition of beauty is that which “pleases, delights, or enchants when perceived,” which is a personal experience within one’s mind. However, an aesthetic experience is not merely a construct of one’s mind, but a personal perception of a real external quality.

This chapter examines beauty from several different perspectives. It surveys the philosophical arguments for both objectivism and subjectivism, followed by examples of beauty throughout the universe. Next, the problem of ugliness is considered; and, finally, it is argued that the presence of beauty in the universe is precisely what one should expect from a loving God. Metaphysical naturalism presents a universe full of matter fabricated purely by accident; whereas the evidence seems to point toward biblical theism that presents an enchanted, logically ordered universe created by an all-wise, powerful, and loving God.

Objective Beauty and the Mind of the Observer

Whether it is objective, subjective, or a combination, the nature of beauty has been a matter of debate for centuries. If beauty is objective, then a real quality of beauty within physical objects can be perceived. If beauty were subjective, then beauty would reside only in one’s mind. It seems that a metaphysical naturalist would tend to believe beauty is subjective, because one would only have to account for the mental construct of

beauty. However, if beauty is objective, or contains both objective and subjective aspects, then the problem of beauty becomes more complex. One would not only have to explain the mental perception of beauty, but also how and why beauty became a real physical quality that is external to the mind.

Some philosophers are confident that the objective nature of beauty can be logically demonstrated. An excellent analysis of both aesthetic objectivism and aesthetic subjectivism can be found in *Philosophy of Beauty* by philosopher Francis J. Kovach.¹ Kovach uses the terms “positive aesthetic fact” and “negative aesthetic fact” to discuss one’s experience of beauty.² The positive aesthetic fact is the “aesthetic delight” that is “experienced by people while beholding certain objects.”³ The negative aesthetic fact is “the aesthetic disagreement among people throughout history on whether or not certain things are beautiful.”⁴ According to Kovach, this negative aesthetic fact is typically used to argue for aesthetic subjectivism.

To make a case for objectivism by using the positive aesthetic fact, Kovach formulates both an indirect argument and a direct argument. For the indirect argument Kovach writes,

If the knowledge that causes the delight in the beholder came from within the beholder’s own mind, as the creative idea does from the artist’s mind, then the beholder would be aware of it, just as the creative artist is perfectly well aware of *his* conceiving the idea of an artwork, and even of the very moment *when* it suddenly emerged in his mind. Diaries, personal letters, and autobiographic writings of creative artists can only confirm this statement. But, as a matter of fact, no beholder as a beholder is aware of any such thing. If the beholder is aware of anything in regard to the origin of his delightful knowledge, it is that this knowledge came from the object which he beheld. Therefore, the knowledge that delights the beholder does

¹Francis J. Kovach, *Philosophy of Beauty* (Norman: University of Oklahoma Press, 1974).

²Ibid., 55.

³Ibid.

⁴Ibid.

not come from within, that is, from his own mind. Hence, it must come from without, namely, from the object that he sees and/or hears.⁵

For the direct argument Kovach writes,

It is a commonly known fact that, in order to have aesthetic experience in general, and aesthetic delight in particular, three conditions must be fulfilled by any one person. These conditions are as follows: (1) the presence of certain objects; (2) the possession of the organ of vision and/or hearing; and (3) the actual functioning of the eye and/or ear. That the presence of certain objects is needed for aesthetic experience can be seen from the fact that one must see not just anything but something like the Cologne Cathedral, Renoir's *Bathers* in the Philadelphia Museum of Art, or the King Lake (*Königsee*) in Bavaria rather than a New York tenement house, a dirty sheet of paper, or a burned-down tree somewhere in California, in order to be delighted. Similarly, one must hear not just anybody but rather one like Caruso, Marian Anderson, or Shaliapin in order to enjoy what he hears. It is precisely for this necessary condition of aesthetic experience that we go to concert halls, art museums, opera houses, galleries, theaters, cathedrals, and movie-houses when we want to have aesthetic experience and aesthetically to enjoy ourselves. Similarly, we all know that we need eyes to see and ears to hear for aesthetic enjoyment, because he who was born blind will never enjoy anything visible, and he who was born deaf will never be delighted by even the greatest music ever written. And thirdly, it is also empirically known that the mere presence of the greatest artwork and the possession of the organ of vision or hearing do not suffice in themselves unless one actually uses his eye and/or ear. Close your eyes while standing before Rubens' *The Last Judgment* in Munich's *Alte Pinakothek*, and you will experience no enjoyment at all. . . . Continuing, then, the syllogism, we may say: all these three necessary conditions show one thing, and one thing only: that the knowledge of the beholder which causes the delight in him comes not from his own mind but from the object he beholds with his eye and/or ear. For we need to see or hear certain objects because we cannot at our pleasure, whenever we like to have aesthetic enjoyment, create (conceive) delectable ideas all by ourselves in our own minds. And we need the eye and the ear, and must also use them for the same reason: because we need to see the products of nature and the fine arts in order to acquire from them delightful knowledge in our minds.⁶

Kovach then concludes, "That knowledge which causes the delight in the beholder comes not from the beholder's own mind; instead, it is caused by the object that he beholds."⁷

⁵Kovach, *Philosophy of Beauty*, 60.

⁶Ibid., 60-61. It is possible to have an experience of aesthetic delight in a dream, which seems to contradict Kovach's three conditions. However, in a dream the mind would likely construct or combine objects from the physical world. It is doubtful that a blind person would have a dream of a majestic sunset over purple mountains, simply because a blind person has never seen a sunset, mountains, or colors.

⁷Ibid., 61.

In the final paragraphs of the chapter on aesthetic objectivism, Kovach makes a few affirmations and denials by which he hopes that objectivism is clearly understood.

He states three propositions that objectivists believe to be true concerning beauty:

- (1) Primarily or basically, beauty is an objective quality of things; that is,
- (2) Beauty exists in things independent of the mind's consideration; and,
- (3) Some beauty, the beauty of natural things, can exist in such a way that nobody ever comes to know or enjoy it; other beauty of artworks, can exist in such a way that, with the exception of its artist maker, nobody ever come to know it or enjoy it.⁸

Kovach then adds that objectivism does not mean the idea of beauty cannot exist in the mind, as long as it is understood that the beauty in one's mind may be connected to some known object in reality. For example, an idea of beauty may exist in the mind of an artist by way of imagination, but this same idea of beauty could ultimately be expressed in a physical object (i.e., canvas, clay, metal, etc.) independent of the artist's mind.⁹ Kovach then states three propositions objectivists deny:

- (1) That all beauty is only, exclusively, and totally in the mind;
- (2) That all beauty is nothing but an idea or pleasure in the mind; and,
- (3) That the perception of material beings is merely the occasion for, rather than the true cause of, aesthetic delight.¹⁰

At this point, it is important to affirm that objectivism does not imply there are no subjective elements in the mind of the observer. When beautiful objects or sounds are presented to a human subject, it first must be perceived through the sense of sight or sound, but then the mind or intellect (reminiscent of Kant's "free play of the intellect and imagination") recognizes a "particular quality" that "pleases, delights, or enchants."¹¹ The human aesthetic sense is much more than just sense perception, it is an innate ability of the intellect to recognize beauty (with an exception being those whose minds or faculties are not functioning properly). In many ways, the human aesthetic sense may be

⁸Kovach, *Philosophy of Beauty*, 63-64.

⁹Ibid., 64.

¹⁰Ibid.

¹¹Ibid., 9.

like the human conscience; it is inborn (common to all humanity) but can easily be suppressed or damaged, or it can be trained to be even more sensitive. In other words, the aesthetic sense exists in all humans, but it can vary in degrees of sensitivity and can be trained or shaped (for better or worse) by certain cultural customs and values.

Aesthetic Subjectivism

In the chapter entitled “Evaluation of Aesthetic Subjectivism,” Kovach explores “apparent and implicit real aesthetic subjectivism.”¹² First, Kovach evaluates apparent aesthetic subjectivism by comparing it to aesthetic objectivism to see if there are any similarities between the two positions. To make this comparison, Kovach analyzes several statements by objectivist Thomas Aquinas and subjectivist David Hume. He concludes that apparent aesthetic subjectivists and objectivists discuss three topics in a similar way: (1) certain objective qualities in the things observed, (2) the aesthetic delight one experiences when observing these objective qualities, and (3) the causal relationship of the first and second, whereas the “objective qualities are the cause, and aesthetic delight is their effect.”¹³ For example, Aquinas understood beauty to possess “due proportion.” Aquinas writes, “Everything is beautiful inasmuch as. . . it has due proportion.”¹⁴ However, Hume seems to concur when he writes, “The most vulgar ballads are not entirely destitute of harmony or nature.”¹⁵ These quotes show that Aquinas the objectivist and Hume the (apparent) subjectivist seem to find agreement about beauty being some “due proportion” or “harmony” within an object or sound. Kovach continues to analyze statements by Aquinas and Hume showing the similarities of their positions, and then concludes the

¹²Kovach, *Philosophy of Beauty*, 65.

¹³Ibid.

¹⁴Ibid.

¹⁵Ibid.

section with a quote by Aquinas and Hume comparing internal and external beauty. Aquinas states, “Both kinds of [internal and external] beauty delight man, and are desirable to him.”¹⁶ Whereas, Hume writes, “It must be allowed that there are certain qualities in objects which are fitted by nature to produce those particular feelings, sentiment, internal or external.”¹⁷ Kovach suggests that there does not appear to be much difference between Aquinas and Hume in these two quotes. However, upon closer analysis, certain differences do become apparent. As Kovach observes,

The former [Aquinas] calls beauty “some kind of quality” of the object, that is the cause of aesthetic delight. The latter [Hume] categorically denies that beauty is an objective quality by stating that it is “certain that beauty and deformity, more than sweet and bitter, are not qualities in objects . . .,” and defines beauty to be, instead, the effect of certain objective qualities: “Beauty is not a quality of the circle It is only the effect which that figure produces upon a mind, whose particular fabric or structure renders it susceptible of such sentiments.”¹⁸

While there seems to be many similarities between the objectivism and the subjectivism represented by Aquinas and Hume, the biggest difference between the two is their understanding of where beauty resides. Kovach explains, “For, while the objectivist applies this term [beauty] to those objective qualities that cause aesthetic delight, the subjectivist in question applies the same term to the *effect* of such objective qualities, viz., to aesthetic delight.”¹⁹

Another major difference between objectivism and a stronger form of subjectivism is an implicit aesthetic relativism, which is the idea that aesthetic tastes have constantly changed among individuals and cultures throughout history. Concerning this idea, Kovach writes,

That the same beauty is recognized, enjoyed, and admired by one individual in one society or period, but not by another individual in the same or in another society

¹⁶Kovach, *Philosophy of Beauty*, 66.

¹⁷*Ibid.*, 66-67.

¹⁸*Ibid.*, 67.

¹⁹*Ibid.*

and/or period is, thus, not an implicit refutation of the objective reality of that beauty but only the confirmation of this, that for someone actually to have aesthetic experience two conditions must be fulfilled: the observed object must be beautiful, and the beholder must have the capacity and be properly disposed to take in and to enjoy the beauty that is there. The societies and the historical periods, then, which reject artworks appreciated by other societies or in other periods prove not what the relativist implies, namely, the subjectivity of beauty, but only one thing: some societies or periods are incapable or unwilling or unprepared for recognizing and taking delight in the beauties which other people do notice, enjoy, and admire.²⁰

According to Kovach, the relativist argument based on differing tastes attempting to prove that beauty is merely a subjective mental construct “is simply the fallacy of *non sequitur*.”²¹

In the remainder of the chapter on aesthetic subjectivism, Kovach explores and critiques other subjectivist theories such as metaphysical, cosmological, and negative psychological aesthetic subjectivism. In his final argument against psychological aesthetic subjectivism, Kovach constructs a syllogism showing the absurdity of this position:

“If something is objective, there is universal agreement on it. But, as a matter of fact, there has never been any universal agreement on anything among philosophers, for the following reasons: That which is sensorily knowable can be doubted by the rationalist skeptic (as multitude was by Parmenides, or material being by Berkeley); that which is rationally knowable can be doubted by the empiricist skeptic (as the principle of causality was by Algazel and Hume, or as substance was by Hume and Kant); moreover, for any agreement, an object and a knower are needed, and knowledge must be possible, and all three were denied by Gorgias. Therefore, nothing is objective.” But, evidently, this is a nihilistic position and, as such, totally absurd. Therefore, the original consequent does not truly follow from the antecedent, namely, that objectivity ensures universal agreement.²²

In other words, if beauty is objective, then one should not expect universal agreement to be a sufficient test of truth, since the history of philosophy has shown that whatever is known through the senses can be doubted.

There may be many philosophical or psychological reasons for denying the objectivity of beauty, but perhaps one major reason is that it requires a more complex answer concerning beauty’s origins. The aesthetic subjectivist must account for one main

²⁰Kovach, *Philosophy of Beauty*, 69.

²¹Ibid. Emphasis original.

²²Ibid., 92.

factor, the aesthetic experience; whereas, the objectivist must account for two factors, objective beauty in the material world and the human aesthetic experience. Because of the added explanatory burden, one would think most theists would be objectivists and most atheists would be subjectivist. However, a survey of over 3,000 professional philosophers taken in late 2009 does not support this conclusion.²³ Out of the philosophers surveyed, 72.8 percent were atheists, 14.6 percent were theists, and 11.1 percent claimed to be “other.” A preliminary survey was given to these philosophers allowing them to collectively attempt to predict the outcome of the survey. For example, the philosophers predicted that 68.1 percent would claim to be atheists, whereas the actual number was slightly higher at 72.8 percent. One of the biggest surprises of the survey was the question concerning aesthetic objectivism verses aesthetic subjectivism. The philosophers predicted that 57.9 percent of professional philosophers believed that aesthetic values were subjective, while 29.9 percent believe aesthetic values were objective. However, the actual result of the survey was that only 34.5 percent of professional philosophers believed that aesthetic values were subjective (a 23.4 percent difference), whereas 41.0 percent believed that aesthetic values were objective (a 11.1 percent difference). What this survey showed is that a significant number of philosophers who are atheists are not subjectivists. However, the survey did not reveal the specific metaphysical commitments that disclosed how these atheist philosophers supported their belief in objectivism.²⁴

The Perception of Beauty

Beauty is a term that historically has been difficult to define. Part of the difficulty is that *beauty* can be used to describe a wide variety of subjects. One can speak of a beautiful sunset, a beautiful poem, a beautiful dance, a beautiful story, a beautiful

²³PhilPapers Survey, November 2009, accessed October 21, 2016, <http://philpapers.org/surveys/>.

²⁴It is interesting to note that only 39.3 percent surveyed identified with Platonism, 37.7 percent with nominalism, and 23 percent with “Other.”

song, a beautiful person, a beautiful animal, etc. The word *beauty* or *beautiful* is used in each case, but none of the subjects are alike. How can an object of vision and sound both be beautiful? What exactly are the qualities that makes something beautiful? A consensus has not been reached on this question, and yet most people can identify beauty when they see it or hear it. An observer seems to know *that* something is beautiful, without (or before) knowing precisely *why* it is beautiful. Attempts to isolate the human perception of beauty to mere emotion, or to reason, or some combination has proved to be difficult. There does seem to be some connection to emotion in the perception of beauty, but there appears to be other factors as well.

In his article “Approaches to Aesthetic Experience,” Philosopher Noël Carroll discusses several theories concerning human aesthetic perception. One theory, focusing solely on the emotional aspect of aesthetic perception, is called “autonomism.” According to Carroll, Autonomism is

the view that the realm of art is somehow separate from other realms of practice and, as such, certain considerations are appropriate to engagements with artworks and others not—or, to put the matter in the idiom of experience, the experience of certain properties are appropriate to cultivate with respect to artworks qua *artworks*, but other considerations are inappropriate or irrelevant. The experiences that are appropriate are usually dubbed *aesthetic experiences*, and moral and cognitive experiences have been traditionally excluded from this category.²⁵

If autonomism is correct, then cognitive or moral factors are not allowed to be a part of one’s aesthetic judgment. This exclusion is also the case in moderate autonomism.

Carroll writes,

But even if a radical autonomism appears unreasonable, moderate autonomism suggest a way of sustaining its core commitments. The moderate autonomist admits that artworks have many properties: not only aesthetic ones, but religious, moral, political, and cognitive ones as well. These properties may be legitimately experienced and evaluated when encountering the artwork. However, when we consider the artwork aesthetically, only its aesthetic dimension is germane. We may

²⁵Noël Carroll, “Recent Approaches to Aesthetic Experience,” *The Journal of Aesthetics and Art Criticism* 70, no. 2 (2012): 169.

in good conscience consider the moral dimension of *The 120 Days of Sodom* by Marquis de Sade, but when we do so, we are engaging it morally, not aesthetically.²⁶

Carroll, however, rejects both radical and moderate autonomism. He not only believes that moral considerations should be included in aesthetic evaluation, but also that the “point” or “purpose” of a work of art should be considered as well. Carroll proposes,

A full response to a work of art involves attention to and contemplation of the purpose of the work as well as attention to the mode in which the point of the work has been presented or embodied. Both are equally requisite for a complete experience of the work.²⁷

For example, a painting that depicts Hitler as a triumphant hero would be repulsive to most people, no matter how well it was painted. Finally, Carroll concludes his article by asserting that many factors, including moral considerations, are often a part of an aesthetic judgment. That is to say, the human aesthetic experience does not just involve the emotions.²⁸

Artificial Intelligence, Algorithms, and the Perception of Beauty

One of the interesting observations made by researchers about the human aesthetic sense is how quickly the mind can perceive beauty. There does not appear to be much mental deliberation before one recognizes and pronounces an object to be beautiful. Brain scans have shown an instantaneous reaction in the brain to beautiful objects shown to the test subjects.²⁹ In addition, an observer can quickly recognize a beautiful object, but when pressed to explain why it is beautiful the observer often finds it difficult to put the reason into words. In other words, the pronouncement of beauty is not the conclusion

²⁶Carroll, “Recent Approaches to Aesthetic Experience,” 170.

²⁷Ibid., 174.

²⁸Ibid., 176-77.

²⁹Joseph Castro, “Brain Scans Predict Subjective Beauty,” Live Science, February 12, 2012, accessed December 17, 2016, <http://www.livescience.com/18612-brain-scans-predict-subjective-beauty.html>.

of a long deliberation, it happens in the brain almost instantaneously; beauty is recognized first before an analysis can be made on why a certain object is beautiful.

Another interesting fact discovered by researchers is that infants and young children seem to have the same ability to recognize beauty as adults, which would indicate that the aesthetic sense is innate or preprogramed into the human brain. Scholar Dean L. Overman writes,

In a recent study Dr. Alan Slater, a developmental psychologist at the University of Exeter, demonstrated that newborn babies who were less than one week old had an inherent trait that attracted them to prefer beautiful people. Our concept of beauty appears to be largely inborn and not learned.³⁰

In Slater's study, infants were shown a mixture of pictures of people who were considered to be attractive and unattractive by adults. Based on the results of this study, Overman concludes,

Almost all of the babies preferred to look at the attractive faces. On average, they spend a remarkable 80 percent of their time staring at the attractive faces. "Attractiveness is not in the eye of the beholder," Dr. Slater maintains. He continues, "It is in the brain of the newborn infant right from the moment of birth." Dr. Slater presented his findings in the autumn of 2004 to the British Association for the Advancement of Science.³¹

This study strongly suggests that the brains of human beings are preprogramed before birth to perceive beauty.

Those working in the field of artificial intelligence (AI) may help shed light on how this preprogramming works. Early in 2015, a physics website announced, "Yahoo labs have developed a machine learning algorithm that distinguishes beautiful portraits from the not-so."³² The algorithm was programed by first getting humans to rate the photographs of human faces on a scale from 1 to 10. This initial project created the

³⁰Dean L. Overman, *A Case for the Existence of God* (New York: Rowman & Littlefield, 2009), 57-58.

³¹*Ibid.*, 58.

³²The Physics arXiv Blog, "The Algorithm That Sees Beauty in Photographic Portraits," February 4, 2015, accessed December 6, 2016, <https://medium.com/the-physics-arxiv-blog/the-algorithm-that-sees-beauty-in-photographic-portraits-435ab8064646#.p901smxnk>.

standard by which the programmed algorithm would be judged for accuracy. The programmers first used facial recognition software to determine the sex, age, race and facial position. Next, they added algorithms to judge the quality of the photograph, such as exposure, lighting, and composition. Finally, they incorporated the human annotations to get the metrics to correlate with the human beauty rating. The result was that Yahoo Labs successfully trained a “machine learning algorithm” to recognize a beautiful portrait. However, a few years prior to Yahoo Lab’s research, Xerox announced that they created algorithms that could not only sort photos for content but also for “aesthetic qualities.”³³ An important observation from these studies is that researchers working with AI have determined that the way computers in the future will be able to recognize beautiful objects as quickly and accurately as human beings will be by using complex preprogrammed algorithms.

One of the first major attempts at replacing humans with AI algorithms was a beauty contest held in 2016. Beauty.AI announced that its beauty contest would be the first to be judged by an AI computer.³⁴ The AI computer analyzed contestants’ faces using an algorithm to decide which contestants were the most beautiful. However, after the contest was over, it was observed that from the 6,000 contestants worldwide, the algorithm did not prefer people with dark skin.³⁵ The reason for this discrepancy was that the initial data used to program the algorithm did not include enough minorities.³⁶ Clearly, there needs to be much more work on AI algorithms before it can match the human capacity to recognize beauty. Another major factor to consider is that AI computers do

³³David Talbot, “Beauty Now in the Eye of the Algorithm,” MIT Technology Review, November 17, 2011, accessed December 6, 2016, <https://www.technologyreview.com/s/426144/beauty-now-in-the-eye-of-the-algorithm/>.

³⁴Beauty.AI 2.0, accessed December 6, 2016, <http://beauty.ai>.

³⁵Sam Levin, “A Beauty Contest Was Judged by AI and the Robots Didn’t Like Dark Skin,” The Guardian, September 8, 2016, accessed December 6, 2016, <https://www.theguardian.com/technology/2016/sep/08/artificial-intelligence-beauty-contest-doesnt-like-black-people>.

³⁶Ibid.

not possess (nor may they ever possess) anything like the human emotional response to beauty.

While this new technology is interesting, it may also give insight into how the human brain perceives beauty. In an AI computer, once the algorithm is programmed and learned, it can search through photographs at a rapid pace to find a beautiful face. This ability to analyze beauty in a rapid manner seems to be much like the way the human brain functions. It is quite possible that the human brain comes preprogrammed with something like an algorithm that allows one to recognize beauty instantly in many forms, with an added emotional indicator when beauty is detected.³⁷

A couple of observations need to be made at this point. If beauty is objective, that is, beauty does not just exist in the mind of the observer, but is a real quality to be observed, and if the human brain has been designed to recognize beauty without requiring long deliberation, then a complexity exists that demands an explanation. The position taken in this dissertation is that this complexity is no accident; the best explanation of both the presence of objective beauty in nature and the preprogrammed ability in the human mind to perceive beauty points to a God who designed both aspects for his own glory and for the benefit of humanity.³⁸ However, those committed to philosophical naturalism or a mechanistic view of the world reject this possibility, not because it is irrational or lacks explanatory power, but because the explanation does not fit within their philosophical presuppositions.

³⁷It may be misleading to suggest that the brain functions exactly like a computer, because the brain is far more complex than any silicon-based machine. Using terms like computer or algorithms are merely intended to help one think about the brain's function in analogous technological terms one can easily understand. What should not be lost on the reader is that if computers and algorithms for AI require designers and programmers, how much more should something as complex as the human brain require a designer and programmer.

³⁸This idea corresponds with question 1 in the Westminster Shorter Catechism: What is the chief end of man? A. Man's chief end is to glorify God, and to enjoy him forever. The glory of God and the benefit of mankind are not mutually exclusive, but mutually inclusive ideas.

In A Meaningful World: How the Arts and Sciences Reveal the Genius of

Nature, Ethicist Benjamin Wiker and Literary Scholar Jonathan Witt write,

As heirs of the Enlightenment, our imaginations have been improperly constricted by this mechanistic analogy. What do we find elsewhere, further back? Whether we think of the morally compromised gods of Mount Olympus meddling in the affairs of their various mortal offspring; or of Plato's "The One" (what he also called "the Good" or "Father of that Captain and Cause"); or of the holy God of the Bible, father and shepherd and husband of his people, the deity is not construed as one interested in the world primarily as a tool for himself, much less as a watch to display merely mechanistic regularity. Indeed, whenever he is construed as a personality, and not merely as some sort of nonsentient organizing First Principle, he is depicted as one interested in the world itself, as a creator who delights in the work of his hands. Dare we use the word *love* in this context? Dare one suggest that the designer might love his creation, that he might no more think of his creation as a tool or machine than would a father his child, or Shakespeare his art? That such a term as *love* strikes many as is appropriate in an origins debate merely testifies to how thoroughly the utilitarian and reductionist implications of the watch metaphor have permeated Western thinking.³⁹

The Bible states that God is a God of love. If beauty is not only the signature of God on his creation, but also an expression of his love, then one would expect beauty to be found everywhere within his creation, including at the micro and macro levels. On the other hand, if beauty is merely an accident of nature, or if beauty is a construct of the human mind to aid in human evolutionary development, then one would not expect beauty to be found everywhere, especially not in places where humans cannot observe unaided by a telescope or a microscope. However, it is the experience of both scientists and layman alike who observe the world through the microscope and telescope that beauty can be found at every level of creation.

The Beauty of Creation

One of the negative effects of modernity is that the beauty displayed nightly is drowned out for much of the world's population by city lights. More than a century ago, when there was hardly any light pollution, people were far more acquainted with the night sky. Most people could name many of the night sky's dominate features, such as the

³⁹Benjamin Wiker and Jonathan Witt, *A Meaningful World: How the Arts and Sciences Reveal the Genius of Nature* (Downers Grove, IL: IVP, 2006), 51.

North Star, the Big and Little Dipper, as well as a few of the planets. Since the invention of electric lights as well as the steady migration from rural areas to the cities, bright lights have hidden the nightly display of beauty and wonder from the general population.

However, what has been lost through the invention of electric lights, has been more than made up for by the new technologies that can observe the beauty of the cosmos in much greater detail.

Using modern instruments, scientists observe the cosmos not just within the spectrum of visible light, but also through radio waves, microwaves, infrared, ultraviolet, x-rays, and gamma rays.⁴⁰ The result has been the revelation of a universe, mostly hidden until now, that is staggering in its size, energy, complexity, and beauty. Most observers viewing the photographs of a galaxy cluster, or the Crab Nebula from the Hubble Telescope, have experienced an aesthetic sense of wonderment and amazement.

The sheer magnitude of the universe is almost incomprehensible. Light travels and 186, 282.397 miles per second, and in one year it will travel 5,879,000,000,000 miles. The earth is 98,000,000 miles away from the sun, and the light from the sun takes a little over 8.5 minutes to reach the earth. The earth is in the Milky Way galaxy, which is roughly 100,000 light years across (5,879,000,000,000 x 100,000 miles) and 1,000 light years thick, contains around 200 billion stars. The closest galaxy is around 169,000 light years away.⁴¹

Stars are clustered in galaxies, galaxies form clusters, and some galaxy clusters form superclusters. The Milky Way is a part of a Local Group cluster of thirty other galaxies that span 10 million light years across. The Local Group cluster is in the Virgo

⁴⁰Harry Lee Poe and Jimmy H. Davis, *God and the Cosmos: Divine Activity in Space, Time and History* (Downers Grove, IL: IVP, 2012), 149.

⁴¹Ibid.

Supercluster that spans 200 million light years.⁴² It has been estimated that the edge of the universe is 12 to 15 billion light years away and it is not only expanding, but accelerating.⁴³

The largest star discovered to date is named Betelgeuse (310 light years away from earth). It has a diameter of 400 million miles (over 4 times the distance between the sun and the earth). Betelgeuse is just one star in one of approximately 50 billion galaxies.⁴⁴ The brightest star in the Milky Way, however, is Eta Carinae, estimated to be 6.5 million time brighter than the Sun.⁴⁵ The great distances and the amount of matter and energy within the universe is staggering. Only in the last one hundred years have many of these mysteries been discovered. As scientific instruments become more refined, new discoveries concerning the beauty and wonderment of the cosmos grows stronger.

Scientist and theologian Alister McGrath recalls his interest in astronomy as a young boy. He not only learned the names of the constellations and tracked the movement of the planets, he also constructed a small telescope through which he could view the craters of the moon, the moons of Jupiter, and the rings of Saturn. However, the more he learned about the cosmos and the great amount of time and distances light must travel to reach earth, the more despondent and insignificant he felt. Concerning this important time in his life, McGrath writes,

My growing knowledge of astronomy helped me appreciate the beauty of the universe. Yet it was a melancholy beauty, in that I was unable to detach the glory of the heavens from the transience and fragility of the one observing that glory. It was as if the stars proclaimed the insignificance and transience of those they allowed to observe them.

Yet when I began to think of the world as created, my outlook changed entirely. Different perspectives were opened up for me. The stars, of course, remained as they

⁴²Poe and Davis, *God and the Cosmos*, 149.

⁴³Thomas Dubay, *The Evidential Power of Beauty: Science and Theology Meet* (San Francisco: Ignatius, 1999), 133-34.

⁴⁴Ibid., 135.

⁴⁵Ibid., 137-38.

were. Yet the way I viewed them altered radically. No longer were they harbingers of transience. They were now symbols of a wisdom and care of a God who knew and loved me. The words of Psalm 8 seemed to sum thing up so well:

When I look at your heavens, the work of your fingers,
The moon and the stars that you have established;
What are human beings that you are mindful of them,
Mortals that you care for them?
Yet you have made them a little lower than God,
And crowned them with glory and honour.

The stars are signs of the providence of God, who knows them and calls them by name (Psalm 147:4) – just as he knows us and calls us by name. No longer were the stars silent memorials of transience; they were brilliant heralds of the love of God. I was not alone in the universe but walked and lived in the presence of a God who knew me and would never forget me.⁴⁶

As McGrath became both a scientist and theologian, he recognized a similarity between the natural sciences and Christianity in that they both agree that the universe is “characterized by regularity and intelligibility.”⁴⁷ However, McGrath also included the beauty of the universe:

A second way of thinking about creation is to compare this with the creative actions of an artist – like someone painting a picture or composing a symphony. We might speak of such an artist ‘putting a lot of herself into’ the picture of music, meaning that the artistic creation in some way mirrors the nature and genius of the artist. Yet the same God who created the universe also created us. There is thus a created resonance between ourselves and the universe. We are enabled to hear the music of its creator and discern the hand of the creator within its beauty. It is part of the purpose of the creator that we should hear the music of the cosmos, and, through loving its harmonies, come to love their composer.⁴⁸

To McGrath, the beauty of the cosmos is no accident, like the paintings of Michelangelo or the music of Bach is no accident. McGrath believes the Creator has given humanity the ability to perceive the beauty of the cosmos, not only so it can be enjoyed, but that humanity would come to know and love the composer.

⁴⁶Alister McGrath, *Glimpsing the Face of God: The Search for Meaning in the Universe* (Grand Rapids: Wm. B. Eerdmans, 2002), 55-57.

⁴⁷Ibid., 47.

⁴⁸Ibid., 48.

Laws of Nature: The Beauty of Order

The beauty of the cosmos is not just an external decoration; it also seems to be woven into the very fabric of the universe. In *God & the New Physics*, Paul Davies comments on how many scientists not only appreciate the beauty of the cosmos, but also look for beauty as a marker for truthfulness of their developing theories:

All great scientists are inspired by the subtlety and beauty of the natural world that they are seeking to understand. Each new subatomic particle, every unexpected astronomical object, produces delight and wonderment. In constructing their theories, physicists are frequently guided by arcane concepts of elegance in the belief that the universe is intrinsically beautiful. Time and again this artistic taste has proved a fruitful guiding principle and led directly to new discoveries, even when it at first sight appears to contradict the observational facts. Paul Dirac once wrote: “It is more important to have beauty in one’s equations than to have them fit experiment . . . because the discrepancy may be due to minor features that are not properly taken into account and that will get cleared up with further developments of the theory . . . It seems that if one is working from the point of view of getting beauty in one’s equations, and if one has really a sound insight, one is on a sure line of progress.”⁴⁹

Davies acknowledges that because beauty is so prevalent in the universe, it allows scientists to add a kind of informal test of beauty when analyzing the truth of their work. As the American physicist and Nobel Laureate Steven Weinberg observes, it is “rather spooky. . . that something as personal and subjective as our sense of beauty helps us not only to invent physical theories but even to judge the validity of theories.”⁵⁰ This observation implies that beauty is not just an external quality of physical objects, but is found within the very mathematical structure of the universe.

Three things about the cosmos should strike one as miraculous: (1) that the cosmos exists, (2) the cosmos is orderly, and (3) the human mind, in a very limited capacity, can comprehend it. In other words, the universe (at least above the quantum

⁴⁹Paul Davies, *God & the New Physics* (New York: Simon & Schuster, 1983), 220-21. Scientists often use the word “elegance” to describe the physical structure of the universe. According to the *Merriam-Webster Dictionary*, this kind of elegance would be “scientific percision, neatness, and simplicity <the elegance of a matematical proof>.” *Merriam-Webster Dictionary*, “elegance,” accessed January 23, 2017, <https://www.merriam-webster.com/dictionary/elegance>.

⁵⁰Jimmy H. Davis and Harry L. Poe, *Designer Universe: Intelligent Design and the Existence of God* (Nashville: Broadman & Holman, 2002), 216.

level) is not unintelligible and chaotic, but is constructed in a very orderly and rational way. As Albert Einstein once commented, “The most incomprehensible thing about the universe is that it is comprehensible.”⁵¹ If the existence of the universe was the result of a cosmic explosion, then how did it become so rational, orderly, and beautiful? And how did this supposed unguided explosion bring about human beings with a brain capacity to not only be aware of the universe, but to comprehend this reason, order, and beauty?

Oxford professor and mathematician John Lennox writes,

In recent years science has been taking us on a journey full not only of surprises, but also of mystery. Cosmology on an unimaginably large scale, and elementary particle physics on the incredibly small scale, have gradually laid bare to us the spectacularly beautiful structure of the universe in which we live.⁵²

To Lennox, the question of why the universe is structured like it is, and how exactly humanity is related to this universe should not be ignored. Some scientists, according to Lennox, think humanity exists as a result of mindless chance.⁵³ George Gaylord Simpson states that we are “the product of a mindless and purposeless natural process which did not have us in mind.”⁵⁴ However, physicist Freeman Dyson expresses a different opinion: “As we look out in to the universe and identify the many accidents of physics and astronomy that have worked together to our benefit, it almost seems as if the universe must in some sense have known we were coming.”⁵⁵ The benefit to humanity can be seen in many different variables—from the chemical structure of earth’s atmosphere, to the hospitable distance from the earth to the sun. However, another major benefit to humanity

⁵¹Quoted in John C. Lennox, *God’s Undertaker: Has Science Buried God?* (Oxford: Lion, 2011), 59.

⁵²Ibid.

⁵³Ibid., 58.

⁵⁴Ibid.

⁵⁵Ibid.

is that the universe is orderly, operating on consistent principles or laws that make life possible. Davies explains,

That the universe is ordered seems self-evident. Everywhere we look, from the far flung galaxies to the deepest recesses of the atom, we encounter regularity and intricate organization. We do not observe matter or energy to be distributed chaotically. They are arranged instead in a hierarchy of structure: atoms and molecules, crystals, living things, planetary systems, star clusters, and so on. Moreover, the behavior of physical systems is not haphazard, but lawful and systematic. Scientists frequently experience a sense of awe and wonder at the subtle beauty and elegance of nature.⁵⁶

The expectation of a beautiful order has guided scientists from the very beginning. For instance, one of the reasons Tycho Brahe (1546-1601) rejected the Copernican model of planetary orbits was that it had “an ‘ugly’ gap between the planets and the nearest stars.”⁵⁷

Concerning the acceptance of the theory of relativity, Steven Weinberg writes, “I believe that the general acceptance of general relativity was due in large part to the attractions of the theory itself—to its beauty.”⁵⁸

In Truth and Beauty: Aesthetics and Motivation in Science Nobel Prize

winning physicist S. Chandrasekhar recalls Werner Heisenberg’s discovery of Quantum Mechanics. He states,

It had become clear to me what precisely had to take the place of the Bohr-Sommerfeld quantum conditions in an atomic physics working with none but observable magnitudes. It also became obvious that with this additional assumption, I had introduced a crucial restriction into the theory. Then I noticed that there was no guarantee that . . . the principle of the conservation of energy would apply . . . Hence I concentrated on demonstrating that the conservation law held; and one evening I reached the point where I was ready to determine the individual terms in the energy table [Energy Matrix] . . . When the first terms seemed to accord with the energy principle, I became rather excited, and I began to make countless arithmetical errors. As a result, it was almost three o’clock in the morning before the final result of my computations lay before me. The energy principle had held for all the terms, and I could no longer doubt the mathematical consistency and coherence of the kind of quantum mechanics to which my calculations pointed. At first, I was

⁵⁶Davies, *God & the New Physics*, 145.

⁵⁷Davis and Poe, *Designer Universe*, 217. In the use of the term ‘ugly,’ Tycho Brahe most likely meant something like “inelegant.”

⁵⁸Ibid.

deeply alarmed. I had the feeling that, through the surface of atomic phenomena, I was looking at a strangely beautiful interior, and felt almost giddy at the thought that I now had to probe this wealth of mathematical structure nature had so generously spread out before me.⁵⁹

Chandrasekhar also recalls how the mathematician, theoretical physicist, and philosopher Hermann Weyl looked for the mark of beauty in his work, even if it seemed to go against certain established principles. Chandrasekhar writes,

Freeman Dyson has quoted Weyl as having told him: “My work always tried to unite the true with the beautiful; but when I had to choose one or the other, I usually chose the beautiful.” I inquired of Dyson whether Weyl had given an example of his having sacrificed truth for beauty. I learned that the example which Weyl gave was his gauge theory of gravitation, which he had worked out in *Raum-Zeit-Materie*. Apparently, Weyl became convinced that this theory was not true as a theory of gravitation; but still it was so beautiful that he did not wish to abandon it and so he kept it alive for the sake of its beauty. But much later, it did turn out Weyl’s instinct was right after all, when the formalism of gauge invariance was incorporated into quantum electrodynamics.⁶⁰

Not only is the presence of beauty recognized as an important marker for the laws that govern the universe, such as gravity or quantum mechanics, but it is also anticipated by many physicists that beauty will be a key component of the “superunified theory” if it is ever discovered.⁶¹ This superunified theory could account for the behavior and structure of the material universe in a single equation. Commenting on the possibility of discovering this ultimate formula, theoretical physicist John Wheeler states, “Some day a door will surely open and expose the glittering central mechanism of the world in its beauty and simplicity.”⁶² While Wheeler and other physicists look for beauty in laws that govern the universe, one should take note that these beautiful laws are expressed in mathematical formulas.

⁵⁹S. Chandrasekhar, *Truth and Beauty: Aesthetics and Motivations in Science* (Chicago: The University of Chicago Press, 1987), 64-65.

⁶⁰*Ibid.*, 65-66.

⁶¹Davies, *God & the New Physics*, 158.

⁶²*Ibid.*

The Hidden Beauty of Mathematics and Fractals

Since the forces that govern the universe are invisible, the way to make them comprehensible to the human mind is through mathematical formulas. However, Jimmy Davis and Harry Poe ask a couple of important questions: “Does mathematics really describe nature?” and “How can something as abstract as a number be broadly applied to physical objects?”⁶³ In a purely materialistic universe, it would seem odd that something as abstract and non-material as numbers could describe and even predict the function and beauty of the physical world. Davies writes, “When physicists talk of beauty and symmetry the language through which these concepts are expressed is mathematics.”⁶⁴ Although this amazing fact has not been lost among mathematicians and physicists, it has either been taken for granted or not understood among the general public. Theologian Thomas Dubay writes,

Unless we have had a fine science teacher in high school, most of us would never suspect how intensely mathematical our universe is. Nor would the ordinary man on the street imagine how a person with the suitable intellectual spark finds delight in discovering these mathematical truths, and even in the very discipline of math itself. Most people would probably be surprised, if not amused, to hear that mathematicians, at least the most alive of them, can burst into ecstatic joy over a newly discovered equation.⁶⁵

The joy is not just about numbers, but about how those numbers describe the inner workings and hidden beauty of physical reality. Overman writes, “The unreasonable effectiveness of mathematics in describing our universe is even more remarkable when one considers the relationship of beauty to the inherent mathematical nature of the universe.”⁶⁶

⁶³Davis and Poe, *Designer Universe*, 159-60.

⁶⁴Davies, *God & the New Physics*, 221.

⁶⁵Dubay, *The Evidential Power of Beauty*, 130.

⁶⁶Overman, *A Case for the Existence of God*, 56.

Harvard mathematician Benjamin Peirce (1809-1880), the father of C. S. Peirce, was one of the leading figures in mathematics and made a major contribution to modern physics research. Benjamin Peirce has been called “the father of pure mathematics in America.”⁶⁷ Andrew Peabody wrote that Peirce lived his life

in the vivid eager pursuit of the eternal truth of God, of which the signs and quantities of mathematics are the symbols. . . . In [his] lectures he has shown, as he always felt with adoring awe, that the mathematician enters as none else can into the intimate thought of God, see things precisely as they are seen by the Infinite Mind, holds the scale and compasses with which the Eternal Wisdom built the earth and metered out the heavens.⁶⁸

According to Daniel J. Cohen, “Benjamin Peirce saw his work with equations as a way to access the heavenly realm, and would occasionally add the exclamation ‘Gentlemen, there must be a God’ to his mathematical demonstrations.”⁶⁹

Later in his career, Peirce focused on quaternions, which generated a type of algebra used for variables and imaginary numbers. William Rowan Hamilton first developed this algebra in the 1800s with no apparent application. However, physicists later discovered that Hamilton’s formula was useful in describing electromagnetic forces.⁷⁰ Commenting on his work in quaternions, Peirce writes, “The imaginary square root of algebra has become the simplest reality of Quaternions, which is the true algebra of space, and clearly elucidates some of the darkest intricacies of mechanical and physical philosophy.”⁷¹ Commenting on Peirce’s work, W. E. Byerly (a personal friend) noted that the incredible way “a calculus which so strongly appealed to the human mind by its intrinsic beauty and symmetry should prove to be especially adapted to the study of

⁶⁷Daniel J. Cohen, *Equations from God: Pure Mathematics and Victorian Faith* (Baltimore: The Johns Hopkins University Press, 2007), 42.

⁶⁸*Ibid.*, 43.

⁶⁹*Ibid.*

⁷⁰*Ibid.*, 53.

⁷¹*Ibid.*

natural phenomena. . . . The mind of man and that of Nature's God must work in the same channels."⁷²

A more recent example of how mathematics explores the beauty and infinity of numbers is found in fractal geometry, developed by Benoit B. Mandelbrot (1924-2010). In the 1970s, Mandelbrot discovered simple formulas that yielded spectacularly complex numerical and even visual (artistic and beautiful) outputs. Writing about his discovery, Mandelbrot writes,

Let us hasten to raise a question. Since the inputs are so simple, why is it that fractal art failed to appear earlier and in more traditional ways? The answer lies in a "Catch 22" situation. To draw the simplest fractal picture 'by hand would have been feasible in principle, but would have required many person-years and would have been ridiculously expensive. Consequently, no one would have considered undertaking this task without having a fair advance knowledge of the result; yet the result could not even be suspected until one actually had performed the task.⁷³

The complex output of Mandelbrot's simple formula could not be revealed until he was able to input the formula into an IBM computer. Concerning this beautiful complex discovery, physicist Roger Penrose writes,

Its wonderfully elaborate structure was not the invention of any person, nor was it the design of a team of mathematicians. Benoit Mandelbrot himself had no real prior conception of the fantastic elaboration inherent in it. . . when his first computer pictures began to emerge, he was under the impression that the fuzzy structures that he was seeing were the result of a computer malfunction. Only later did he become convinced that they were really there in the set itself.⁷⁴

Concerning the possibility that Mandelbrot's discovery was merely a construct of the human mind, Penrose writes,

It would seem that this structure is not just part of our minds, but it has a reality of its own. . . . The computer is being used essentially the same way that the experimental physicist uses a piece of experimental apparatus to explore that structure of the

⁷²Cohen, *Equations from God*, 53.

⁷³Benoit B. Mandelbrot, "Fractals and an Art for the Sake of Science," *Leonardo* 2, no. supplemental (1989): 21.

⁷⁴Roger Penrose, *The Emperor's New Mind: Concerning Computers, Minds and the Laws of Physics* (Oxford: Oxford University Press, 1989), 95, quoted in Michele Emmer, "Art and Visual Mathematics," *Leonardo* 27, no. 3 (1994): 238.

physical world. The Mandelbrot set is not an invention of the human mind: it was a discovery. Like Mount Everest, the Mandelbrot set is just there!⁷⁵

Mandelbrot's work has produced a field of study called "fractal geometry," which has also sparked a new type of art called "fractal art."

According to Mandelbrot,

Fractals are geometric shapes that are equally complex in their details as in their overall form. This is, if a piece of a fractal is suitably magnified to become of the same size as the whole, it should look like the whole, either exactly, or perhaps only after a slight limited deformation.⁷⁶

One of the amazing features of the Mandelbrot set is that if one were able to explore it with a computer possessing limitless power, one could zoom into a fractal image infinitely and still find more fractal images.⁷⁷

Another interesting discovery, according to Mandelbrot, that most likely gained the initial acceptability of his work, was that fractal images often imitate images found in the physical world, such as clouds, coastlines, mountain ranges, rocks, and snowflakes.⁷⁸ This connection to the invisible world of mathematics to actual physical forms reaffirms the idea that the physical world is not only beautiful, but also mathematical in its construction. The blurring of the lines between fractals and actual physical objects also caused a blurring of the lines between representational and nonrepresentational art. Mandelbrot writes,

In the well-recognized forms of art, this dichotomy no longer seems so strongly etched, and fractal art straddles it very comfortably. The earliest explicit uses of fractals gave me the privilege of being the first person to tackle in a new way some problems that must be among the oldest that humanity had asked itself: how to obtain 'figures' that represent the shapes of mountains, clouds and rivers? It turns

⁷⁵Penrose, *The Emperor's New Mind*, 95.

⁷⁶Mandelbrot, "Fractals and an Art for the Sake of Science," 21-22.

⁷⁷Examples of zooming into the Mandelbrot set can be found on the Internet. For example, a 16:55 minute zoom is found at "Mandelbrot Zoom 10²²⁷ [1080x1920]," accessed December 14, 2016, <https://www.youtube.com/watch?v=PD2XgQOyCck&t=231s>. Another lecture connecting fractals to creation is found at Jason Lisle, "The Secret Code of Creation [fractals]," accessed December 14, 2016, <https://www.youtube.com/watch?v=nkwCl0ymTfg&t=2898s>.

⁷⁸Mandelbrot, "Fractals and an Art for the Sake of Science," 22.

out that, when the representation of nature by fractal is perceived as successful, it also tends to be perceived as beautiful. Unquestionably, that fractal ‘forgeries’ of mountains and clouds are examples of representational art.

Without the existence of a Divine Creator, one would be hard-pressed to explain why the universe is both beautiful and mathematical. The connection between beauty and numbers are not only found in the physical world, but also, based on the testimony of mathematicians and physicists, in the invisible world of numbers. This connection would suggest that the physical world and the conceptual world of numbers have the same origin, and this origin would unlikely be material.⁷⁹ Simply put, what has been discovered through mathematics is an invisible, beautiful, rational world of numbers that directly connects to the physical world, and this discovery may be best explained as the result of the rational mind of the Creator. Davies explains,

All the early scientists such as Newton were religious in one way or another. They saw their science as a means of uncovering traces of God’s handiwork in the Universe. What we now call the laws of physics they regarded as God’s abstract creation: thoughts, so to speak, in the mind of God. So in doing science, they supposed, one might be able to glimpse the mind of God. . . . In the ensuing 300 years, the theological dimension of science has faded. People take it for granted that the physical world is both ordered and intelligible. The underlying order in nature—the laws of physics—is simply accepted as given, as brute fact. Nobody asks where the laws form from—at least they don’t in polite company. However, even the most atheistic scientist accepts as an act of faith the existence of a law-like order in nature that is at least in part comprehensible to us. So science can proceed only if the scientist adopts an essentially theological worldview.⁸⁰

If mathematical formulas such as the Mandelbrot Set can give one a visual experience of numbers that emulates real physical objects, perhaps audible sounds, such as beautiful music, could have an underlying mathematical structure as well.

⁷⁹It is almost inconceivable that physical matter is the cause of something immaterial like numbers, or that matter created itself.

⁸⁰Paul Davies, “The Appearance of Design in Physics and Cosmology,” in *God and Design: The Teleological Argument and Modern Science*, ed. Neal A. Manson (New York: Routledge, 2003), 148.

Mathematics and Music

In 1857, Hermann von Helmholtz wrote,

Mathematics and Music! The most flaring possible opposites of human thought!
And yet connected, mutually sustained! It is as if they would demonstrate the hidden
consensus of all the actions of our mind, which in the revelations of genius makes us
forefeel unconscious utterances of a mysteriously active intelligence.⁸¹

One does not usually think of music in the context of mathematics, but historically music and mathematics were understood to be closely related and studied together. It has been said that Pythagoras (570-495 BC) began to study the mathematical properties of harmony when he observed the sound hammers made when hitting an anvil. He not only discovered that the hammer changed pitch according its weight, but that the sounds would become pleasing when the weight of the hammers were within a certain ratio of one another.⁸²

This ratio has come to be known as “harmony.” Concerning the Pythagorean theory of music, Stratford Caldecott (research fellow at Oxford) wrote,

For the Pythagoreans the whole universe was composed of a single “octave,” the interval between 1 and 2, Unity and Diversity, Monad and Dyad. The musical scale was thus nothing less than a model of the cosmos, and could be analyzed mathematically in a way that confirmed our intuitive response to beauty.⁸³

Perhaps the Pythagorean project was a bit ambitious, but it shows how closely connected music, mathematics, and cosmology were to many of the ancient Greeks.

As music theory advanced and became more complex, mathematics was still understood as an essential aspect of music. In the sixteenth century, octaves were divided into twelve parts (chromatic scale), which replaced the need for the Pythagorean comma when tuned to perfect fifths.⁸⁴ According to Caldecott,

⁸¹Robert S. Root-Bernstein, “Music, Creativity and Scientific Thinking,” *Leonardo* 34, no. 1 (2001): 63.

⁸²Stratford Caldecott, *Beauty for Truth's Sake: On the Re-Enchantment of Education* (Grand Rapids: Brazos, 2009), 91.

⁸³Ibid., 92.

⁸⁴Ibid., 93.

Mathematically the octave, the fifth (five notes up from the note of the whole string), and the fourth (four notes up) are said to be the purest intervals, while the most consonant or harmonious are unison, of course (because it has a frequency ratio of 1:1), the octave (2:1), the major third (5:4), and then major sixth (8:5). Some say that the most beautiful interval is the major sixth, which, it will come as no surprise, happens to be a close aural approximation to the golden ratio ($8/5 = 1.6$).⁸⁵

Because these mathematical ratios correspond to pleasing audible harmonies, Michael Platt wrote, “It [music] is the most mathematical of the fine arts. It is science and fun together.”

The connection of music to mathematics also formed the basis of a liberal arts education in the medieval period. The *trivium* was composed of grammar, logic, and rhetoric, whereas the *quadrivium* was comprised of arithmetic, music, geometry, and astronomy. The four subjects of the *quadrivium* were connected by mathematics.

Caldecott suggests,

Music was the expression of numerical harmonies in time, geometry the exploration of relationships in space, and so on. The assumption of this system of education was that by learning to understand the harmonies of the cosmos, our minds would be raised toward God, in whom we could find the unity from which all these harmonies derive: Dante’s “love that moves the sun and the other stars.” Thus the *quadrivium* would prepare the ground for the study of the highest contemplative sciences: Philosophy and Theology.⁸⁶

However, along with musical scale, time signatures, and harmonies, there are other similarities between mathematics and music.

Through musical instruments, mathematics can become audible, and by combining the right mathematical ratios, the sounds can be quite beautiful. What is more, like the surprising designs of fractals, harmonic notes can produce beautiful visual geometric patterns. These patterns, known as Chladni patterns, are created by generating musical notes through a sound system that causes a flat plate covered in sand to vibrate.⁸⁷

⁸⁵Caldecott, *Beauty for Truth’s Sake*, 93.

⁸⁶Ibid., 53-54.

⁸⁷Ibid., 92.

In return, the vibrations cause the sand to organize in symmetrical geometric shapes that morph into different patterns based on the frequency of the notes or the type of musical instruments used. The sand, like the computer for fractals, merely serves as a medium to making visible the hidden complex mathematical structures in the vibration of musical notes.⁸⁸

Another similarity with mathematics is that music first exists conceptually before it is expressed physically. In other words, it does not move from the physical to mental, but from mental to the physical and then back to the mental. Concerning this aspect of music Dubay writes,

Melody and harmony lie at the boarder of the material and immaterial. On the one hand sound waves are picked up by our sense of hearing, and yet on the other there is in music a strong intellectual and spiritual element, both in the composer and in the listener. Edward Oakes comments that “music is first and above all an ideal reality—as we know from Beethoven’s own life, who wrote (and conducted!) his Ninth Symphony when he was completely deaf.”⁸⁹

Dubay continues,

Beethoven’s inability to hear the very music he was composing vividly underlines what is true of any beautiful form: it must preexist in a mind before it can be concretized in reality. Thousands upon thousands of notes in all their fine precisions and varied interrelationships must somehow have a mental existence before they can be placed on paper and be heard thrilling an appreciative audience.⁹⁰

Like mathematics, the music that moves and thrills humanity seems to have an eternal transcendent quality that is discovered, not created. From the perspective of naturalism or evolutionary biology, it is difficult if not impossible to explain the origin of music and why it is so important to humanity. As biologist Lewis Thomas quipped about musicologists (whom he respected), they

haven’t a ghost of an idea about what music is, or why we make it and cannot be human without it, or even—and this is the telling point—how the human mind

⁸⁸For an example, see “Music + Math: Chladni Plates,” accessed December 15, 2016, <https://www.youtube.com/watch?v=9uEeADQN8Jo>.

⁸⁹Dubay, *The Evidential Power of Beauty*, 54,

⁹⁰*Ibid.*, 60.

makes music on its own before it is written down and played . . . biologists are no help here, nor the psychologists, nor the physicists nor the philosopher, wherever they are these days. No body can explain it. It is a mystery, and thank goodness for that.⁹¹

Since the beginning of human history, music has been an essential source of enrichment and expression. Music accompanies almost every human occasion and can be used to express almost every human emotion. It is used in worship (church/heaven), in celebration (birthdays and weddings), in times of mourning (funerals), in films, at sports events, in ceremonies, etc. The existence of music may be difficult to explain from the position of philosophical naturalism, but it is not difficult to explain from the position of biblical theism. It is not difficult to believe that a loving God would include music as a gift to humanity. With a similar thought, John Henry Newman states,

It is possible that the inexhaustible evolution and disposition of notes, so rich yet so simple, so intricate yet so regulated, so various yet so majestic, should be a mere sound, which is gone and perishes? Can it be that those mysterious stirrings of heart, and keen emotions, and strange yearnings after we know not what, and awful impressions from we know not whence, should be wrought in us by what is unsubstantial, and comes and goes, and begins and ends in itself? It is not so; it cannot be. No, they have escaped from some higher sphere; they are the outpourings of eternal harmony in the medium of created sound; they are echoes from our Home; they are the voice of Angels, or the Magnificat of Saints, or the living laws of Divine Governance, or the Divine attributes; something are they besides themselves, which we cannot compass, which we cannot utter, --though mortal man, and he perhaps not otherwise distinguished above his fellows, as the gift of eliciting them.⁹²

In other words, the best explanation for music and its existential qualities is that it is a gift of God that seems to spill out of heaven into the earth. Perhaps this is the essential thought behind Peter Kreeft's and Ronald Tacelli's argument for the existence of God from aesthetic experience: "There is the music of Johann Sebastian Bach. Therefore there must be a God. . . . You either see this one or you don't."⁹³

⁹¹Dubay, *The Evidential Power of Beauty*, 53-54.

⁹²Ibid., 57.

⁹³Peter Kreeft and Ronald K. Tacelli, *Handbook of Christian Apologetics* (Downers Grove, IL: InterVarsity, 1994), 81.

The Mathematical Beauty of Biology

When one observes the beauty in living things, one may be amazed to find that many living organisms also have a mathematical connection. Leonardo Fibonacci (1175-1250), an Italian mathematician from Pisa who popularized the Hindu-Arabic numerical notation in the West, discovered an interesting mathematical sequence of numbers that turned out to have a connection to plant life.⁹⁴ He found this sequence by adding two numbers in a sequence to get a third number, which in return is added to the previous number to get the next number. For instance, in the sequence “1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89 . . .” means $1+1=2$, $1+2=3$, $2+3=5$, $3+5=8$, $5+8=13$, $8+13=21$, $13+21=34$, $21+34=55$, $34+55=89$, (and so on).⁹⁵ The ratio of this sequence was nearly identical to the ratio of 1:1.618, which is also known as the Golden Ratio used by the Greeks to create aesthetically pleasing proportions in art and architecture.⁹⁶ Concerning this ratio to plant life, Dubay writes,

Throughout nature we find the phenomenon of phyllotaxis, “which is the manner in which plant parts such as leaves, scales, and flowers are arranged in spiral patterns,” such as we notice in the head of daisies and sunflowers, in pineapples, and in the trunks of palm trees. “When the spirals going in each direction are counted, the numbers in almost every case are adjacent Fibonacci numbers.” When one asks the question “who or what causes this?” science is silent. Unless one is driven by an ideological premise, the spontaneous answer is that obviously a consummate mathematician is at work. This phenomenon cannot be a chance occurrence repeated trillions of times each day.⁹⁷

Commenting on the astonishing connection of the Golden Ratio to biological life, astrophysicist Mario Livio writes, “I hope that the next time you eat a pineapple, send a red rose to a loved one, or admire Van Gogh’s sunflower paintings, you will remember that the growth pattern of these plants embodies this wonderful number we call the

⁹⁴Mario Livio, *The Golden Ratio* (New York: Broadway, 2002), 92.

⁹⁵Dubay, *The Evidential Power of Beauty*, 154.

⁹⁶Ibid.

⁹⁷Ibid., 155.

Golden Ratio.”⁹⁸ Livio, however, reminds his readers that the Golden Ratio can also be found throughout the universe in biological and non-biological forms. Livio continues,

Botany is not the only place in nature where the Golden Ratio and Fibonacci numbers can be found. They appear in phenomena covering a range in sizes from the microscopic to that of giant galaxies. Often that appearance takes the form of a magnificent spiral.⁹⁹

According to Livio, this Golden Ratio, known to be present in aesthetically pleasing objects, is found everywhere in nature. Discovered in both biological and non-biological objects throughout the world, this ratio moves beyond the possibility of mere coincidence, but may in fact point to a single origin—the mind of the Creator.

The presence of biological beauty existing on a microscopic level, where no human or animal could see (unaided by a microscope), makes it difficult to explain in terms of natural and sexual selection. Benjamin Wiker and Jonathan Witt make a similar observation concerning the science of botany:

Almost all who study nature, in moments when they are unburdened by reductionist dogma, understand that this full range of elegant order is the highest of science (and that the object is not just the discovery of some fortuitous chemical formula). A botanist, for example, is naturally drawn to study flowers by their beauty, a beauty residing both in their visible forms and in the intricate microscopic structures and processes that drive the flowers—a truth that comes out quite naturally in the way the botanist speaks when he isn’t unnaturally worried about offending the guardians of materialist dogma. The more deeply a botanist delves into the rich and endless profusions of the plant world, the more he appreciates every growing thing, no matter how mundane or magnificent a particular plant may appear to the amateur. He treats the flower as any same person treats the works of William Shakespeare, as a dramatic masterpiece of great depth.¹⁰⁰

The beauty residing in both “visible forms and in the intricate microscopic structures” can be found in all life forms. Chemistry professor Jimmy Davis and theologian Harry Poe comment on some of the early exploration of biological life in a microscope:

The English scientist Robert Hooke (1635-1703) used the microscope to explore nature. Hooke was impressed by his observation that at the microscopic level nature

⁹⁸Livio, *The Golden Ratio*, 115.

⁹⁹Ibid.

¹⁰⁰Wiker and Witt, *A Meaningful World*, 242.

was not only functional but also beautiful. The ornamental beauty of fish scales or fly eyes impressed him. He was amazed that under the microscope human artifacts (edge of a razor) looked imperfect compared to the artifacts of nature. For Hooke, this beauty and perfection pointed toward a Designer.¹⁰¹

Hooke's conclusion concerning a designer is still a viable option, even after over 300 years of scientific research. There are only two possible explanations for the universe: it is a result of blind, random processes, or the result of a Creator that connected both the physical and non-physical (i.e., mathematical) world. The problem for modern science is that the more advanced the scientific instruments become and the more beauty and complexity discovered at the microscopic level, the less viable the explanation of blind random chance becomes.

If beauty were the signature of God on creation, then one would expect to find beauty in every area of scientific exploration. Philosopher Richard Swinburne writes,

God has reason to create a beautiful inanimate world—that is, a beautiful universe. Whatever God creates will be a good product; and so any physical universe that he creates will be beautiful, as are humans and animals. Consider the stars and planets moving in orderly ways, and plants growing from seed into colourful flowers and reproducing themselves. Even if no one apart from God himself see such a world, it is good that it exists.¹⁰²

Much of the beauty in the cosmos has only recently been discovered, and there remains much more to be discovered. However, if Swinburne is right in that one should expect God to make all things beautiful, and if beauty is the signature of God on his creation, then why does there also seem to be ugliness in the world?

Ugliness

According to Francis J. Kovach, the concept of ugliness has had a long philosophical history of both negative and positive interpretations.¹⁰³ The negative view began with the ancient Greek philosophers who held that ugliness was a privation or the

¹⁰¹Davis and Poe, *Designer Universe*, 215.

¹⁰²Richard Swinburne, *The Existence of God*, 2nd ed. (Oxford: Clarendon, 2004), 121.

¹⁰³Kovach, *Philosophy of Beauty*, 250-64.

lack of beauty. Plato understood ugliness as a lack of power, something that is useless or even shameful.¹⁰⁴ However, Plato also believed that if an object corresponded to its idea there was a trace of beauty to be found, as well as the fact that different degrees of beauty can be understood by comparison. For example, a pot can be identified as beautiful if it corresponds to the idea and function of a pot, but in comparison to a beautiful horse, the pot may be considered ugly.¹⁰⁵

Aristotle understood ugliness as a lack of the ability to delight, something unpleasant, whereas beauty is something delightful and pleasant.¹⁰⁶ He also believed ugliness was not always bad, because ugliness could be depicted in a beautiful way.¹⁰⁷ This idea has been generally accepted throughout history, particularly among artists. An example from the ancient world is Homer's beautiful description of the moral and physical repulsiveness of Thersites.¹⁰⁸ After Plato and Aristotle, the ancient philosophers continued to hold similar ideas on ugliness. Longinus, Philo of Alexandria, Seneca, Plotinus, Proclus, and even Augustine understood the ugly as an unpleasant privation, defect, or deformity. Perhaps a good summation of the ancient and mediaeval view of the ugly is Dionysius the Areopagite's definition: "the defect of form and the privation of order."¹⁰⁹

As one examines the modern period, many philosophers followed the ancient negative understanding of ugliness. According to Kovach,

This negativist view on ugliness of ancient and medieval thinkers was continued in modern philosophy, too, down to the present century. Thus, among the rationalists,

¹⁰⁴Kovach, *Philosophy of Beauty*, 251.

¹⁰⁵Umberto Eco, *On Ugliness* (New York: Rizzoli, 2007), 30.

¹⁰⁶Kovach, *Philosophy of Beauty*, 251.

¹⁰⁷Eco, *On Ugliness*, 30.

¹⁰⁸Ibid.

¹⁰⁹Kovach, *Philosophy of Beauty*, 251.

Descartes, Spinoza, and A. G. Baumgarten; among the empiricists, Thomas Hobbs, F. Hutcheson, David Hume, and Edmund Burke; toward the end of the eighteenth century, Kant, the great synthesizer of rationalism and empiricism; in the nineteenth century, John Ruskin, Grant Allen, Joseph Jungmann, and Theodore Lipps; and in the twentieth century G. E. Moore, John Dewey, E. I. Watkin, DeWitt H. Parker, Thomas Munro, and Paul Weiss, together with many others adopted the negativist view on ugliness.¹¹⁰

These philosophers understood, to one degree or another, that the ugliness was a deformity, defect, or some privation of order. However, among the nineteenth and twentieth-century aestheticians, a more positive view of ugliness can be found.¹¹¹ To these aestheticians, operating from a dialectical framework, ugliness was something real and positive that served an important purpose. For example, K. W. F. Solger believed ugliness was the humorous synthesis of the ridiculous and sad, whereas Max Schasler considered ugliness an important antithesis to physical beauty emerging from the synthesis between ideal or abstract beauty and ugliness.¹¹² Others philosophers who held to the dialectical view of the ugliness include C. H. Weisse, F. T. Vischer, J. K. F. Rosenkranz, Moriz Carrière, and Benedetto Croce.¹¹³ According to Kovach, those committed to the dialectical interpretation most likely root their understanding of ugliness in Plato's position found in the *Sophist*, which is the understanding that non-being is something positive and real.¹¹⁴

The non-dialectical positive view of ugliness primarily centers on the purpose and nature of classical art. Those who hold that art is a matter of expressiveness could readily include ugliness as a positive expression, whereas those who believe beauty is the main purpose of art would reject ugliness as a legitimate expression. George Santayana advocated the former view when he wrote, "The values, then, with which we here deal

¹¹⁰Kovach, *Philosophy of Beauty*, 252-53.

¹¹¹Ibid., 253.

¹¹²Ibid., 253-54.

¹¹³Ibid.

¹¹⁴George Santayana, *The Sense of Beauty* (New York: Dover, 1896), 3, quoted in Kovach, *Philosophy of Beauty*, 255.

are positive. . . . The ugly is hardly an exception, because it is not the cause of any real pain. In itself it is rather a source of amusement.”¹¹⁵ Concerning Santayana’s use of the term “amusement,” Kovach writes,

Here we have the key word of this psychologically founded positive view on ugliness: amusement. It rests on the empirical knowledge that, as a matter of fact, many ugly objects cause an emotional response that is more positive (like amusement, fascination, etc.) than negative (like pain).¹¹⁶

Given this brief survey of ugliness, how is one to think about the presence of the ugly in the world, particularly as an aspect of God’s creation. If it is God’s nature to create beautiful things, then why does the ugly exist? One answer to this question may not cover all expression of ugliness found in the world, particularly since there may be different reasons involved. One could imagine (like the non-dialectical positive approach) that the Creator would make some things ugly as an expression of humor or amusement. Examples of humorously ugly animals can be found throughout the animal kingdom, such as the blobfish, the naked mole rat, the southern elephant seal, or the proboscic monkey to name just a few. These animals are ugly by anyone’s standards, but when one sees these animals it often produces a sense of amusement. For instance, when one sees a proboscis monkey, many think of Jimmy Durante, whose nose may have been a source of pain as a child, but allowed him to become one of the most memorable and beloved comedians in the world. Clearly, the ugly can be very humorous, and it is quite possible that God could create ugly, humorous looking animals for the purpose of human amusement. This idea may also correspond to the scriptural idea that God is like a potter and his creation, including humanity, is the clay. In Romans 9:21, the apostle Paul asks, “Has the potter no right over the clay, to make out of the same lump one vessel for honorable use and another for dishonorable use?” The implication to Paul’s rhetorical

¹¹⁵Santayana, *The Sense of Beauty*, 255.

¹¹⁶Ibid.

question is that the Creator has the right to make whatever vessel he desires for whatever purpose he desires.

Another source of ugliness in the world is connected to the biblical idea of sin and death. Scripture says that when humanity rebelled against God, death entered creation (Gen 2:16-17; Ezek 18:4; Rom 5:12, 6:23; Jas 1:15). Humanity was cut off from the tree of life (Gen 3:22-24), which began the process of decay and death. What once was quite beautiful, such as a young woman, ultimately succumbs to the ugliness of death. The apostle Paul wrote that the moral fall not only caused the death of humanity, it also caused the decay (entropy) of the whole creation (Rom 8:19-21). From a biblical perspective, the decay that causes much of the ugliness and deformity in the world was not a part of the initial act of creation, but was a direct result of the human rebellion against God.

Closely associated with death and decay, ugliness is often connected to the perception of evil. It is not certain, however, whether an ugly, grotesque image of the demonic is in accordance to reality or merely a literary device. Satan is depicted in Scripture as a fallen angel whose appearance may be described as beautiful.¹¹⁷ But often, in the modern depiction, Satan is thought to be quite ugly. The Bible says Satan can disguise himself as an angel of light (2 Cor 11:14), but also describes him as a serpent, dragon, or beast. These negative biblical descriptions may have led to the slow change in the depiction of Satan from a beautiful archangel to a twisted, grotesque figure often found in Western literature. Concerning this change, Umberto Eco writes, “The Christian tradition had tried to forget that, if Satan had been an angel, then presumably he must have been most beautiful. Around the seventeenth century, however, Satan began to undergo a transformation.”¹¹⁸ This transformation of the image of Satan and of the demonic realm

¹¹⁷Ezek 28:11-19 may be speaking past the King of Tyre and addressing Satan. Verse 28:11 says, “You were the signet of perfection, full of wisdom and perfect in beauty.” In 2 Cor 11:14, Paul says that Satan can disguise himself as “an angel of light.”

¹¹⁸Eco, *On Ugliness*, 179.

as ugly is still held to today, not only in literature, but also, particularly, in film. For instance, in modern horror films, the depiction of the demonic or the evil homicidal psychopath becomes more frightening to the audience because of the twisted, ugly figure presented on the screen. In Western literature and film (and quite possibly biblical apocalyptic language), the beastly, twisted, ugly appearance of evil may be a literary device used to physically depict the repulsiveness of moral evil. In reality, an ugly deformed person may be quite moral, and a very beautiful person may be quite immoral, or even demonic. Ugliness, therefore, may not just have a physical aspect; it may also have a spiritual or moral connection as well.

Aristotle wrote, “We must avoid a childish distaste for reexamining the less valued animals, for in all natural things there is something wonderful . . . we should approach in inquiry about each animal without aversion, knowing that in all of them there is something . . . beautiful.”¹¹⁹ In essence, Aristotle is suggesting that something beautiful may be found in anything that exists, even if it initially seems ugly or repulsive. This does not mean everything is completely beautiful or there is no such thing as ugly, but it is to say everything that exists (or has being) has something about it that is beautiful. Peter Williams writes,

This follows from the premise that being *per se* is a good thing in itself; that is, that the judgment that it is better for something rather than nothing to exist, is true. As Swinburne says: “the existence of any concrete thing is a good . . .” Since goodness is beautiful, everything is beautiful, at least *in that it exists*, because existence *per se* is good. . . . This being so, it follows that only certain facts, such as morally bad actions, are ugly overall. Art critic David Thistlethwaite even testifies that: “in the Great War . . . unimaginable destruction faced the “official war artists”, as they struggled to give meaning to what they saw. This was not a place, of torn trees, pounded mud and rat-occupied corpses, where any shallow belief in order could survive. But the stubborn witness of the great paintings that came out of the unthinkable horror, is to beauty.” Beauty, as well as goodness, can be found in some measure, however small, in any fact.¹²⁰

¹¹⁹Quoted in Peter S. Williams, *I Wish I Could Believe in Meaning: A Response to Nihilism* (Southampton, UK: Damaris, 2004), 257.

¹²⁰Ibid., 258.

The idea that beauty resides in all things, including ugly things, does not imply ugliness is an illusion. However, it is a denial that anything can be ugly through and through with absolutely no beautiful qualities. When something is considered ugly, it may merely mean its beauty is more hidden. Kovach explains,

There is, then, no need really to deny ugliness in things or to explain away ugliness in order to be able to say that every being is beautiful. For a thing is either perfectly or imperfectly beautiful, and an ugly thing is, in reality, a thing of limited beauty or an imperfectly beautiful thing. If we wish to be accurate in talking about the beauty of reality, in the light of the presence of ugliness in some things we should not simply say, "Every being is beautiful," but, more accurately, "Every being is *more or less* beautiful." Since, however, the latter sentence, while qualifying the former in degree, is equally universal, preferring the latter to the former sentence is by no means giving up but only specifying the transcendental of beauty.¹²¹

If it is indeed the case that beauty exists in varying degrees in everything that has being, then it is possible to say God has made all things beautiful, but not all things possess the same quality or degree of beauty.

Summary: Beauty and the Re-Enchantment of the Cosmos

This chapter has examined the human perception of beauty, particularly from the position of objectivism. Having examined the idea that ugliness does not mean some objects are completely void of beauty, and the presence of ugliness can often be a result of death and decay; and having examined beauty found in every area of the physical world, as well as the hidden world of mathematics and the laws of physics; it should be understood that beauty is not just a construct of one's mind, but something real and objective. If this is indeed the case, then one would be hard-pressed to explain the presence of beauty (infused into all things that exist), as well as the human perception of beauty, through modern materialistic scientific reductionism, otherwise known as scientism.

Religion professor Huston Smith called scientism

"the world's littlest religion," because it diminishes whatever it touches. In this religion "a) Science is our sacral mode of knowing. b) The crux of science is the

¹²¹Kovach, *Philosophy of Beauty*, 264.

controlled experiment. c) We can control only what is inferior to us. d) Conclusion: science discloses only our inferiors, from which God is excluded by definition.”¹²²

Since the days of Newtonian physics, when the world was perceived as a giant machine, to the present belief that all things can be reduced to chemistry and physics, the physical world has been robbed of its wonder.¹²³ Another way to describe this occurrence is that the modern world has become disenchanting; many people are blind to the power and mystery of beauty that may in fact point them to the Creator.¹²⁴

This dis-enchantment can be readily seen within scientific literature. Jimmy Davis and Harry Poe suggest that part of the issue could be that scientists desire to be impartial, objective, and rational, as well as the fact that scientific literature is rarely given to strong emotion. However, Davis and Poe write,

Another reason that the aesthetic is not found in many modern texts could result from the new view of the “beautiful” in light of Darwin’s theory of evolution. Characteristics of organisms are now discussed in terms of the utility that resulted from natural selection, not in terms of their awe and wonder reflecting a Designer. The ammonite structures that impressed Buckland and Miller as beautiful architectural forms are now described as forms that were useful in the ammonite’s struggle for survival: “The reduction of beauty to utility, orchestrated by the Darwinians, marked the passage of an era: ‘Those colours which so fascinated the poet or artist, and which seem to be spread in such royal lavishness over copse and meadow and heath, have all their purpose to fulfil; they have to serve as an attraction to insects which effect the fertilization of the flower.’”¹²⁵

The beginning of the dis-enchantment in the modern world was not lost on Charles Darwin. Jimmy Davis and Harry Poe explain,

¹²²Dubay, *The Evidential Power of Beauty*, 91.

¹²³Isaac Newton was a theist who believed God created the universe, but many scientists and philosophers after Newton saw the universe as a machine that ran on its own, which left God with nothing to do. In other words, Newtonian physics, and, to a greater degree, Darwinian evolution gave rise to a greater acceptance of atheism.

¹²⁴As discussed, many scientists recognize beauty in mathematical formulas that describe the inner workings of the universe, but they do not (at least not in public) ask why this is so. They take beauty as a given, a brute fact of the universe, and never seem to stop and ask themselves or others about the purpose or origin of this beauty.

¹²⁵Davis and Poe, *Designer Universe*, 219. Davis and Poe quote John Brooke and Geoffrey Cantor, *Reconstructing Nature: The Engagement of Science and Religion* (New York: Oxford University Press, 1998) 226, who also quotes, “Is Nature Perfect?” *Monthly Journal of Science* (1879): 271-76.

The life of Charles Darwin can be cited as an example of how science destroyed the enjoyment of nature. In his letters, Darwin laments the loss of his enjoyment of literature, poetry, music, and natural beauty. Darwin states, “I am a withered leaf for every subject except Science. It sometimes makes me hate Science.” Also, a quick examination of some recent introductory astronomy, biology, chemistry, and physics texts reveals no listings of the words *awe*, *beauty*, *splendor*, or *wonder* in their indexes. Is there not beauty or wonder in modern astronomy, biology, chemistry, or physics? Surprisingly, these terms also were not found in many texts dealing with the interaction of science and faith.¹²⁶

When the world is dis-enchanted, nature loses its magic. Water running down a mountain, dancing in the sunlight, and billowing over rocks, in modern reductionist science becomes nothing more than liquid, gravity, and the process of erosion at work. A field full of colorful flowers, that not even King Solomon’s wealth could emulate, becomes merely a mass of chemicals so arranged as to insure their survival. The problem is not with science, but with the reductionist tendency of modern science to squeeze everything down to its base components.

What seems to be needed is the re-enchantment of the world; to once again be filled with awe and wonder at the beautiful display of God’s creation, and be thankful for it. Wiker and Witt suggest,

And in the rediscovering the full and astonishing drama of nature, we rediscover our very selves. We restore meaning to our strivings, our love of beauty, our joy in discovery. We regain our true depth and complexity. Indeed, the bare fact that we alone of the animals naturally desire to plumb nature’s depths contradicts the reductionist assumptions that would divide us from ourselves. Our peculiarly human appreciation of beauty, for example, is as real as rocks and is far more profound than any Darwinist can allow; for it is not just an appreciation of surface form and color, but a deep affinity for harmony and elegance, stretching from the evident, real and sensible beauty of a flower or an animal to the rational understanding of the underlying complexity of each.¹²⁷

This rediscovery is what is meant by the re-enchantment of the world. It would not mean the loss of the scientific method, but the recovery of a more robust understanding of the cosmos. Stratford Caldecott writes concerning the re-enchantment of education:

Music, architecture, astronomy, and physics—the physical arts and their applications—demonstrate the fundamental intuition behind the Liberal Arts tradition

¹²⁶Davis and Poe, *Designer Universe*, 214.

¹²⁷Wiker and Witt, *A Meaningful World*, 241.

of education, which is that the world is an ordered whole, a “cosmos,” whose beauty becomes more apparent the more carefully and deeply we study it. By preparing ourselves in this way to contemplate the higher mysteries of philosophy and theology, we become more alive, more fully human. This beautiful order can be studied at every level and in every context, from the patterns made by cloud formation or river erosion to that of the leaves around the stem of the most obnoxious weed, from the shape of the human face as it catches the light, or the way keys are ordered in a concerto by Bach, to the collision of stellar nebulae and particles in an atomic furnace.¹²⁸

In other words, Caldecott believes, “The ‘re-enchantment’ of education would open our eyes to the meaning and beauty of the cosmos.”¹²⁹ If Caldecott is correct, then the education of children and young adults would be the place to start this process. It would allow the eyes of future generations to be open to the beauty and splendor of God’s creation and then receive the reward of a lifetime by plummeting the depth of its mysteries.

¹²⁸Caldecott, *Beauty for Truth’s Sake*, 116-17.

¹²⁹*Ibid.*, 17.

CHAPTER 6

CONCLUSION: THE EXISTENCE OF GOD AS THE BEST EXPLANATION

The existence of beauty is often taken for granted; it is treated as a brute fact, demanding no further explanation. Perhaps this perspective is due to the current culture milieu informed (formerly or informally) by esthetic subjectivism. The phrase, “beauty is in the eye of the beholder,” continues to dominate the public sentiment. However, many today (like those in the past) from various philosophical, theological, and scientific disciplines have taken notice of beauty and are asking important questions concerning its origin and purpose. Because of differing worldviews, it is not surprising that researchers give many different answers. Some scholars claim that beauty exists only in one’s mind, others claim God created beauty, whereas still others claim that beauty is a result of Darwinian evolution. How does one adjudicate between these explanations? In the philosophical and scientific community, logical tools have been developed to assist in finding the best or most plausible explanation between competing theories. In the conclusion of this dissertation, a couple of these tools are applied to the problem of beauty.

In the late nineteenth and early twentieth century, C. S. Peirce set out to develop a comprehensive system of logic. As he considered the task of scientific inquiry, he concluded that the two forms of reasoning, deductive and inductive logic, were inadequate for the task of scientific discovery, particularly for finding good plausible explanations for observed phenomenon.¹ Therefore, Peirce proposed a third form of logic, which he called “abduction.” Peirce’s theory of abduction matured over the course of his career; in

¹Gerhard Minnameier, “Peirce-Suit of Truth—Why Inference to the Best Explanation and Abduction Ought Not to Be Confused,” *Erkenninis* 60 (2004): 75.

his earlier writing, what he initially called “hypothesis” he later, with some modification, called “abduction.”² To show the difference between deductive, inductive, and hypothesis, Peirce proposed his famous “white bean” arguments. According to Peirce, A deductive argument bases the conclusion on a rule and a case:

- (1) *Rule.*—All the beans from this bag are white.
Case.—These beans are from this bag.
 \therefore *Result.*—These beans are white.³

An inductive argument infers a rule based on the case and result:

- (2) *Case.*—These beans are from this bag.
Result.—These beans are white.
 \therefore *Rule.*—All the beans from this bag are white.⁴

Hypothesis infers the case based on the rule and result:⁵

- (3) *Rule.*—All the beans from this bag are white.
Result.—These beans are white.
 \therefore *Case.*—These beans are from this bag. (*W3*: 325; *CP* 2.623)⁶

Peirce understood *hypothesis* to be an inference to an explanation. Later in his career, after settling on the term *abduction*, Peirce further clarified its purpose:

Long before I first classed abduction as an inference it was recognized by logicians that the operation of adopting an explanatory hypothesis—which is just what abduction is—was subject to certain conditions. Namely, the hypothesis cannot be admitted even as a hypothesis, unless it be supposed that it would account for the facts or some of them. The form of inference, therefore, is this:

The surprising fact, C, is observed;
But if A were true, C would be a matter of course.
Hence, there is reason to suspect that A is true.

²Arthur W. Burks, “Peirce’s Theory of Abduction,” *Philosophy of Science* 13, no. 4 (1946): 301.

³Ilkka Niiniluoto, “Defending Abduction,” *Philosophy of Science* 66, no. supplemental issue (September 1999): 437.

⁴*Ibid.*

⁵It should be noted that the form of Peirce’s hypothesis argument resembles the logical fallacy of “affirming the consequent.” However, the purpose of the hypothesis is not to establish a necessary fact, but to find as many plausible solutions to a problem as possible.

⁶Niiniluoto, “Defending Abduction,” 437.

Thus, A cannot be abductively inferred, or if you prefer that expression, cannot be abductively conjectured until its entire content is already present in the premise, “If A were true, C would be a matter of course.”⁷

To Peirce, abduction is a tool to discover many possible solutions to a problem in order to find the best solution. Concerning the difference between induction and abduction, Daniel G. Campos writes,

As Peirce himself emphasizes, while inductive reasoning can lead to knowledge of the probability that attaches to general rules, it “can never make a first suggestion” (RLT, p. 139). That is, induction itself can never suggest for investigation the possible laws, rules, regularities, or uniformities that may prevail in a population of phenomena. It can only infer the ratio in which the character π already chosen for study is present in the population; this ratio gives us a probable and approximate general rule. Induction can only confirm or deny, with a given degree of approximation, the prevalence of conjectured laws, rules, or regularities in the population. In short, inductive reasoning only serves to test a conjecture regarding the general character of a population; it can never suggest a conjecture for inductive testing. Accordingly, Peirce places great emphasis on the ampliative force of a third kind of reasoning, different from both deduction and induction—a form of reasoning that results in what Peirce calls “first suggestions” or conjectures of all kinds, including suggestions regarding general laws or regularities.⁸

In other words, induction can only test known solutions, whereas, the process of abduction can search for many solutions in an attempt to find the best explanation for known facts. Often, this process is called *inference to the best explanation*.⁹ However, some philosophers see a marked difference between Peirce’s abduction and inference to the best explanation.

An inference to the best explanation (IBE) is designed to compare various hypothesis to find the one that best explains the observed data, whereas the process of abduction is about finding new hypotheses to compare. Concerning this difference between abduction and IBE, Ethicist Gherhard Minnameier writes,

⁷C. S. Peirce, *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover, 1955), 151-52.

⁸Daniel G. Campos, “On the Distinction between Peirce’s Abduction and Lipton’s Inference to the Best Explanation,” *Synthese* 180, no. 3 (2011): 424.

⁹Lars Fogelin, “Inference to the Best Explanation: A Common and Effective Form of Archeological Reasoning,” *American Antiquity* 72, no. 4 (2007): 609.

Peirce characterizes abduction as the only type of inference that is *creative* in the sense that it leads to new knowledge, especially to (possible) theoretical explanations of surprising facts. As opposed to this, IBE is about the acceptance (or rejection) of already established explanatory suggestions. Thus, while abduction marks the process of generating theories—or, more generally, concepts—IBE concerns their evaluation.¹⁰

Therefore, according to Minnameier, IBE does not fit into what Peirce called abduction (generating hypothesis), but is more in line with what he called (qualitative) induction (evaluating hypothesis).¹¹ Abduction and IBE are closely related, but differ in focus.

IBE is a frequently used tool in philosophy and science. However, this type of reasoning is quite common, even outside of academic circles. For example, tracks in the snow in one's backyard could be that of a burglar, the meter reader from the power company, or the neighbor's son who retrieved a ball kicked over the fence. How can one know for sure? Which hypothesis best fits the known facts? If the tracks go from the gate to the middle of the yard and out again, the neighbor's son is a likely answer (especially if the neighbor has a son and often kicks a ball around in his backyard). If the tracks go from window to window and even to the backdoor, it is highly likely that it was a burglar (if it is not one's son who lost his keys). If the tracks go to the power meter and out again, then the meter reader is the likely answer. Peter Lipton writes,

These sorts of explanatory inferences are extremely common. The sleuth infers that the butler did it, since this is the best explanation of the evidence before him. The doctor infers that his patient has measles, since this is the best explanation of the symptoms. The astronomer infers the existence and motion of Neptune, since that is the best explanation of the observed perturbations of Uranus. Chomsky infers that our language faculty has a particular structure because this provides the best explanation of the way we learn to speak. Kuhn infers that normal science is governed by exemplars, since they provide the best explanation for the observed dynamics of research. This suggests a new model of induction, one that binds explanation and inference to the Best Explanation. Given our data and our background beliefs, we infer what would, if true, provide the best of the competing explanations we can generate of those data (so long as the best is good enough for us to make any inference at all). Far from explanation only coming on the scene after the inferential

¹⁰Minnameier, "Peirce-Suit of Truth," 75-76.

¹¹Ibid., 76.

work is done, the core idea of Inference to the Best Explanation is that explanatory considerations are a guide to inference.¹²

According to archeologist Lars Fogelin, archeologists have been successful in the past because IBE has been an essential tool in research.¹³ In his paper entitled, “Inference to the Best Explanation: A Common and Effective Form of Archaeological Reasoning,” he suggests “Seven Traits of Highly Successful Explanations.” According to Fogelin, these traits should be a part of the IBE process. The traits are empirical breadth, generality, modesty, refutability, conservatism, simplicity, and multiplicity of foils. To Fogelin, *empirical breadth* means that a good explanation should give an account for all the empirical evidence available. The more facts an explanation can account for without contradiction, the better the explanation. *Generality* means that an explanation does not just address a particular case, but the same explanation can also be used in many other cases. *Modesty* guards from overreach; a good explanation for some things may not be a good explanation of all things. *Refutability* is the idea that an explanation can be shown to be wrong. *Conservatism* means that one should not abandon well-established principles just to make the evidence fit. *Simplicity* means that a simple explanation is more preferable than a complex one. Finally, *multiplicity of foils* means that the more foils (counter evidence) an explanation can overcome, the better the explanation. Given the successful use of abduction and IBE among archeologists, and given that the problem of the origin of beauty is a similar problem encountered by archeologists (who uncover artifacts without knowing the origin), Peirce’s process of abduction and Fogelin’s seven traits for a successful IBE are used on the questions concerning the origin of beauty and the human ability to perceive it.

¹²Peter Lipton, *Inference to the Best Explanation*, 2nd ed. (New York: Routledge, 2004), 56.

¹³Fogelin, “Inference to the Best Explanation,” 603-4.

Application of Abduction and IBE to the Problem of Beauty

If the purpose of abduction is to find a variety of possible explanations for a particular phenomenon, then what are some possible explanations for the origin of beauty and the human ability to perceive it? At the very start of the abduction process, one discovers a complexity in the question that must be broken down into two questions, because both phenomena can exist independently of the other. The two independent questions that must be addressed are (1) what is the origin of beauty in the world, and (2) what is the origin of the human perception of beauty? At this point, one cannot jump directly to the IBE process because there should be a variety of possible explanations from which to judge. By using the process of abduction, a few possible explanations for the two questions are as follows: (1) God created beauty in the world, and then gifted humanity with the unique ability to perceive it; (2) aliens from another galaxy seeded the earth with biological life by programming DNA to not only produced beautiful biological forms, but also the human capacity to enjoy them; (3) beauty and the human ability to perceive it derives from the existence of eternal platonic forms, whose shadows appear in the natural world; (4) all things, including beauty and human perception, are an illusion and have no real existence; (5) beauty is a mental construct that only exists in one's mind; and (6) beauty and the human ability to perceive it are the outworking of an unguided evolutionary process.

From these six contending explanations, the process of IBE can begin. However, it is necessary to narrow down the least favorable explanations before the grid of the seven traits are applied. Although explanation 2 is a form of intelligent design, aliens (if they exist at all) would be contingent beings whose origins are from evolutionary processes or by divine creation. This solution is not among the best because it lacks simplicity (Occam's Razor) and merely kicks the proverbial can down the road. One would not only have to account for beauty in the universe and the aliens' perception of beauty, but also for the origin of the aliens and their technological ability to create life. Explanation 4 is

connected to Eastern philosophy, particularly Hinduism, where it is believed that all things are illusionary.¹⁴ If this position were indeed the case, then one would have to account for the origin of the illusion and why one seems to perceive it, which is essentially a restatement of the original question. Explanation 5 is the subjectivist answer to beauty that not only has many of the problems discussed in chapter 5, it also does not answer the question of *how* or *why* humans possess the complex brain functions used to create beauty. Explanation 3 has a certain historical and philosophical appeal. This solution could explain the objective nature of beauty, as well as why beauty seems to have a transcendent quality that is pointing to something beyond itself. One of the problems with the theory of the Forms is that there seems to be nothing greater than the Forms to unify them; one is merely left with a multiplicity of eternal Forms.¹⁵ One could propose that the Forms have other Forms that unify them, but that solution leads to the possibility of an infinite regress.¹⁶ However, one historical way to salvage this ancient Greek theory is (as some of the early church fathers such as Augustine suggested) that the Forms exist and find their unity in the mind of God. From this theistic perspective, the problem of origins is also answered in that God is not only the creator of all things, but he is a necessary being, meaning that he is uncreated, non-contingent, and must necessarily exist in all possible

¹⁴This solution could also apply to those who believe life is nothing but a computer simulation, often referred to as *The Matrix*.

¹⁵Plato did suggest an overarching Form of the Good. See, Plato, "The Republic," in *The Collected Dialogues of Plato*, ed. Edith Hamilton and Huntington Cairns (Princeton, NJ: Princeton University Press, 1987), 575-844. (Particularly sections 454 c-d and 508 a-c). However, the idea of a plurality of Forms is problematic in platonic thought since the theory of the Forms was designed to answer the problem of the *One and the Many*. If the Forms represent the One, and the shadowy instances of the Forms on earth represent the Many, then how does one account for the *many* eternal Forms? For Aristotle, the Form of the Good (as well as other Forms) had no physical connection to the world; therefore, Plato's theory of the Forms did not need to be believed. See Aristotle, "Nicomachean Ethics," in *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Random House, 1941), 935-1112; and Aristotle, "Metaphysics," in *The Basic Works*, 689-926.

¹⁶This critique is similar to *The Third Man Argument* used by both Plato. Plato, "Parmenides," in *The Collected Dialogues*, 920-56 (see section 132 a-b), and Aristotle "Metaphysics," in *The Basic Works*, 689-926 (see sections 990b17-1079a13).

worlds. However, if one made this modification to the theory of the Forms, then the top two explanations for the origin of beauty and the human ability to perceive it would either be explanation 1 divine creation, or explanation 6 Darwinian evolution.¹⁷

Explanation 6 is not only the most preferred in the secular academy; it is asserted that there could be no other viable explanation. This position assumes (it does not prove) that there is no God. If God does not exist, then the origin of beauty must have some kind of evolutionary explanation; however, if God does exist, then the evolutionary explanation would be incorrect. Explanations 1 and 6 are next compared using the grid of the seven traits of IBE and the research from the previous chapters.

Empirical Breadth

The best explanation should account for all the available evidence.¹⁸ If beauty is found in both animate and inanimate objects as well as in concepts such as mathematics (chap. 5), then the best explanation for the origin of beauty must account for all instances. As discussed in chapter 2, the evolutionary explanation can only account for the beauty in living organisms through sexual selection; it cannot give an account for the beauty found in mathematics or spiral galaxies. The human perception of beauty in a landscape, such as a savanna, must also be reduced to a positive physiological response to the possibility of food, shelter, and/or reproduction. What is thought to be the human aesthetic perception of beauty is merely a positive reinforced survival instinct inherited from ancestors. If one were to understand the beauty of inanimate objects as objective, one would have to formulate other theories besides biological evolution to account for its presence. Therefore, biological evolution is not comprehensive enough to explain all instances of beauty in the universe.

¹⁷Some may argue for a type of theistic evolution. However, theistic evolution would fall under explanation 1 since the ultimate origin for beauty and its human perception would be God.

¹⁸Fogelin, "Inference to the Best Explanation," 618-19.

The theistic explanation accounts for objective beauty in both animate and inanimate objects, as well as in mathematics, because God is the creator of all things (chap. 3). God also gave humanity the capacity to enjoy beauty no matter where it is found as a constant reminder of his existence and of his loving care. Therefore, based on the test of *empirical breadth*, it seems that divine creation gives a better account of all the available evidence.

Generality

The test of *generality* is like *empirical breadth*, but the emphasis is on how one explanation can be used in many different occurrences.¹⁹ For instance, if sexual selection is the explanation in Darwinian evolution for the beauty of the peacock's tail, then how much can sexual selection account for other instances of beauty? Sexual selection, particularly mate selection, turns out to be a plausible explanation for beauty within a particular species. For instance, the peahen is attracted to the peacock with the most beautiful tail, functioning as a health and fitness indicator of a potential mate. However, this phenomenon could also have another explanation, such as a mate selection instinct created within each species. This instinct might also explain why each species does not seem to possess an appreciation of beauty in other species or in the broader aspects of nature. In other words, a dog does not seem to be captivated by a sunset or the beauty of a redbird. On the other hand, human beings not only see the beauty in potential mates, he or she can also appreciate all forms of beauty in both animate and inanimate objects. This would indicate that at least among humans, the aesthetic sense is not just orientated toward mate selection. Consequently, sexual selection alone cannot fully account for the human aesthetic sense, whereas biblical theism can.

¹⁹Fogelin, "Inference to the Best Explanation," 619.

Modesty

The test of *modesty* is a check on a proposed theory that attempts to explain too much.²⁰ The problem with the evolutionary answer to beauty is that many who affirm this theory attempt to explain the beauty of non-biological objects through the rubric of biological evolution. If mountains, stars, and deep canyons are objectively beautiful, then biological evolution cannot be a proper explanation of why this is so. In other words, those who hold to Darwinian evolution should only attempt to explain beauty in biological forms. To do otherwise is to immodestly claim something more than the theory allows.²¹

In the case of biblical theism, many have accused theists of the immodest god-of-the-gap response. Which is to say that if there is a gap in scientific understanding, God must have created it that way. However, if it is true that God created beauty and gave humanity the ability to perceive it, then to affirm this truth would not be immodest. Furthermore, no explanation should be rejected because scientists (or anyone else) do not particularly like the answer. If the best explanation is a theistic one, then one should at least be open to the possibility. Therefore, it appears that the evolutionary explanation of beauty tries to explain more than the evidence allows, whereas the theistic explanation can readily explain all instances of beauty in the universe, as well as its perception.

Refutability

Refutability is the idea that a theory is strengthened if it can be falsified. According to Fogelin, there are two types of irrefutable explanations, (1) the explanation defies falsification, or (2) the explanation might be refutable, but the evidence to refute is impossible to obtain.²² In the case of Darwinian evolution, the theory is potentially

²⁰Fogelin, "Inference to the Best Explanation," 619.

²¹The only way biological evolution can explain the beauty of non-biological things is to affirm subjectivism, which suggests that beauty only exists in one's mind. Therefore, if this were true, then one should not say, "The sunset is beautiful," one should merely say, "I'm having beautiful thoughts about the sunset." See the sections on objectivism and subjectivism in chap. 5.

²²Fogelin, "Inference to the Best Explanation," 619.

refutable, but has defied any refutation in practice. For instance, any evidence of divine creation (which would include beauty) within a biological organism would refute the theory that all things evolved from random processes over time. However, some of the strongest evidence for creation, such as the factory-like irreducible complexity of a single cell, or the computer-like DNA code, has been quickly dismissed by evolutionists who insist that evolution will one day supply the answer (science-of-the-gaps?). In other words, Darwinian evolution is potentially refutable, but it seems at present to be irrefutable (since it is the only answer allowed) until a paradigm shift occurs in the modern scientific community.²³ On the other hand, God as the source of beauty could be falsified (1) if God were proved to not exist, or (2) if beauty and its perception was proved to be the result of natural unguided processes. The problem is that the existence of God is potentially refutable, but scientifically impossible at this time to obtain. One would also have to become omniscient to prove a universal negative. What is more, no conclusive evidence has been provided (see chap. 2) that proves natural processes alone are the source of beauty. Therefore, as far as the *refutability* test is concerned, both the theistic and the evolutionary answers concerning the origin of beauty can potentially be refuted.

Conservatism

An explanation should be conservative in the sense that it should not unnecessarily abandon a “well-established explanation.”²⁴ The problem with this test is that it is worldview specific. Presently, there are two well-established answers to the problem of origins: creation and evolution. When Darwin was writing *On the Origin of the Species*, the well-established answer (at least in the Western world) was biblical theism. In the twenty-first century, evolution has now become an established theory. To an evolutionist, the idea that God is the source of beauty would be outside their community’s

²³See Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1996).

²⁴Fogelin, “Inference to the Best Explanation,” 619.

well-established theory, and therefore violate the test of *conservatism*. Conversely, for the long existing community of biblical theists, the theory that all forms of beauty were a result of natural process alone would violate their test of *conservatism*. The test of *conservatism* may be useful in more parochial questions within a particular scientific community, such as within archeology or physics, but is not helpful in establishing the big worldview questions, such as origins. The reason it is unhelpful is that it would commit the logical fallacy of *begging the question*; each theory assumes to be true the very thing it is attempting to establish. For this reason, the test of *conservatism* is not a useful test in the debate between natural evolution and biblical theism concerning the origin of beauty, because both sides could claim that the other side is violating their well-established beliefs.

Simplicity

Simplicity is the idea that a simple explanation is more preferable than a complex explanation (Occam's Razor). This does not mean that a true explanation cannot be complex, it merely suggests that one should avoid unnecessarily complicating an explanation by the multiplication of theories.²⁵ The explanation of beauty from an evolutionary perspective requires multiple theories. One theory must be given for why beauty exists in biological organisms (i.e., sexual selection), another theory for why humans developed unique aesthetic perception (i.e., survivability, group cohesion, mate selection, etc.). These theories only attempt to account for beauty within biology, not for the beauty of inanimate objects. To explain the beauty of sunsets and spiral galaxies, one would have to supply yet more theories. On the other hand, the theistic explanation of beauty is very simple: beauty exists in the world because God created things beautiful (both biological and non-biological) and he gave humanity the ability to enjoy it. Therefore, the theistic answer to the origin of beauty seems to be the simpler solution.

²⁵Fogelin, "Inference to the Best Explanation," 619.

Multiplicity of Foils

An explanation is strengthened as it is able to overcome various foils.²⁶ Many foils for evolution have been answered, such as how a species can adapt to environmental pressures and increase survivability. However, other foils have yet to be answered. For instance, the lack of explanation (or even a viable theory) for how life came from non-life, the existence of irreducible complexities, or the lack of evidence in the fossil record of how all species evolved from one primordial life form.²⁷ Another potential foil is why natural selection does not override any gains made by sexual selection. For example, sexual selection made the peacock tail beautiful, but at the same time, through natural selection, the large decorative tail would have made the peacock slow and easy to spot by predators. These foils (that even troubled Darwin) have yet to be answered. Nevertheless, some foils for theism need to be answered as well, such as why God allowed ugliness to enter his creation, through evil, death, and destruction. Another foil often brought up by atheists is the question of God's origins. It may be asked, "If God is the origin of beauty, then what is the origin of God?" These potential foils are not without viable answers. The reason God allowed evil and ugliness through death and decay into his creation is not specifically explained in Scripture.²⁸ However, God has promised to restore creation and destroy evil and death in the end.²⁹ As far as God's origin is concerned, he is described in Scripture as an eternal being without beginning or end. The point here is that both scientists and biblical

²⁶Fogelin, "Inference to the Best Explanation," 620.

²⁷For an explanation of irreducible complexity, see Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: Free Press, 2006), 39-46. See also the challenge of specified complexity in Stephen C. Meyer, *Signature in the Cell: DNA and the Evidence for Intelligent Design* (New York: HarperCollins, 2009), 107-11. For the lack of fossil evidence, see Phillip E. Johnson, *Darwin on Trial* (Downers Grove, IL: InterVarsity, 2010), 67-85.

²⁸Several philosophical answers have been proposed to the question of the problem of evil, such as the freewill, sole making, and eschatological defense. However, the Bible does not specially explain why evil was allowed by God, it merely points to a time in which the question will be answered (Hab 2:1-4) and evil and death will be finally and forever destroyed (Rev 21:4).

²⁹See Rom 8:20-21, 1 Cor 15:26, and Rev 21:4.

theists (and philosophers) agree—for anything to exist at all there must be something eternal. If it is impossible for something to come from nothing, then it should be no surprise that the Bible describes God as uncreated, eternal, and the source of all that exists. It also should be noted that biblical creation readily explains one of evolution’s biggest foils mentioned above: how life came from non-life and was immediately able to reproduce itself.³⁰

Conclusion of the Seven Traits

In using Lars Fogelin’s grid of “Seven Traits of Highly Successful Explanations,” the two most viable hypotheses for beauty, biblical theism and Darwinian Evolution, were examined side-by-side to discover which explanation is the best explanation for the existence of beauty in the cosmos. After a quick analysis based on the research of previous chapters, biblical theism appears to be the best explanation between the two. The explanation of beauty’s divine origin fits nicely into a statement borrowed from C. S. Peirce (above): “The surprising fact, C [beauty], is observed; But if A [existence of God] were true, C [beauty] would be a matter of course. Hence, there is reason to suspect that the A [existence of God] is true.”³¹

Summary

The purpose of this dissertation was to examine the explanatory power and scope of two very different theories concerning the origin of beauty and the human aesthetic sense: biblical theism and Darwinian evolution. Chapter 1 introduced the

³⁰The first life form must have had the ability to reproduce; otherwise, life would not have survived. Evolution only works within the reproductive process. How could evolution be responsible for the reproductive process, if the process must be working in order for evolution to occur? However, Gen 1:24 says God made everything able to reproduce after its own kind.

³¹Peirce, *Philosophical Writings*, 151-52. If evolution were plugged into the second line, “But if *evolution* were true, *beauty* would be a matter of course,” it does not seem to have the ring of truth. Given the fact that evolution is based on random chance, nothing about the theory of evolution would make beauty “a matter of course.”

problem of beauty along with some background information. It also outlined the methodology to be used, as well as the shape of each chapter.

Chapter 2 discussed the problem of beauty from an evolutionary perspective. It was shown that Darwin's solution of the combination of *natural selection* and *sexual selection* influenced many scholars currently working on the problem. Along with the natural construction of the brain, another major problem discussed was the various hypotheses of how the human perception of beauty increased survivability. After offering several critiques of the evolutionary explanation, a few evolutionists were cited with a surprising admission that beauty seemed to possess a kind of transcendent quality.

Chapter 3 focused on the explanation of the divine origin of beauty. This chapter discussed the platonic transcendentals that were adopted with some modification by many in the early church. It was shown that the biblical witness, as well as the witness of many Christian theologians, supports the idea that God is the ultimate source of beauty. This chapter also explored the influence that Christian thinkers have had on the modern understanding of beauty.

Chapter 4 examined the function of beauty as a sign. This discussion included certain philosophers and theologians that developed in various degrees a semiotic understanding of beauty. In other words, these thinkers believed beauty could function as a sign pointing to God. In the last section of this chapter, the new field of biosemiotics was examined and a few examples were discussed and critiqued. The chapter concludes with a common-sense proposal on the function of beauty as a sign.

Chapter 5 discussed the definition of beauty, as well as arguments for and against objectivism and subjectivism. Next, various instances of beauty were examined, particularly beauty in both the visible and invisible realm. The purpose of this section was to show that beauty is not just a peripheral aspect of the universe, but seems to be woven into the very fabric of reality. Therefore, the presence of beauty becomes strong supporting evidence of a wise, powerful, and benevolent Creator. Finally, it was suggested that

beauty, if viewed through the non-reductionistic lens of theism, has the ability to re-enchant the seemingly disenchanted modern world.

This present chapter, chapter 6, began with a discussion of the difference between abduction and the inference to the best explanation. The proposal of archeologist Lars Fogelin’s “Seven Traits of Highly Successful Explanations” was used to briefly compare the top two competing explanations, biblical theism and Darwinian evolution, with the conclusion that biblical theism seems to be the best explanation between the two. Simply stated, beauty exists because God exists.

Through the cumulative case of each chapter in this dissertation, the presence of beauty can be understood as an important signature of God on his creation that points back to himself and his glory. The existence of beauty brings so much joy and richness to every area of life that the best and most intellectually satisfying explanation is that beauty is a gracious gift given to humanity by a glorious and loving Creator. In other words, God is the best explanation for the origin of beauty and the human ability to perceive it.

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ABSTRACT

ON THE ORIGIN OF BEAUTY AND THE HUMAN ABILITY TO PERCEIVE IT

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This dissertation examines the explanatory power and scope of two different theories concerning the origin of beauty and the human aesthetic sense. Chapter 1 introduces the problem of beauty, the working thesis, and the methodological approach.

Chapter 2 examines several materialistic evolutionary explanations of the origin of beauty and of human aesthetic perception. It concludes with a critique of the various theories outlined.

Chapter 3 examines the possibility of a divine origin of beauty and the human aesthetic sense. Various biblical words and ideas are discussed, as well as several historical theological and philosophical concepts.

Chapter 4 considers the possibility that beauty functions as a sign that points to God. The discussion includes certain philosophers and theologians that developed, in various degrees, a divine semiotic understanding of beauty. In the last section, the burgeoning field of Biosemiotics is examined and critiqued.

Chapter 5 discusses the various types of beauty found in the world through sight, sound, and ideas, and how the mind recognizes these various types. The purpose of this section is to show that beauty is not just a peripheral aspect of the universe, but woven into the very fabric of reality.

Chapter 6 concludes by summarizing the arguments and showing that the best explanation for the origin of beauty in the world and of the human perception of beauty is biblical creation. It also concludes that beauty is an important signature of God, as well as a gracious gift given to humanity by a glorious and loving Creator.

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ORGANIZATIONAL

Evangelical Theological Society
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