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Toward a Holistic Interdisciplinary Model of Human Being: a Hebraic-Christian Perspective of the Human Observer and its Beneficial Impact on the Theology-and-Science Dialogue, Society, and the Environment

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ABSTRACT

TOWARD A HOLISTIC INTERDISCIPLINARY MODEL OF HUMAN BEING: A HEBRAIC-CHRISTIAN PERSPECTIVE OF THE HUMAN OBSERVER AND ITS BENEFICIAL IMPACT ON THE THEOLOGY-AND-SCIENCE DIALOGUE, SOCIETY, AND THE ENVIRONMENT

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ABSTRACT OF GRADUATE STUDENT RESEARCH
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Problem

A challenge faced by the theology-and-science dialogue is how to effectively communicate across disciplinary lines. The community assumes that there is a methodology or cluster of methodologies that allows for interdisciplinary conversation to take place. However, the community is not in agreement about how this process should occur or the hermeneutical principles that should guide it. Is it possible to surmount the problem of methodological compatibility and to generate mutually beneficial and fruitful dialogue through seeking a point of commonality between all the disciplines of the theology-and-science dialogue?

Purpose

The purpose of this dissertation is to discover a philosophical ground in a Hebraic-Christian concept of human being for building fruitful theology-and-science dialogue that is sensitive to the physical (natural sciences), moral (philosophy and social sciences), and spiritual (theology) attributes of human being.

Method

To aid me in the hermeneutical task, I turn to social scientist Roy Bhaskar, who proposes (1) that the flow of knowledge proceeds from ontology to epistemology, or from "manifest phenomena to the structures that generate them"; (2) that social constructs, due to their ability to influence human behavior, have ontological characteristics; and (3) that because reality is a unified stratification and that disciplines develop along these stratifications, it is possible to work across them along points of commonality for the purpose of interdisciplinary dialogue.

Conclusions

In this dissertation, I draw the following conclusions:

1. As relational beings, humans wield power to change the flow of history simply by their presence and observation of the world; thus it would appear that the definition that humans attribute to themselves is indicative of how they will approach and take care of their environment.

2. While a philosophically influenced natural science is a positive step toward resolving the problem of human being in relation to its environment, it is suggested that only when a spiritual dimension is added to the definition of human being that the problem may be addressed more completely.

3. Finally, I apply the definition of human being proposed by the Hebraic-Christian perspective to interdisciplinary discussions regarding the problems of economy and ecology, especially those that consist of hate crimes and other types of abuses against other humans. Thus human being serves as a fruitful common ground for the theology-and-science dialogue.

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A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

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This dissertation is dedicated to

My family, especially my parents, Robert and Marilyn Abrahamson

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In memory of

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For my little four-footed companions along the way

Piglet, Sophie I and II,
Sadie, and Max

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PREFACE

It is the year 1944. The location is the cold and brutal landscape known as Ravensbrück, a concentration camp in Germany, created during the Second World War to house political and ethnically undesirable prisoners. Your task is to determine what will be done with the creatures that stand ragged, scarred, neutered, and broken before you. Will you render them subhuman entities unworthy of life, use them until they have no more mechanical value, and then consign them to the fiery hell of the ovens? Or will you see them, in spite of their repulsive and alien features, as complete human beings, created in the image of God? The way that you define their being will determine their immediate fate. You are the observer. With what lens will you choose to observe this scene?

Corrie ten Boom was both an observer and a victim of Ravensbrück. Sent there with her sister Betsie for her part in aiding Jews, she viewed the suffering about her with horror. Again and again, she plied Betsie with the questions, Why is there so much suffering? Why must we go on suffering? Betsie's answer was consistently the same: We must forgive. Corrie could not understand this answer. Finally, in the deep of winter, Betsie's body failed her and as she lay on her deathbed, Corrie again asked, Why? Betsie's nearly inaudible reply: ". . . must tell people what we have learned here. We must tell them that there is no pit so deep that He is not deeper still. They will listen to us, Corrie, because we have been here."[1]

The role of the observer is of central importance to the way in which the world is

[1] Corrie ten Boom, with John Sherrill and Elizabeth Sherrill, *The Hiding Place* (New York: Bantam Books, 1974), 217.

understood. Therefore, it is necessary to understand the type of beings that humans are, for it is the starting point by which we compare and contrast the world. We come, all too often, to the question of human being rather glibly and without due consideration for its importance. Too often we brush aside the question with the response: "I cannot define it, but I know it when I see it."

When confronted with the task of determining the type of being that comprised the prisoners of Ravensbrück, two possibilities emerge that have two different trajectories in Western thought. The first proposes that humans are mere accidental occurrences, but having come into existence as humanoid life forms they become fully human through the impartation of a divine soul. But what happens if one's beliefs are such that not all humanoid life forms are human? What if some are savages or subhuman species who have not yet attained that final capstone called human being? Might one be able to justify an inhumane way of treating these less-than-human life forms? As Stephen Jay Gould illustrates in *The Mismeasure of Man*,[2] and as a multitude of historical documents demonstrate, the unthinkable has already happened.

However, if we return to Betsie's words, we come to another lens by which to view and interpret the world. Betsie can forgive because the view from her observer's outpost is of an entirely different nature. When Betsie views the poor pitiable creatures who stand before her, she sees them through the eyes of God as complete human beings, simultaneously and necessarily spiritual and physical entities. In spite of their suffering, in spite of the fact that their enemies have sought to strip away any trace of humanness and to

[2] Stephen Jay Gould, *The Mismeasure of Man* (New York: W. W. Norton, 1981); see also Adrian Desmond and James Moore, *Darwin's Sacred Cause: How a Hatred of Slavery Shaped Darwin's Views on Human Evolution* (Chicago: University of Chicago Press, 2009).

reduce them to mere physical caricatures of humanity, Betsie sees them as they are, creatures created in the image of God. But her view of humanity is not limited to those who suffer, but also to those who cause suffering. Although Corrie does not understand Betsie's words and struggles against them, Betsie maintains her resolve to forgive their tormentors. For what Betsie came to understand is that there is a choice that must be made about what it means to be human. One must choose the lens through which one views the world. Betsie can forgive only because she understands her role as a Christian observer. Others may claim to be Christians. But the proof is in the actions that come forth as a result of choosing to view the world through God's eyes. That proof is to forgive, for there is no pit so deep that God cannot reach into it and revive his original conception of being in the heart of the one who flounders there, whether that person is prisoner or jailer.

Human being is not merely a location in space, nor is it a becoming. Human being *is*. What it is comes from the hand of God: "Then God said, 'Let us create man in our image, in our likeness. . . . So God created man in his own image, in the image of God he created him; male and female he created them" (Gen 1:26-27, NIV). What that means to me as a Seventh-day Adventist observer of the world is the subject of this dissertation.

INTRODUCTION

Statement of the Problem

A challenge faced by the theology-and-science dialogue is how to effectively communicate across disciplinary lines. The dialogue community assumes that there is a methodology or cluster of methodologies that allows for interdisciplinary conversation to take place. However, the community is not in agreement about how this process should occur or the hermeneutical principles that should guide it. Is it possible to surmount the problem of methodological compatibility and to generate mutually beneficial and fruitful dialogue through seeking a point of commonality between all the disciplines of the theology-and-science dialogue?

Purpose

The purpose of this dissertation is to discover a philosophical ground in a Hebraic-Christian concept of human being for building fruitful theology-and-science dialogue that is sensitive to the physical (natural sciences), moral (philosophy and social sciences), and spiritual (theology) attributes of human being.

Development of Analytical Scope and Procedures

In this dissertation, I propose that for effective dialogue to occur a point of commonality at the philosophical level is needed that transcends disciplinary methodologies. From this point, a mutually satisfying and effective dialogue may be generated. To aid me in this task, I turn to the social scientist Roy Bhaskar, who proposes (1) that the flow of

knowledge proceeds from ontology to epistemology, or from "manifest phenomena to the structures that generate them"; (2) that social constructs, due to their ability to influence human behavior, have ontological characteristics; and (3) that because reality is a unified stratification and that because disciplines develop along these stratifications, it is possible to work across them along points of commonality for the purpose of interdisciplinary dialogue.

Building on such ideas, I propose that a concern that is common to all disciplines and which has the capability of serving as a philosophical ground for building dialogue is human being, here understood in a universal sense and which exhibits itself in relational terms.

As I seek to demonstrate, a definition of human being that takes seriously the physical, moral, and spiritual aspects of human being is integral (1) for establishing a fruitful interdisciplinary dialogue that is built upon shared concerns and basic philosophical concepts, and (2) for providing a basis for scientific exploration of my hypothesis that there is a correlation between definitions of human being and the way that human beings interact with their environment. These points are especially important as human beings are currently seen as having culpability for the current economic and ecological crises. In order to develop ways of dealing with these crises, it is necessary to have a shared philosophical approach and language that is able to transcend, yet respect, disciplinary boundaries, questions, and methodologies.

My dissertation, therefore, explores not only how a common philosophical concept of human being can be used across the disciplines of the theology-and-science dialogue, but also notes the implications of any particular concept of human being upon the environment. I term the concept of human being that I develop in this dissertation the "Hebraic-Christian perspective" due to the ancient Hebrew cosmology that grounds it and which is used

consistently throughout both the Hebrew Bible and the Greek New Testament to not only define human being, but also help to serve as the basis for determining human accountability and culpability. This perspective, which is based on the notions that (1) human beings were created in the image of God (Gen 1:26-28) and (2) that they are a unified and integrated whole, which includes, without separation, physical, moral, and spiritual attributes (Gen 2:7), provides a common orientation that may be applied and studied empirically across the disciplines of the theology-and-science dialogue.

Dialogue Partners

In this dissertation, I will interact with a number of dialogue partners[3] from across the disciplines of the theology-and-science dialogue who play key roles regarding the definition and role of human beings in relation to their environment, including:

The ancient Greek philosopher *Heraclitus*, who is one of the first to suggest that being is the root of philosophy.

Augustine of Hippo, who saw and attempted to elucidate the potential for dialogue between theology and natural philosophy, but whose approach to anthropology sets up a potentially destructive concept of human being.

Immanuel Kant, who demonstrated the need for moral influence on the natural realm and who suggested the complex relationship between the moral and physical elements of human being.

Friedrich Nietzsche, whose philosophy represents to Martin Heidegger the logical conclusion of the Platonic concept of being and thus the end of Western philosophy.

[3] For the sake of convenience, I list the dialogue partners in chronological order. However, in the dissertation, they are used in conjunction with the disciplines and ideas with which they are associated.

Heidegger, who in response to proposals such as those of Heraclitus, Neitzsche, and Kant, provides a radical reinterpretation of being as understood by the Greeks and moderns.

Roy Bhaskar, who sees the importance of separating the natural and human sciences by proposing a stratified concept of reality that respects the contexts, concerns, questions, and methodologies of each discipline, while seeking to find common elements upon which to dialogue.

Alister E. McGrath, who finds room in Bhaskar's stratified concept of reality for a Christian theology of nature, which he terms "creation."

Stephen Jay Gould and *Adrian Desmond and James Moore*, who provide the historical context for the consequences of how we define human being. Gould, especially, proposes that the resolution to the problem of human being is to remove all reference to religion, particularly Christian theology. In so doing, one may attain objectivity.

John D. Barrow and Frank J. Tipler, who attempt to build a working hypothesis of how human being might be understood in terms of a humanistic and quasi-religious approach.

In this dissertation, I will use a canonical approach to *Scripture*, which is in essential agreement with the retroductive approach to critical realism that I apply in this dissertation. In this approach, we come to Scripture as it is now and are not concerned with the past history of criticism. This allows us to hear it from its own perspective and to inform us of its own concern with the relationship that human beings have with their environment and with God. In other words, we allow Scripture to serve as a dialogue partner.

Justification

These dialogue partners, each in his own way, address some aspect of human ontology, some with reference to theology, others to philosophy, and still others to the natural and social sciences. However, none of them, or any other thinkers, fully explore a

definition of human being that takes seriously the physical, moral, and spiritual aspects of human being that I propose is integral (1) for establishing a fruitful interdisciplinary dialogue that is built upon shared concerns and basic philosophical concepts, and (2) for providing a basis for scientific exploration of my hypothesis that there is a correlation between definitions of human being and the way that human beings interact with their environment.

Method

The dissertation begins with a Preface and Introduction, in which the context and approach to the dissertation are addressed.

Chapter 1 explores the need for establishing a methodology or cluster of methodologies that allows for interdisciplinary conversation within the theology-and-science dialogue to take place. Central to this discussion is the need for finding a common ground upon which dialogue can be structured. I suggest that the question of human being is central to all disciplines. This is because humans, who are relational and contrastive and comparative beings, have necessarily physical, moral, and spiritual attributes. As such, human beings require input from across the disciplines in order to gain a more reliable and accurate ontological definition. In this chapter, I dialogue with the critical realist Roy Bhaskar, who is informed by Kant and Heidegger in his ontological approach, and who in turn influences McGrath's scientific theology. Finally, I introduce my own Hebraic-Christian perspective of human being.

Chapter 2 addresses the question of human being as social observer. As demonstrated by Barrow and Tipler, the human observer wields power to change the flow of history simply by his presence. McGrath carries this idea beyond the natural sciences and philosophy by addressing the theological significance of humans as not only moral and physical beings, but as spiritual ones. Barrow and Tipler and McGrath are united in seeing

the possibility for fruitful dialogue centered on the anthropic cosmological principle, which, in its weak statement, suggests that "our location in the universe is necessarily privileged to the extent of being compatible with our existence as observers."[4] In its strong form, the anthropic cosmological argument states that "the Universe *must have* those properties which allow life to develop within it at some stage in its history."[5] These dialogue partners arrive at different strong arguments: Barrow and Tipler build their quasi-religious understanding of the social observer on the anthropic cosmological arguments. A question that emerges from their concept of the human observer is whether a morally (i.e., philosophically) informed definition of human being is sufficient. McGrath argues that an added spiritual dimension is needed and thus turns to Christian theology. He builds his understanding of theology upon the Augustinian tradition. While Augustine's approach to interdisciplinary dialogue is important and lays the ground for the theology-and-science dialogue, his anthropology is lacking in terms of a truly relational and personally accountable human being. In order to formulate a definition of human being that addresses the moral, spiritual, and physical attributes of human being, it is necessary to establish a common philosophical ground on which the disciplines of the theology-and-science dialogue may meet.

Having demonstrated the importance of a philosophically and theologically informed natural science, in chapter 3 I turn to the question of human being to begin formulating the

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[4] Brandon Carter, "Large Number Coincidences and the Anthropic Principle," in *Confrontation of Cosmological Theories with Observational Data*, ed. H. S. Longair (Boston: D. Reidel, 1974), 291. The formal statement of the weak anthropic argument is: "The observed values of all physical and cosmological quantities are not equally probable but they take on values *restricted* by the *requirement* that there exist sites where carbon-based life can evolve and by the *requirement* that the Universe be old enough for it to have already done so" (John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* [Oxford: Oxford University Press, 1988], 16, emphasis supplied).

[5] Barrow and Tipler, *The Anthropic Cosmological Principle*, 21, emphasis supplied.

common philosophical ground by which the disciplines of the theology-and-science dialogue will engage together. In this chapter, I dialogue with Heidegger concerning his concept of human being. It appears that Heidegger makes room for a spiritual attribute of human being, but before accepting his concept it is first necessary to ask in what ways his concept of being might inform theology-and-science dialogue, particularly in regard to how his ideas might be applied to problems in the natural environment.

Having established that his concept of being is helpful in this regard, in chapter 4 I turn to Heidegger's concept of God and its relationship to his understanding of human being. As Heidegger explores the problem of human being in regard to the concept of God, he dialogues with Nietzsche, drawing the conclusion that Nietzsche's concept of being signals the end of Western metaphysics that is grounded on the Platonic concept of being. In response, Heidegger turns from the Platonic-influenced concept of God as understood by Christendom (the social and political force of Western Christianity) to that of the pre-Socratic concept of being as understood by Heraclitus. The materialistic god that emerges from Heidegger's concept of being as the ground of all beings is not sufficient. It is therefore necessary to begin exploring the possibility of a theology of human being that will both sufficiently meet the needs of a relational human being in terms of physical, moral, and spiritual attributes and which is faithful to the original roots of Christianity.

In chapter 5, I recognize the central role that Augustine has had in laying the groundwork for the theology-and-science dialogue, but because I am troubled by his anthropology, if is necessary to more fully investigate and critique it. I identify two main areas of investigation: (1) the immortal soul and original sin, and (2) the meaning of history and the concept of predestination. To aid in this critique, I turn to Anna Case-Winters, who is concerned about the problem of dualism. I point to the way in which Augustine

formulates human being as a composite of body and immortal soul and allow Case-Winters to demonstrate the negative results that can occur both economically and ecologically when a dualistic concept of human being is used as a grounding principle of interpretation. In regard to the question of history and predestination, I turn to Rudolf Bultmann, who critiques the Augustinian tradition on the basis of its lack of moral accountability. Bultmann bases his criticism on the lack of free will in the Augustinian anthropology. God, from the depths of eternity, chooses humans for salvation or perdition. Humans therefore have no real choice in their destiny and thus, Bultmann contends, no accountability for their actions. It would thus appear that there is a need for further refining the theological aspects of human being, but before doing so I will first examine the negative implications that can and have resulted from dualistic concepts of it. It is important to the discussion of human being to realize how definitions of human being can destroy lives and render beings that were meant for higher destinies to subhuman status.

Therefore, in chapter 6, one is alerted once again to the problem of dualism, particularly in regard to the treatment of human beings who are considered somehow less than human due to their mental, social, or physical capabilities or because of their ethnic background. In this discussion, I allow Stephen Jay Gould, with his research into the problem of human profiling and scientific racism, and Adrian Desmond and James Moore, with their historical critique of the African slave trade, to provide the orientation for exploration. In this chapter, I demonstrate how dualistic conceptions of the immortal soul and physical body set the stage for the development of scientific racism and allowed for African slavery, the Holocaust, and other incidents of genocide. Theology's argument over the origin of the body and soul, led to concepts that were based upon dual creations and resulted in two main positions: creationism, in which the soul was specially implanted in each

physical body, and traducianism, in which the immortal soul is inherited in some special way through the generative actions of the parents. When combined with the closely related ideas of monogenesis (the origin of all human beings from one ancestor) and polygenesis (the multiple origins of human beings from a variety of ancestors), the stage was set for theologically acceptable crimes against humanity and scientific racism.

In chapter 7, I conclude the search for a definition of human being that is relational and which takes seriously the physical, moral, and spiritual attributes of that being. I discover that there is a methodological approach that satisfies these criteria, which I term the Hebraic-Christian perspective. In this approach, a canonical understanding of Scripture, such as proposed by Brevard Childs, is used. An examination of the Hebrew Bible and the Greek New Testament shows that there is a consistent definition of human being throughout. Based on the idea that (1) human beings were created in the image of God (Gen 1:26-28) and (2) that they are a unified and integrated whole, which includes, without separation, physical, moral, and spiritual attributes (Gen 2:7), I explore possible ways that the Hebraic-Christian perspective fills voids in the theology-and-science dialogue.

A Conclusion and Appendix conclude the dissertation.

CHAPTER 1

A CASE FOR INTERDISCIPLINARY STUDIES

Introduction

The contemporary theology-and-science dialogue has roots that extend to the early days of the Patristic era of church history. In the second century, Origen, in *Hom. Exod.* IV.6, becomes the first to see parallels between the treasures of Egypt and pagan learning.[6] But it is Augustine of Hippo (354-430), regarded as the period's most influential Latin father, who most develops this idea and recommends that Christian scholars use these treasures for the benefit of theology and society, but also proposes how to do so.[7] Thus he argues allegorically that "a Christian, as he separates himself in spirit from their [pagan philosophers'] wretched company, must take away and apply all this [pagan learning] to the right use of preaching the Gospel, as if it were the gold and silver of the pagans, which they did not create but dug, as it were, from the mines of divine providence, which is

[6] Pier Franco Beatrice, "The Treasures of the Egyptians: A Chapter in the History of Patristic Exegesis and Late Antique Culture," in *Historica, Biblical, Aecetica et Hagiographica*, Studia Patristica, ed. M. Edwards, P. Parvis, and F. Young (Leuven: Peeters, 2006), 171.

[7] As Beatrice points out, the theme of Egyptian treasures has a long and complex history in the Patristic fathers, but it is Augustine, who perhaps learning of Origen's own understanding, who has become well known for applying the concept to pagan philosophy. Origen sees a negative quality in pagan philosophy that makes it something to avoid. Rather than seeing it as a treasure, he links it allegorically with the Egyptian plagues (ibid., 159, 171-173).

everywhere."[8] "Human institutions," which are "appropriate to human society, [and] which in this life we cannot do without," were to be "accepted and kept for conversion to Christian purposes."[9]

Augustine's suggestion for how to understand properly and apply pagan philosophy and the institutions of society within a Christian context also remains in the language of allegory. The road to wisdom, he contends, especially for those whose eyes of the soul cannot yet see the full brightness of wisdom's glory, is a long and gradual one. Such individuals must be trained in a manner that allows them to progress steadily toward a full understanding of wisdom. "It is the task of good science," he posits, "to arrive at wisdom by a certain ordered procedure, without which happiness can hardly be attained."[10]

Frederick Van Feletern discovers that even this method of learning is plundered by Augustine from the "Egyptians," finding a parallel in Porphyr's *Life of Pythagorus*, in which Pythagoras develops a method for training the mind to contemplate the incorporeal realm. Such training must be gradual, Pythagoras proposes, because otherwise it would overwhelm the learner.[11]

There is, then, a long tradition in Christianity that pagan philosophy, in its various disciplines, is a source to be harvested and used to the betterment of Christian theology.

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[8] Augustine, *De doctr. christ.* 2.144-145 (R.P.H. Green, *Augustine. De doctrine christiana*, Oxford Early Christian Texts [Oxford: Oxford University Press, 1995], 124-127).

[9] Ibid.

[10] Augustine, *Solil.* 1.13.23.

[11] F. Van Fleteren, "St. Augustine, Neoplatonism, and the Liberal Arts: The Background to 'De doctrine christiana," in *De Doctrina Christiana: A Classic of Western Culture*, ed. D.W.H. Arnold and P. Bright, Christianity and Judaism in Antiquity 9 (Notre Dame: University Notre Dame Press, 1995), 14-24, 18; cf. Beatrice, "The Treasures of Egypt," 182.

However, there is a lack of clarity about how to draw together the corporeal physical realm with the incorporeal realm of morals (philosophy) and spiritual experience (theology) for the benefit of dialogue.

In this chapter, I will explore the possible relationship of theology and the natural and social sciences for the purpose of determining (1) if a methodological relationship between them can be achieved, and if so, (2) whether a common philosophical ground can be discovered that will make fruitful discussion possible between the disciplines of the contemporary theology-and-science dialogue.

To aid in this task, I will explore Immanuel Kant's proposals that reality consists of two realms—the physical realm of human experience and the inner realm of human morals—and that one comes to understand his own existence only when these two realities are understood as standing together in essential relationship.

Kant's perspective influences the social scientist Roy Bhaskar, who provides three valuable insights into how interdisciplinary study might be possible, including the notions (1) that the flow of knowledge proceeds from ontology to epistemology, or from "manifest phenomena to the structures that generate them"; (2) that social constructs, due to their ability to influence human behavior, have ontological characteristics; and (3) that because reality is a unified stratification and because disciplines develop along these stratifications, it is possible to work across them along points of commonality for the purpose of interdisciplinary dialogue.

Next, I will examine the thoughts of Alister E. McGrath, who is encouraged by Bhaskar's proposal that the social concepts that guide society have ontological value. He extends Bhaskar's ideas to theology, thereby legitimizing its use as a source of scientific knowledge in the theology-and-science dialogue.

Finally, I will introduce my proposal that it is possible to establish a common philosophical ground from which the theology-and-science dialogue may proceed. I am influenced in this by McGrath's contextualization of nature as creation.[12] This common ground is, I suggest, human being, understood in its universal, philosophical sense, and which is applicable in some respect to all the disciplines of the theology-and-science dialogue.

I will now begin with the question of whether a methodological relationship between the disciplines of the theology-and-science dialogue can be achieved.

The Possibility for Interdisciplinary Methodology

The theology-and-science dialogue assumes that there is a methodology or cluster of methodologies that allows for interdisciplinary conversation to take place. However, the community is not in agreement about how this process should occur or the hermeneutical principles that should guide it. Is it possible to find a common philosophical ground upon which to build an interdisciplinary methodology that can help the theology-and-science dialogue to address critical issues given the fact that the disciplines of the dialogue address different aspects of reality?

Some, such as older continental hermeneutical systems, approach questions from a philosophical-theological perspective and emphasize the intuitive elements of hermeneutics,[13] while others, such as with many British and early American systems, come from an empirical/positivist perspective, emphasizing the objective approaches based upon

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[12] Alister E. McGrath, *A Scientific Theology: Nature* (Grand Rapids: Eerdmans, 2001).

[13] Hans-Georg Gadamer provides a philosophical history of hermeneutics that finds its climax in Martin Heidegger's completion of the Western philosophical quest to understand being (*Truth and Method*, 2d ed., trans. Joel C. Weinsheimer and Donald G. Marshall [New York: Continuum, 1997]).

observation and experimentation.[14] Opinion is divided as to whether these two approaches are antithetical or compatible with one another. Is it possible to envision a methodological approach that preserves the integrity of a particular discipline, while allowing it to transcend disciplinary boundaries and be methodologically informed by others?

In order to begin answering these two questions, I will turn to Kant, who, though recognizing the gap between the physical and moral realms, also saw the potential for moral influence upon the physical.

Kant's Concept of Human Being: "The Starry Heavens Above and the Moral Law Within"

In his *Critique of Practical Reason*, Kant takes into account the relationship between the physical and moral realms, noting:

> Two things fill the mind with ever new and increasing admiration and awe, the oftener and the more steadily we reflect on them: *the starry heavens above and the moral law within*. I have not to search for them and conjecture them as though they were veiled in darkness or were in the transcendent region beyond my horizon; I see them before me and connect them directly with the consciousness of my existence.[15]

Here Kant notes two ontological perspectives that find their connection in the epistemological realm of the conscious knowledge of his own existence: the questions concerning the nature, composition, and relation of the *natural* and *moral* phenomena that comprise human being. Humanity has often looked to the starry heavens to understand its own origin and place within the universe, and has sought evidence in the heavens to better

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[14] See, e.g., Alister E. McGrath, *A Fine-Tuned Universe: The Quest for God in Science and Theology*, 2009 Gifford Lectures (Louisville: Westminster John Knox, 2009), 26-27; and Roy Bhaskar, *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*, 3d ed. (London: Routledge, 1998), 1, 4.

[15] Immanuel Kant, *Critique of Practical Reason and Other Works*, trans. Thomas Kingsmill Abbott (New York: Longmans, Green, and Co., 1927), 260, emphasis supplied.

discern how the universe functions; it has turned to the composition of the human mind for understanding the process of cognition, sense of moral acuity, and identity.

Why is humanity fascinated with these external and internal worlds? Kant proposes that

> the former begins from the place I occupy in the external world of sense, and enlarges my connection therein to an unbounded extent with worlds upon worlds and systems of systems, and moreover into the limitless times of their periodic motion, its beginning and continuance. The second begins from my invisible self, my personality, and exhibits me in a world which has true infinity, but which is traceable only by the understanding, and with which I discern that I am not in a merely contingent but in a universal and necessary connection, as I am also thereby with all those visible worlds.[16]

Kant's proposal that the relationship between the physical and moral realms lies within the question of existence or being is intriguing.[17] On one hand, there is a rich genetic connection that is shared with the external world and that connects humans to the greater universe beyond itself. On the other, there is the ability of humans to sense this deep connection with the external realm and to understand more about it through reflection and contemplation of physical phenomena. Therefore, there is a relationship between ontology, which examines the deeper and intransitive elements of objective knowledge, and epistemology, which studies how the ontological properties "make themselves possible objects of knowledge for us";[18] together these two realms play an important and unified role in human being and its relation to other entities.[19]

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[16] Ibid.

[17] Immanuel Kant, *The Critique of Pure Reason*, trans. J.M.D. Meiklejohn [New York: Cosimo, 2008], 474, emphasis original; unless otherwise noted, this translation will be used). In the transcendental definition of nature, nature *is* being.

[18] Bhaskar, *The Possibility of Naturalism*, 25.

[19] Kant is not alone in his understanding of being. Lea F. Schweitz argues that Leibniz builds on Augustine's notion that humans have a unique relationship that comes

Kant describes the complex relationship between the moral and natural realms in his introduction to the *Critique of Judgement*. He warns that there is "a great gulf fixed" between them, "so that it is not possible to pass from the former [physical realm] to the latter [moral realm] (by means of the theoretical employment of reason)."[20] According to Kant, reason, gained from an examination of the natural realm, is not directly influential in creating a moral sense. "Still the latter [moral realm]," he proposes, "is *meant* to influence the former—that is to say, the concept of freedom [or the moral realm] is meant to actualize in the sensible [or natural] world the end proposed by its law; and nature must consequently also be capable of being regarded in such a way that in the conformity to the law of its form it at least is according to the laws of freedom [or of the moral realm]."[21] Here, in the ability of the moral to influence the physical realm, lies the basis of idealism, the notion that reality is a mental construct of the human mind. It is in this regard that idealism also proposes that human concepts and values play a role in shaping society, [22] including how human beings interact with the natural environment.

If we build on Kant's idea that the moral realm influences the physical, it is possible to have a glimpse into the relational aspects of human being. When humans observe the

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from being citizens of the City of God. Therefore, there is a necessary link between metaphysics and morals ("The Difference between the Mirror and One Who Sees: The Theological Anthropology of G. W. Leibniz" (Ph.D. dissertation, University of Chicago Divinity School, 2007). Martin Heidegger recognizes the hereditary line extending from Leibniz to Kant to his own thought (*The Principle of Reason*, trans. Reginald Lilly [Bloomington: Indiana University Press, 1996]).

[20] Immanuel Kant, *The Critique of Judgement*, trans. James Creed Meredith (Oxford: Oxford University Press, 1978), 14.

[21] Ibid. See Ernst Cassirer, *Kant's Life and Thought*, trans. James Haden (New Haven: Yale University Press, 1981), 275.

[22] John J. Macionis, *Sociology*, 14th ed. (Boston: Prentice Hall, 2011), 88.

realm of nature, they discern it through the process of reason. Understanding takes place by reading a particular meaning into the data coming from the natural world. This is not merely an esoteric way of philosophizing, but provides insight into the way that the mind processes information and responds to phenomena. We know, for example, that the object in our yard is a tree because we have come to know it through indirect information (someone first identified a tree for us) and through direct experience (we experience various types of trees that contain specific qualities and properties that are common to all trees and unique ones that differentiate a particular tree from its universal form).[23]

However, perception is not simply about correctly identifying objects. Objects may also be categorized according to their moral significance and meaning. The judgment bridges the gap between the cognitive processes that govern the moral and physical realms, giving human beings the ability to interpret the external world and act in accordance with their judgments.[24]

V. S. Ramachandran, a neuroscientist, provides a description of how this process of perception takes places. The brain creates symbolic descriptions for each object that a

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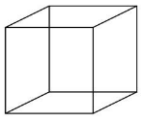
[23] While Immanuel Kant rejects the notion that there is an innate knowledge present in humans, he does argue that "certain ways of combining information are innate in the mind, because if they were not, then the data taken in by the senses would not lead to cognition, even very basic forms of cognition, such as the perceiving, classifying, and judging of objects" (Patricia W. Kitcher, "Introduction," in *Critique of Pure Reason*, by Immanuel Kant, trans. Werner S. Pluhar [Indianapolis: Hackett, 1996], liii). Kitcher notes that while Kant's standing on innate knowledge is more familiar to today's reader than Kant's contemporaries, he nevertheless goes farther in his understanding of the innate mind than we would (ibid.).

[24] Roger J. Sullivan, *The Metaphysics of Morals*, ed. Mary Gregor (Cambridge: Cambridge University Press, 2003), viii-ix. For Kant, there are only two fundamental sources of knowledge (cognition): "our own reason and experience, that is, what comes to us through our senses." Empirical knowledge is learned from or as a result of experience and is thus *a posteriori*, while knowledge "just in the activity of the mind" provides the "conceptual framework" that allows humans to have experience, thus it is *a priori* (ibid.).

human encounters. Part of this process is the influence that moral, as well as spiritual, presuppositions have in creating symbols in the human mind that aid in the interpretative process. For example, the human brain contains multiple areas for processing images, with each area having its own specialized network of neurons that are devoted to the process of extracting certain types of information from an image. A unique pattern, something like a digital photograph, is created for each image so that when an object is viewed, a particular set of "nerve activity" takes place.

However, as Ramachandran points out, "if vision were simply a faithful copy of reality in the same way that a photograph captures a scene, then your perception should always remain constant if the retinal image is held constant. But this is not the case. Your perceptions can change radically even when the image on your retina stays the same."[25] This is because, he continues, "every act of perception, even something as simple as viewing a drawing of a cube, involves an act of judgment by the brain."[26] The brain assumes that the world that we encounter is not "chaotic or amorphous," but is composed of "stable physical

[25] V. S. Ramachandran and Sandra Blakeslee, *Phantoms in the Brain: Probing the Mysteries of the Human Mind* (New York: Quill, 1999), 66-67. Ramachandran points to the example of L. A. Necker, who, one day in 1832, was examining a cuboid crystal through his microscope, when suddenly the cube flipped on him. As he continued to look at the cube, it continued to change its position, which was a physical impossibility. So Necker decided to mark his slide with a horizontal line, which, to his surprise, also flipped. While the image captured by the retina did not change directions, the way that the brain interpreted the image did change. "Thus every act of perception, even something as simple as viewing a drawing of a cube, involves an act of judgment by the brain" (ibid., 67). Note how the mind is capable of viewing the Necker cube in different ways: e.g., pointing up to the left or pointing down to the right.



[26] Ibid., 67.

properties." It is thus able to make judgments, including moral/ethical ones, about the patterns that it sees and identify those patterns as more than merely coincidental. Therefore, when one sees a group of dots moving in unison, such as the spots of a leopard, the brain assumes that they belong to a single object and because this inference is made, a single object is seen.

But beyond this, moral and ethical presuppositions also help to influence the way in which a phenomenon is interpreted. Upon encountering a leopard, one might ask: Should the leopard's coat be harvested for an elegant coat? Or should the leopard be protected; if so, in what manner?

Kant's and Ramanchandran's perspectives lend important insights into the way that the physical and moral attributes come together to form a relational human being: (1) Humans are complex, relational beings, (2) who are not simply physical entities, but also moral beings with the ability to create worldviews built upon social concepts by which they may better understand themselves and others, and (3) because they are able to think, reflect, and make judgments, humans may be held accountable for their actions.

We will now examine these points in more detail:

First, the grand complexity of humanity, with its many levels of "integrated, stable, and self-regulating" hierarchical systems, interacts with one another at the same and higher and lower levels.[27] These levels include (1) structural (particle, atom, molecule, macromolecule, organelle, cell, organ, organism, and ecosystem); (2) functional (reproductive—gene, genome, organism, and population; and neural—molecule, synapse,

[27] Ian Barbour, "Five Models of God and Evolution," in *Philosophy, Science, and Divine Action*, ed. F. LeRon Shults, Nancey Murphy, and Robert John Russell (Leiden: Brill, 2009), 29.

neuron, neural network, and brain); (3) social; (4) cultural;[28] and (5) moral and spiritual.[29] The human being is not only a physical individual, but also a member of a community.

Second, these organizational levels are not simply physical, even though they make use of physical processes in their carrying out. The human brain is able to take "formal, holistic, historical, and probabilistic patterns"[30] and create a conceptual view of the world that shapes how objects are seen, including the moral/ethical implications of behavior. In other words, the brain, in ways that we do not yet totally understand, is able to see order within a moving, changing environment and not only identify an object, but react morally toward it. Kant recognizes the deep moral implications of the concept of judgment as it helps to bridge the gap between the moral and physical realms. The notion that humans can be divided into completely separate realms—physical and moral—is, for Kant, ultimately impossible. Thinking of this connection in terms of neuroscience, it is easier to see how this might be because thinking may be described as a result of nerve activity or it may be thought of as some nonphysical process as in the construction of immaterial social constructs. However, to think of one aspect of thinking without reference to the other would be incomplete because thinking is simultaneously and undividedly one series of integrated processes.

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[28] Ibid.

[29] Although the moral and spiritual levels are often subsumed under social and/or cultural levels, I place them in a separate category because I do not view morality or spirituality as simply cultural or social phenomena even though they certainly impact society and culture and can be influenced by them.

[30] Barbour, "Five Models," 28-29; cf. Stephen H. Kellert, *In the Wake of Chaos: Unpredictable Order in Dynamical Systems of God and Evolution* (Chicago: University of Chicago Press, 1993).

Third, with the ability to judge, reflect, and make choices built upon experience comes a moral imperative to act so that there is both a personal and corporate accountability to which humans may be held. Due to the relational nature of their being, humans can be held morally accountable for their physical actions.

In his *Groundwork for the Metaphysics of Morals*, Kant brings concepts about human nature into his understanding of a normative ethics. Lara Denis, in her interpretation of Kant's moral philosophy, notes that "if we are to know what our duties are as human moral agents, we must apply the categorical imperative to us," which means that we must come to terms with the totality, both physical and moral, of what it means to be human, a task that "requires understanding our various natural predispositions, needs, capacities, and vulnerabilities—right down to biological and psychological facts about us. . . . So though Kant does not think empirical research can lead us to the supreme moral principle, he thinks empirical information is indispensable for figuring out what this principle actually demands of us in our treatment of ourselves and one another."[31]

Two ways in which this empirical information can help to shape the morality of an individual, according to Kant, is (1) understanding the role of autonomous (free) choice—to do the morally right thing in spite of the inherent propensity of humans to be evil; and (2) the role of the community in not only demonstrating what (a)moral behavior is, but in the banding together of ethical (such as religious, governmental, cultural, and social)

[31] Lara Denis, "Introduction," in *Groundwork for the Metaphysics of Morals*, by Immanuel Kant, trans. Thomas Kingsmill Abbott, ed. Lara Denis (New York: Broadview Editions, 2005), 40-41.

communities that work together against the inherent propensity of human nature to do and tempt others to carry out evil acts.[32]

What if we consider that Kant's perspectives could have the potential for world-forming, the idea that thought underlies action and that to think is to act and to shape the world around us into the image of our thought.[33] The human mind is capable of reflection. Taking its *a priori* notions, based upon a history of experiences and culturally, socially, and/or religiously induced notions about the world, the human mind then interprets its present experiences of the natural realm and uses this vast array of *a priori* and *a posteriori* concepts to form the basis of action upon the natural realm. Thus it is that the world becomes shaped into the image of the moral realm. Heidegger comments that "in metaphysics reflection is accomplished concerning the essence of what is and a decision takes place regarding the essence of truth."[34] Therefore, even though the study of human being has become increasingly devoted to the study of the physical attributes of being, with even the moral ones being attributed in one way or another to physical processes,[35] nevertheless, as Hans-Georg Gadamer argues, the need for a moral philosophy, no matter how separated from its original starting point it has become, still remains.[36]

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[32] Ibid., 41-42. Interestingly, Kant narrows the range of communal duty, i.e., moral imperative, specifically to *human* beings (ibid., 158).

[33] Peter E. Gordon, *Continental Divide: Heidegger, Cassirer, Davos* (Cambridge: Harvard University Press, 2010), 6.

[34] Martin Heidegger, *The Question Concerning Technology and Other Essays*, trans. and introd. William Lovitt (New York: Harper Torchbooks, 1977), 62-65, 67, 86.

[35] Eric R. Kandel, "The Brain and Behavior," in *Principles of Neural Science*, 4th ed., ed. Eric R. Kandel, James H. Schwartz, and Thomas M. Jessell (New York: McGraw-Hill Health Professions Division, 2000), 5.

[36] See Gadamer's helpful discussion (*Truth and Method*, 24, 25-27).

Kant thus reminds us of the importance of the inner world of morals and the external world of physical objects. He also points us toward the possibility of human beings as world-formers, whose social concepts about the world are influential in how we approach it. Thus the moral realm is not merely an isolated place of imagined realities which subjectively and arbitrarily produce the natural realm, but instead reflect the vast collection of direct and indirect experiences of the individual so that he may have a basis upon which to understand the physical realm that he encounters. Thus Kant presents possibilities for extending his work into new social horizons, such as has been done by Bhaskar. Before turning to Bhaskar's critical realism, however, we will consider briefly the shift from Kant's individualist approach to human being to Bhaskar's understanding of human being as a social being.

The Social Observer: Toward Bhaskar's Critical Realism

Bhaskar, who is influenced by Kant, sees the possibility for turning Kant's individualistic observer into a social one who is clearly apprised of the differences that exist between reason and experience. Kant understands that humans are not disinterested bystanders in the process of coming to know being—their own or others.[37] However, as McGrath points out, Kant belongs to the Enlightenment tradition that "proposed an 'objectivity' of both judgement and knowledge which overlooked the role of both history and culture in their shaping and transmission."[38] Kant, it appears, forgets that his "knowing subject" is a social being and that humans acquire their knowledge about being through

[37] Kant, *Critique of Practical Reason*, 260.

[38] Alister E. McGrath, *A Scientific Theology: Reality* (Grand Rapids: Eerdmans, 2002), xiii.

"socially transmitted patterns of rationality."[39] In spite of this problem, Bhaskar contends that "if philosophy is to be possible (and I want to contend that it is in practice indispensable) then it must follow the Kantian road,"[40] but, among other tasks, "it must reject the idealist and individualist cast into which Kant pressed his own inquiries."[41] Bhaskar's goal here is to avoid the trap that humans develop their understanding of reality from primarily their own individual constructions. He reinterprets Kant from a social perspective, that is, from the perspective of the social observer.

As Bhaskar points out, epistemology traditionally has been overrun by competing claims regarding experience and reason; Kant teaches us that both are equally needed in the task of unveiling human being. But for Bhaskar, neither experience nor reason is "sufficiently differentiated to yield the premises needed to produce an account capable *inter alia* of generating a real definition of science." He thus proposes substituting concepts that more specifically address his concerns: "experimental activity" and "scientific development."[42]

In regard to experimental activity, Bhaskar points out, in agreement with Kant, that in the experimental process scientists are not disinterested bystanders. Rather, they are "co-responsible" for the "pattern of events" that come from carrying out the experiment itself. That scientists, who are ultimately social observers, are involved in creating patterns through their activities is not special because humans help to create events all the time. But what is

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[39] Ibid.

[40] Bhaskar, *The Possibility of Naturalism*, 5.

[41] Ibid.

[42] Ibid., 8.

special about patterns generated under "meticulously controlled" laboratory conditions is that scientists are able to "identify the mode of operation of natural structures, mechanisms or processes which they do not produce." Significantly, what distinguishes phenomena *actually* produced in the laboratory from the "totality" of what *could* be produced is that when the experiment is successful, it is an "index" of what the scientist does *not* produce. "A *real* distinction between the objects of experimental investigation, such as causal laws, and patterns of events, is thus a condition of the intelligibility of experimental activity."[43] This is because the Humean account is dependent, Bhaskar proposes, on "a misidentification of causal laws with their empirical grounds. Notice that as human activity is in general necessary for constant conjunctions, if one identifies causal laws with them then one is logically committed to the absurdity that human beings, in their experimental activity, cause and even change the laws of nature!"

Bhaskar's concern is certainly valid and he is not alone in it. Heidegger, for example, also reads Kant in terms of affirming both experience and reason. His reading of Kant brings him to embrace an aspect of Kantian idealism that sees the mind not as a "world-maker," but rather as a "world-former," meaning that the mind does not create the world, but, through individual and social mediums, helps to shape, rather than make, the interpretation of it.[44] Therefore, he proposes, "metaphysics grounds an age, in that through a specific interpretation of what is and through a specific comprehension of truth it gives to

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[43] Ibid., 9.

[44] This point will become important in chapter 4's discussion of Friedrich Nietzsche, who attempts a hermeneutic that makes human being a thoroughly world-making entity. Heidegger's vehement rejection of this proposal leaves the reader to believe that he will, at last, turn from a philosophical concept of morality based upon Western philosophy to a spiritual theology of God and man. Instead, however, he turns to the pre-Socratic philosophy of Heraclitus and abandons Christianity.

that age the basis upon which it is essentially formed. This basis holds complete dominion over all the phenomena that distinguish the age."[45] This is essentially in agreement with Bhaskar's understanding of "socially transmitted patterns of rationality." For Heidegger, this means that Being is the ground of all beings and that as essential as the cultural and social aspects of hermeneutics are, they can and do ultimately obscure Being. Therefore, Being is to be sought in "the history of being," meaning that as the history of beings is investigated, Being is revealed one aspect at a time.[46] Humanity, as the collective of social observers, is not to be the grounding principle of being—human being is not the point of reference for human being; rather human being stands in reference to Being itself.[47]

For Bhaskar, the way past an individualistic idealism is to clearly differentiate between intransitive objects, which correspond roughly with that studied by ontology and is concerned with "what knowledge is about," and transitive objects, which correspond roughly to that which is studied by epistemology and addresses the "antecedently existing knowledge from which new knowledge is formed."[48] In order for the social sciences to enter the realm of scientific knowledge, they "must first know what kinds of things societies (and people) are before we can consider whether it is possible to study them scientifically."[49] They

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[45] Heidegger, *The Question Concerning Technology and Other Essays*, 115.

[46] Martin Heidegger, *Identity and Difference*, trans. and intro. Joan Stambaugh (New York: HarperCollins, 1969), 58-59. Here Heidegger deviates from Kant's hermeneutics in his application of a historical and social aspect of human being.

[47] Gordon, *Continental Divide*, 361-362.

[48] Louis Irwin, "Transitive and Intransitive Dimensions" *Critical Realism*, www.criticalrealism.com/index.php?sitesig=WSCR&page=WSCR_060_WSCR_Glossary&subpage=WSCR_240_Transitive_and_Intransitive_Dimensions (accessed 8 June 2012).

[49] Bhaskar, *The Possibility of Naturalism*, 13.

must also develop a methodology that will address properly the way in which the ontological identity of both natural objects and social constructs is gained.

Part of this process, then, is realizing that a human being is not an island, but is a part of a greater context and environment that includes spiritual, moral, and physical aspects of being. If we understand humanity in this way, it may be possible to find a call for an interdisciplinary methodology that will address the underlying conditions for ontology in all disciplines.

Some scholars, however, propose that while a respectful conversation between disciplines is possible, there is no possibility for an overarching interdisciplinary methodology. In this type of dialogue, each discipline retains its own magisteria because each discipline addresses its own questions and areas of specialty. While other disciplines may see that a particular discipline's insights are important, a discipline can speak only to its own concerns while listening respectfully, but largely without input, to what others propose from within their own magistera. Therefore, for example, when considering the definition of nature and its objects, including human beings, it is to the natural sciences that one turns.[50] What role is there for theology or even philosophy to play if ultimately all things human reduce to physical processes? Is there an approach that respects the integrity, methodology, and context of a discipline, while simultaneously allowing it to participate and be informed by others?

Bhaskar's Critical Realism

Bhaskar, who answers in the affirmative, points to two traditions that openly debate this question with the hope that he can find some midpoint between them: (1) a "naturalist

[50] Stephen Jay Gould, *Rocks of Ages: Science and Religion in the Fullness of Life* (New York: Ballantine, 1999), 4.

tradition," which claims that "the sciences are (actually or ideally) unified in their concordance with *positivist* principles, based in the last instance on the Humean notion of law"; and (2) an "anti-naturalist tradition," which finds a "cleavage in method between the natural and social sciences, that is grounded in a differentiation of their subject-matters."[51]

Bhaskar hopes to avoid the inherent problems common to both traditions, which are best demonstrated, he believes, in "their acceptance of an essentially positivist account of natural science, or at least (and more generally) of an empiricist ontology."[52]

Since the question of naturalism figures prominently in interdisciplinary dialogue, he begins his task by defining "naturalism" as "the thesis that there is (or can be) an essential unity of method between the natural and the social sciences."[53] His methodology integrates the various hermeneutical approaches of the particular disciplines without denying the significant differences of methodology employed or the aspects of reality that are studied by each discipline.[54] His methodology does so from the "social location of the observer."[55]

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[51] Bhaskar, *The Possibility of Naturalism*, 1.

[52] Ibid., 2. A positivist account of the natural and social sciences proposes that sensory experiences and their logical, mathematical treatment of the data are the *only* true source of knowledge. See Auguste Comte, *The Positive Philosophy of Auguste Comte*, trans. Harriet Martineau (New York: Calvin Blanchard, 1858), 25-26. For an interesting discussion of empiricist ontology, see Rudolf Carnap, "Empiricism, Semantics, and Ontology," *Revue Internationale de Philosophie* 4 (1950): 20-40; reprinted in the Supplement to *Meaning and Necessity: A Study in Semantics and Modal Logic*, enlarged ed. (Chicago: University of Chicago Press, 1956). The article is also available at http://www.ditext.com/carnap/carnap.html.

[53] Bhaskar, *The Possibility of Naturalism*, 2. He further distinguishes naturalism from, on one hand, "*reductionism*, which asserts that there is an actual identity of subject-matter as well; and *scientism*, which denies that there are any significant differences in the methods appropriate to studying social and natural objects, whether or not they are actually (as in reductionism) identified."

[54] Ibid.

[55] McGrath, *Reality*, xvi.

By introducing the notion of the social observer, Bhaskar wants to grant real scientific status to the social sciences, even though it appears on the surface that their primary concern is not so-called ontological intransitive reality, but transitive social concepts. He argues that it is not only the natural sciences that search for scientific knowledge, but also the social sciences, albeit in a different way.[56] Thus "the subject-matter of the social sciences consists essentially of meaningful objects, and their aim is the elucidation of the meaning of these objects."[57] Social concepts, which have the power to influence society, take on representative roles by reflecting their originating objects, human beings. In this way, social concepts are said to have their own ontology and thus may be studied scientifically.[58]

In order to accomplish this task, Bhaskar lays down a revised philosophical system. He agrees with the positivist tradition that science is "unified in its essential method," and with the hermeneutical tradition that science is "essentially differentiated in (or specific to) its objects. However, he contends that his understanding of scientific method is "diametrically opposed to that of positivism; and partly (though not only) in virtue of this," he proposes, "my account of the specific differences of the social sciences also departs in fundamental respects from that of the hermeneutical tradition." He thus differentiates his position from others in the social sciences and hermeneutics along three broad philosophical horizons—epistemology, logic, and metaphysics—all of which are in subjection to ontology. He proposes that

> to posit an essential unity of scientific method is to posit an account which conceives the sciences as unified in the form that scientific knowledge takes, the reasoning by which it

[56] Bhaskar, *The Possibility of Naturalism*, 159.

[57] Ibid., 1.

[58] Ibid., 159.

> is produced and the concepts in terms of which its production can be most adequately theorized or reconstructed. (These aspects correspond roughly to the traditional fields of epistemology, logic and metaphysics respectively). Now the transcendental analysis of science sketched above reveals that its essence consists in the movement, at any one level of inquiry, from manifest phenomena to the structures that generate them.[59]

In order to make room for the social sciences within the grand dialogue of scientific disciplines, there must be a way to understand how they gain scientific knowledge. Bhaskar proposes that as with the natural sciences, a "transcendental analysis of science" yields a basic trajectory of inquiry that moves from an engagement with "manifest phenomena to the structures that generate them."[60]

The process that begins the movement of a social concept from the realm of the arbitrary is the construction of rules that delineate an ontological definition of a particular social concept in such a way as to make it possible for it to be empirically studied. This is because ontology precedes epistemology, which is not an arbitrary development, Bhaskar notes, but "reflects the condition that, for transcendental realism, it is the nature of objects that determines their cognitive possibilities for us. . . . Thus it is because sticks and stones are solid that they can be picked up and thrown, not because they can be picked up and thrown that they are solid (though that they can be handled in this sort of way may be a contingently necessary condition for our *knowledge* of their solidity)."[61]

After a social concept has been properly defined, then it may be studied against other social realities (such as religious, economic, political, or cultural concepts). "In any event," Bhaskar notes, "in preserving the sociological reality of their object, the sociologist's practice

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[59] Ibid., 19.

[60] Ibid., 18-19.

[61] Ibid., 25, emphasis original.

is directly analogous to that of the biochemist who identifies the chemical structure of genes with DNA molecules, or that of the physicist who explains secondary qualities in terms of primary ones."[62] Therefore, in spite of the differences in the way that the social sciences approach and define social phenomena, "once a hypothesis about a generative structure has been produced in social science it can be tested quite empirically, although not necessarily quantitatively, and albeit exclusively in terms of its explanatory power."[63]

The process of testing whether a social concept has ontological viability involves two presuppositions:

> 1. The *conditions* for the phenomena (namely social activities as conceptualized in experience) exist *intransitively* and may therefore exist independently of their appropriate conceptualization, and as such be subject to an unacknowledged possibility of historical transformation.
>
> 2. The *phenomena* themselves may be *false* or in an important sense inadequate (for example, superficial or systematically misleading).[64]

Critical realism thus is able to address phenomena that do not conform to the demands of the natural sciences. According to the first point, social phenomena come into being through historical experience. They do so as intransitive objects. Here intransitive objects "exist and act independently of our knowledge of them (except when we use our knowledge to intervene), so knowledge is irreducible to what it is about and constitutes an object with its own level of social causality."[65] Bhaskar explains further that

> the human sciences like any other, take intransitive objects. But the processes of production of their intransitive objects may be causally connected, and internally related,

[62] Ibid., 117-118, n. 53.

[63] Ibid., 118, n. 53.

[64] Ibid., 51, emphasis original.

[65] Irwin, "Transitive and Intransitive Dimensions."

> to the processes of production of the knowledge . . . of which they are the objects (so that one could say that one is dealing with *object*, not *process*, intransitively here). The human sciences and philosophy thus appear as distinct moments of the very same totalities they describe and explicate.

Here the process of enacting a social concept in time (i.e., in history) brings to life that concept, thereby allowing it to become, in its distinct moments, ontological. Thus, Bhaskar contends that "subject and object of knowledge are now neither—as in the materialism of the Enlightenment (on the whole still plausible for the experimental sciences of nature)—unconnected; nor are they, as in absolute idealism (or its materialist *alter ego*), identified."[66]

Therefore, in the study of social concepts, humans, as the subject, study the manifest phenomena, which present themselves as social concepts and which are then the objects of our investigation. However, in contrast to the natural sciences, the subject does not stand over against the object as a distinct entity. This is because social concepts take their ontology from their human creators and thus the object is also the subject. The subject and object of social concepts remain, then, essentially unidentified, leading to Bhaskar's second presupposition.

In regard to presupposition 2, Bhaskar explains why social phenomena are so difficult to define precisely, noting that

> what has been established, by conceptual analysis, as necessary for the phenomena may consist precisely in a level (or aspect) of reality which, although not existing independently of agents' conceptions, may be inadequately conceptualized or even not conceptualized at all. Such a level may consist in a structural complex which is really generative of social life but unavailable to direct inspection by the senses or immediate intuition in the course of everyday life. It may be a tacit property of agents (such as knowledge of a grammar) utilized in their productions; or a property of the relationships in which agents stand to the conditions and means of their productions, of which they may be unaware. Now such a transcendental analysis in social science, in showing (when

[66] Bhaskar, *The Possibility of Naturalism*, 59.

it does) the historical conditions under which a certain set of categories may be validly applied, *ipso facto* shows the conditions under which they may not be applied.[67]

One of the problems of defining basic, foundational concepts is that they are both familiar to us (we know them when we see them) and foreign to us (we struggle to precisely define them). The problem of definition may be made more difficult because the object of study may not be available for "direct inspection by the senses or immediate intuition in the course of everyday life." This is especially true of social concepts, which, due to their difficulty to define precisely, may not easily conform to the requirements of scientific knowledge. And yet, in order to reach the status of scientific knowledge, social concepts must demonstrate the historical conditions by which they become manifest phenomena. In other words, they must be defined in such a way that they may be analyzed and critiqued, which is the process by which hypotheses are tested.

So the same condition of falsification needed for natural scientific hypotheses also applies to social concepts. But the social sciences refer to their social constructs as ideologies. A concept can become ideology only if its necessity can be demonstrated, meaning that not only can it be explained but also criticized. However, the social sciences go beyond the natural sciences in their critique of concepts. Something more is needed than saying that beliefs under investigation are false or superficial in some way, which, Bhaskar notes, "normally entails having a better explanation for the phenomena in question. It involves, in addition, being able to give account of the *reasons* why the false or superficial beliefs are *held*—a mode of explanation without parallel in the natural sciences. For beliefs, whether about society or nature, are clearly social objects."[68]

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[67] Ibid., 52.

[68] Ibid., 53, emphasis original.

Epistemologically, two things are needed, then, to bring social concepts into the realm of objective knowledge:

1. "The historical and independent character of social activities implies that the social world must be open, and the requirement that social activity be socially explained implies that social science is part of its own subject-matter," and thus "generally implies commitment to a principle of epistemic relativity," which, for example, "lends to moral and political argument in particular something of a necessarily transitional and open character."[69]

2. "Experimental and practical activity entails an analysis of causal laws as expressing the tendencies of things, not conjunctions of events."[70]

In regard to point number 1, we might consider an example from the U.S. Declaration of Independence, which proclaims: "We hold these truths to be self-evident, that all men are created equal." Such language is immediately understood, and had immediate historical outcomes that clearly differentiated American society from all others. But yet this presupposition also remains open for further understanding. What was meant by these words has changed and it has expanded the meaning of the terms "all," "men," and "equal." Today, this phrase has come to be applied to all American citizens by right of birth, both male and female, white and non-white, and by courtesy to all visitors. It has become the rallying cry of many politicians, who have hoped to make it the right of all people everywhere.

In this sense, social constructs are relative because their historical nature means that they are malleable within certain circumstances and situations. Thus Bhaskar notes that

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[69] Ibid.

[70] Ibid., 18-19.

> the same structure (say that of the nation-state or the family) may be reproduced (or transformed) by the joint activity of a number of different mechanisms. Another consequence is that just as the same type of event may be determined by a (disjunctive) plurality of mechanisms . . . , so (i) the same kinds of mechanism may sustain alternative structures and (ii) the same structure may be reproduced by a variety of different types of mechanism.[71]

Especially important to point (2) is the redefinition of causal laws. By allowing the social sciences to approach causal laws from the tendencies of things, the social sciences are able to trace the development of social concepts, which are not governed by the universal laws of physics, such as govern the predictable movement of celestial bodies. Human behavior does not conform to causal laws in the way that celestial bodies do because social concepts are fluid and reflect their human makers. Thus, as Bhaskar points out, the social-sciences researcher must "establish a non-arbitrary procedure for generating causal hypotheses."[72] Part of that process in the study of social constructs is not reducing populations to the level of individuals. The ontology of society thus embraces society as a whole and not as an entity made up of multiple components of individuals. To study society then is to approach it as one complete unit.[73]

In anticipation of our final topic in this chapter, my proposal of human being as the common philosophical ground upon which to begin theology-and-science dialogue, a similar proposal can be made. We need to realize that human behavior can, in the individual sense, be capricious and seemingly unpredictable. Therefore, in order to understand human behavior, it is necessary, first, to take into consideration how human choice plays a role in behavior. Because human beings are free-will agents, they may, even under duress, express a

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[71] Ibid., 170.

[72] Ibid., 50.

[73] Ibid., 27.

variety of individual responses that bring about unexpected results. Therefore, in order to study the causes of human behavior we need to follow Bhaskar's lead in moving to the level of the population and in doing so understand the meaning of causal laws "as expressing the tendencies of things."[74] Human behavior, when understood causally from the perspective of tendency, becomes scientifically possible when humans are studied as a population; in other words, how might a population tend to respond to a particular stimulus, even with the possibility of individual free will.

Therefore, to briefly summarize, the first and crucial step in formulating causal laws within the social sciences is "an attempt at a real definition of a form of social life that has already been identified under a particular description."[75] Without definition, "any hypothesis of a causal mechanism is bound to be more or less arbitrary. Thus social science attempts real definitions that will in general precede rather than follow successful causal hypothesis—though in both cases they can only be justified empirically, viz. by the revealed explanatory power of the hypotheses that can be deduced from them."[76]

Logically, then, according to a Bhaskar-influenced critical realism, "scientific discovery and development entails that scientific inferences must be analogical and retroductive, not simply inductive and/or deductive." Retroductive reasoning is defined by Sayer as a "mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them."[77] Retroduction is similar to induction.

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[74] Ibid., 19.

[75] Ibid., 49.

[76] Ibid. 49-50.

[77] Andrew Sayer, *Method in Social Science: A Realist Approach*, 2d ed. (London: Routledge, 1992), 107.

Induction, like retroduction, is inferential in mode, but where induction is concerned with "discovering and predicting regular sequences of events," retroduction is "concerned with what kinds of thing exist, what their make-up, powers and liabilities are and hence with explaining what happens rather than predicting what will happen."[78] This approach is consistent with what we have already observed in regard to Bhaskar's epistemological proposal. The task at hand is not prediction in the natural sciences' sense of the word. Rather one is concerned about events as they occur.

Sayer explains further that "the postulation of causal powers involves not induction but retroduction. If subsequent investigation of the nature and constitution of objects shows the retroduction to be successful, so that we can claim to know the causes of some process, then we don't need to rely on inducing from past sequences."[79] What this means is "where causal relation is suspected but not confirmed, we may choose to heed inductive inferences if possible outcomes are sufficiently important to us."[80] Therefore, as he points out, if people working with a particular chemical become sick, it is wise to infer that future outcomes will be similar and people will again become sick if exposed to it. As he points out, "Such inferences carry no warrant derived from *logic*: there are no logically valid reasons for refusing to work with the chemical. But then they are not simple inferences that a regularity observed for a finite sequence of instances will be universal. Rather our reasons depend on

[78] Ibid.

[79] Ibid.

[80] Ibid., 108.

judgements of possible causal powers and possible consequences of either heeding or ignoring them."[81]

Metaphysically, then, Bhaskar is concerned with "a conceptual system based on the notion of powers."[82] As we have previously explored, critical realism brings together two apparently incompatible systems: "the human being as causal agent, who makes things happen, the other as 'meaning maker', who interprets the world in innumerable ways."[83] However, as Sayer points out, while such a proposal is an improvement, "it still fails to confront our nature as human animals, that is, beings who have continually to reproduce our conditions of life to survive, *and who are capable of flourishing and suffering*."[84] Thus human beings are not simply "causal agents and meaning makers," but are "needy, desiring beings (characterized by deficiency), dependent on others, having an orientation to the world of care and concern."[85] This neediness is to be understood in a broad sense and as fundamental to the understanding of human being both biologically and culturally. In this, Sayer proposes that critical realism goes beyond hermeneutics because whereas hermeneutics "enables us to view people as meaning makers," it does not enable us to understand what it is about them that makes them care about something.[86]

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[81] Ibid., emphasis original. It is important to note that this is not a rejection of the work of the natural sciences here. Rather, the process of retroduction allows for action to be taken on the basis of where we are right now, without yet having the conclusions of the natural sciences.

[82] Bhaskar, *The Possibility of Naturalism*, 19.

[83] Sayer, *Method in Social Science*, ix.

[84] Ibid., emphasis original.

[85] Ibid.

[86] Ibid.

In this sense, Bhaskar concludes that "were I to rewrite *PON* today I would stress the way in which social order is embedded and conditioned by the natural order from which it is emergent and on which it in turn acts back. An ecological orientation to social life is as important as is recognition of our biological being."[87]

This approach to the study of human being is crucial to the task of this dissertation. It is not enough to simply and objectively recount the historical deeds of human beings, but to understand them from the depths of ontology because it is only when we are able to come to some common ontological ground that the process of theology-and-science dialogue can truly begin. But Bhaskar's conclusion begs further reflection. What is it that drives and motivates human being to relationship? Is it simply the necessity for survival? Or is there an ontological component that lies at the foundation of what it means to be human and which goes beyond the physical concerns of the natural sciences and the moral perspectives of philosophy? If so, then what is the source of this ontological definition of human being? In order to begin answering that question, we will turn to McGrath, who is influenced by Bhaskar's critical-realist approach, especially his understanding of a stratified reality.

Making Room for Theology in Critical Realism: McGrath's Ontological Definition of Nature as Creation

McGrath proposes that at the core of the concept of nature, there is an ontological component that Christian theology alone can identify and address. While this concept of nature is not a totally socially or culturally determined construct, it is, for McGrath, "partly shaped by socially mediated factors," which is why it not only differs from other natural and social science definitions of nature, but also from other religions.

[87] Ibid., 173-174.

Because the processes that shape our concept of nature are "covert," we are denied "direct access to an allegedly neutral or self-sufficient notion of 'nature' itself."[88] In light of this, McGrath asks, "How can nature shape our values and ideas, when that same nature has already been shaped by them? How can we construct a philosophy based on nature, when nature has been constructed by our philosophical ideas?"[89] As we have discussed in regard to Bhaskar's critical realism, conceptual ideas run the danger of being arbitrary due to the broadness of their meaning and the lack of proper definition. The way to escape such socially mediated relativism is to define explicitly what one means by "nature." For McGrath, as a Christian theologian, nature is creation.

While McGrath's desire to give theology a place of significance at the theology-and-science dialogue is admirable, his understanding of theology as a discipline that addresses objective reality might seem rather ludicrous to the natural sciences community. McGrath, who is himself a natural scientist, recognizes the impossibility of attempting to fit theology within the same methodological category as the natural sciences. This is why he turns to Bhaskar's definition of scientific knowledge, which allows for social constructs, when properly defined, to have ontological value, which is the first step toward developing a viable theory about nature as creation.

As we have seen, Bhaskar brings the social sciences to scientific objectivity by insisting that they meet the criteria of scientific knowledge: the study of "the movement, at any one level of inquiry, from manifest phenomena to the structures that generate them."[90]

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[88] McGrath, *Nature*, 133.

[89] Ibid.

[90] Bhaskar, *The Possibility of Naturalism*, 19.

He then differentiates between the natural and social sciences' approaches to this knowledge. He grants ontological significance to social concepts by providing rigorous rules of definition, which includes notions such as falsification. Finally, he also demands, as we have seen above, that the social sciences provide evidence for why they hold certain beliefs.

McGrath has thus taken the first step in this process by giving nature an ontological identity as creation. Having established the philosophical ground for a theological understanding of nature, McGrath begins the task of constructing a creation-based concept of reality. From his perspective of critical realism, he proposes that theology is "an *a posteriori* discipline"[91] and that the bridge between theology and the natural sciences is natural theology.[92] From this position, he places theology within Bhaskar's concept of a stratified reality, proposing that "the observable and unobservable universe is best understood when each discipline, working within its own limits, presents its own particular collection of data. This data is then interpreted under the magisterial direction of divine revelation as 'God's creation.'"[93] By restricting the concept of nature to "creation," "Christian theology necessarily limits probable explanations to those that correspond with divine revelation."[94] Further, it gives theology a context upon which to enter into discussion with other disciplines.

By contextualizing the concept of nature under the purview of theology, he thereby "allows the Christian tradition to offer an account of why truth, goodness and beauty are

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[91] Ibid., 4.

[92] McGrath, *Reality*, xvi.

[93] Karen K. Abrahamson, "Review Article: Alister E. McGrath's *A Scientific Theology*," *AUSS* 44 (2006): 343; cf. McGrath, *Reality*, 2:195ff.

[94] Abrahamson, "Review Article," 343.

pursued in other traditions, and accounts, to a limited yet significant extent, for the specific forms that these take within those traditions."[95] Therefore, while it may be possible to apply many different interpretations to data from the natural world, Christian theology limits its explanations to those that correspond with divine revelation.[96] By demanding rigor of this definition, he moves it toward scientific knowledge, such as Bhaskar proposes in regard to social constructs. McGrath's approach to scientific knowledge is by grounding the definition of nature in a scientific theology, meaning that "a scientific theology cannot rest its case solely upon the physical sciences. The challenge is to develop an account of, and identify the theological implications of, the working methods of the natural sciences as a whole, rather than privilege one specific group as normative for the entire enterprise."[97] Each discipline

> develops methodologies that are appropriate to their ontologies—that is to say, that the proper working method of any given science is determined by the character of its objects of investigation, and cannot be determined *a priori* on the basis of some implicit foundationalism. Methodology is consequent upon ontology, and is hence to be determined *a posteriori*. The stratification of reality demands different working methods and assumptions across the spectrum of the sciences, despite the critical commonalities that may be identified.[98]

McGrath recognizes the differences between the natural and social sciences, which call for greater "constructivism" than do the natural sciences. With regard to theology, there is a closer affinity of it to the psychological and sociological sciences than to physics or biology. Therefore, "the location and mutual relation of theological resources with a stratified reality cannot be evaded." Yet this does not deny the existence of theological

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[95] McGrath, *Reality*, xvii.

[96] Abrahamson, "Review Article," 343.

[97] McGrath, *Reality*, 12.

[98] Ibid.

reality, but is rather a representation of the way that Christianity is itself embedded in the world.[99] Theology, then, exists within Bhaskar's concept of a stratified reality.

Having placed nature as creation within Bhaskar's concept of a stratified reality, he is now able to begin the task of constructing a theory about nature as creation. Within the theological discipline, theories are known as "doctrine," or "theory." Here McGrath confronts the modern and postmodern distaste for theological doctrine and dogma, arguing that it is an entirely appropriate task to create a theoretical framework by which Christian theology may understand the world.[100] In response to critics of formalized Christian doctrine, he proposes that

> to demand an 'undogmatic' Christianity often involves confusion over the *tone* and *substance* of Christian doctrine. 'Dogmatic' can rightly be understood as meaning 'enclosed within a framework of theoretical or doctrinal beliefs', and in this sense, I must insist, reflects some integral themes of the Christian faith. Yet the term can also bear the meaning of 'uncritical', 'unreflective' or 'authoritarian'—referring, in other words, to the tone or voice in which Christian theological affirmations are made, rather than to their substance. I have no interest in supporting shrill, strident, imperious and overbearing assertions of Christian doctrine, which demand silent unthinking compliance on the part of their audiences, and lead to conflict and tension. Yet I remain convinced that such statements are necessary and legitimate, while insisting that they can and should be stated in a more reflective tone. After all, the purpose of Christian doctrine is partly to inspire awe and worship, not to silence and threaten its audiences.[101]

Although Christian theology may have in the past, and even in the present, represented itself badly, there is no need for it to necessarily continue on in such a state. Rather, McGrath urges theology to re-engage with its divinely appointed task of inspiring awe and worship. Ultimately, doctrine should be as awe-inspiring as a Gothic cathedral. Its

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[99] Ibid., 14.

[100] Alister E. McGrath, *A Scientific Theology: Theory* (Grand Rapids: Eerdmans, 2003), 65.

[101] Ibid., 60-61.

form should sweep one upward to a vision of God that should evoke "a sense of mystery" that "both affirms the vitality of the vision of God, while at the same time suggesting that there are limits to the extent that any theoretical accounts of such a mystery can hope to represent it."[102]

To help him complete his argument for the possibility of a doctrinally or theoretically informed scientific theology, McGrath turns to Jürgen Habermas and Heidegger, who present apparently contradictory notions of "theory." On one hand, Heidegger suggests that "the Greek word θεωρέω could have been derived originally from the word θεός and ὁράω, implying that "'theory' was essentially a beholding of the divine—an idea perhaps more naturally expressed in the Latin term *complatio*."[103] Habermas, on the other hand, "sought to reconceive the notion [of *theoria*] in a purely social context, relocating an ostensibly theological activity within the public discourse of knowledge concerning the universe. The *theoros* was the representative sent by Greek cities to public celebrations whose function of *theoria* . . . [was] to behold what was taking place."[104] McGrath's goal is to bring reconciliation between these two approaches by joining together the human and divine in the process of revelation, as expressed in doctrine. "Doctrine is thus built upon divine revelation, but because humanity cannot see the complete scope of reality, doctrine is also at least partially socially constructed."[105]

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[102] Ibid., 6.

[103] Ibid., 7; cf. Martin Heidegger, *Erläuterungen zu Hölderlin und das Wesen der Dichtung* [Explanation of Hölderlin and the Essence of Poetry] (Frankfurt am Main: Klostermann, 1944), esp. the essay "Hölderlin und das Wesen de Dichtung," 31-45.

[104] McGrath, *Theory*, 7-8.

[105] Abrahamson, "Review Article," 345.

McGrath hopes that by defining creation as nature, he may be able to strike a delicate balance between divine revelation and observed reality.[106] When considered within the context of the social sciences, which must also seek to find objectification in their equally intangible social concepts, the task does not seem so impossible. The proposals of divine revelation take on the role of social concepts that may be studied and evaluated scientifically. It gives human validation of divine revelation by demonstrating the value of a proposal to define nature as creation.

McGrath's proposal that there is room for significant theological contribution in the theology-and-science dialogue inspires my approach to the dialogue. Whereas McGrath establishes a place at the table for theology, I hope to move beyond this to consider how theology might help to shape and influence the dialogue in meaningful ways. It is not enough to simply participate in theoretical discussions, but to bring those discussions into practical action in ways that can help to influence and shape society itself. The gospel commission given by Jesus is not simply to preach to the choir, but to carry the gospel in meaningful ways to the utter ends of the earth (Acts 1:5).

If, as McGrath suggests, the point of theology is to inspire awe and worship, then theology can bring a sense of respect and awe for the Creator God and for the world of nature and its occupants. Christians who treat nature and all its creatures with respect can have a significant positive influence on society, and in this way they help to give credence to McGrath's suggestion that nature is creation.

However, nature as creation will always remain a theological construct. In other words, other competing concepts, such as materialistic concepts of nature, will always

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[106] Ibid.

compete directly with a concept of nature that places God at its center. Is there a way to create a common philosophical ground that does not begin dialogue with the doctrine of God?

This point may appear to be controversial. Why would a theologian want to begin with some other topic than God? I argue that if one wants to establish dialogue with those who have no developed concept of God or who expressly reject all notions of God, there will be no profitable dialogue about nature as creation. McGrath's resolution to posit a form of theistic evolution, in which God uses the processes of evolution to eventually bring forth humans, is not helpful in this regard either, because it still requires the need for introducing God at the beginning of a dialogue. So for true communication to take place upon ideas that are held in common, one must begin with an even more basic concept that allows everyone to immediately and profitably join the conversation. In this way, then, theology may demonstrate its concordance with shared ideas, and having done so, may then possibly be allowed to introduce its own perspectives in a less threatening way. It is to this task that we now turn.

In the following section, I will introduce the Hebraic-Christian perspective, by which I will argue the benefit of a concept of human being that is relational throughout the rest of the dissertation.

Seeking a Common Philosophical Ground: The Hebraic-Christian Perspective

In order to address the question of common ground, we must first consider an appropriate starting point for any discipline:

Philosophical systems typically begin with logic, which is concerned with how the nature of *human* reflective thinking and scientific knowledge come together with data from nature

and society to form conceptual structures and provide the basis upon which to make valid inferences.[107]

The natural and *social sciences* begin by contemplating the nature of life forms in their various roles, functions, and behaviors from the point of view of the *human observer*.[108] Observers then go on to create concepts that help to explain their observations and shape society and the environment. Thus Bhaskar proposes that the common ground for gaining knowledge about the world is "the movement, at any one level of inquiry, from manifest phenomena to the structures that generate them."[109] At the center of this enterprise is human being, which acts, I propose, as a point of comparison. In other words, humans are comparative and contrastive beings, who see the world in terms of their own ontology.

Theological systems and the creedal statements of belief in Western Christianity are centered on "the personal God of biblical revelation, the God who has acted concretely in the events of biblical history and finally 'in these last days' in the history of Jesus Christ"[110] that

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[107] R. H. Popkin and Avrum Stroll note that "logic is perhaps the most fundamental branch of philosophy" (*Philosophy Made Simple*, 3d ed. [Jordan Hill, England: Made Simple, Elsevier, 1993], 280, xvi).

[108] See, e.g., Sandra Alters, *Biology: Understanding Life*, 3d ed. (Sudbury, MA: Jones and Bartlett, 2000), 18; and A. Kuper and J. Kuper, *The Social Science Encyclopedia* (London: Routledge & Kegan Paul, 1996), s.v. "social science." The observer plays an important role in quantum physics (see chap. 5), out of which the anthropic arguments developed. However, in physics, even quantum physics, the observer is a technological device, rather than a thinking, living being due to physics' "loathing" of Mind (Barrow and Tipler, *The Anthropic Cosmological Principle*, 1).

[109] Bhaskar, *The Possibility of Naturalism*, 19.

[110] Jaroslav Pelikan, *Credo: Historical and Theological Guide to Creeds and Confessions of Faith in the Christian Tradition* (New Haven: Yale University Press, 2003), 64. His five-volume series on the development of doctrine in Western Christianity is also helpful for understanding the hierarchical structure of dogma (*The Christian Tradition: A History of the Development of Doctrine*, 5 vols. [Chicago: University of Chicago Press, 1975-1991]).

demonstrate his relationship to *human beings*. Thus the Hebrew Bible and Greek New Testament propose that human beings are defined in terms of their relationship to God, others, and the natural realm.[111] The Hebrew Bible shows God coming to dwell with human beings in the cultic system of ancient Israel (Exod 25:8). Thus Moses states, "What other nation is so great as to have their gods near them the way the LORD our God is near us whenever we pray to him?" (Deut 4:7, NIV). The Gospels of the Greek New Testament begin their discussion of God with the incarnational birth of Jesus Christ, who is God in human flesh.[112] Now God comes down to human level so that human beings may better understand who he is. God is no longer an abstract concept that is best understood in terms

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[111] Nancey Murphy, *Bodies and Souls, or Spirited Bodies?* (Cambridge: Cambridge University Press, 2006), 21-22.

[112] E.g., Matthew begins with the human genealogy of Jesus (vv. 1-14) before turning to the incarnational nature of Jesus' birth (v. 18). He connects Jesus' humanity with Adam, the first man, described in Gen 1–2, thereby establishing a deep connection with all of humanity, not simply the Jews. The vision given to Joseph, Mary's betrothed, upon hearing of Mary's pregnancy is that Jesus' birth will fulfill the Hebrew Bible's prophecy that God will dwell with humanity, exemplified in the title "Immanuel," meaning "God is with us" (Isa 7:14; 8:8), which itself harkens back to God's command in Exod 25:8 to build a sanctuary so that he could dwell among them. The Gospel of Mark builds on Jesus as the connection between heaven and earth, as the Holy Spirit in the form of a dove rests on Jesus during his baptism and a voice from heaven claims Jesus as his "Son, whom I love" (Mark 1:11, NIV). The Gospel of Luke not only points to the connection between the human history into which Jesus is born, but also to his divine nature ("He will be great and will be called the Son of the Most High. . . . His kingdom will never end," Luke 1:32-33, NIV). Luke then goes on to note the exemplary aspects of Jesus' humanity, showing that Jesus is tempted like all human beings are and, in not giving way to temptation, provides an example of how humans can demonstrate God's character (and existence) by their choices (Luke 4:1-13; cf. Heb 4:15). The Gospel of John begins with a discussion of Jesus as the eternal "Word," who has been with God throughout eternity and who was involved with him in the creation of all things (John 1:1-4) before identifying him as the "Word" who "became flesh and made his dwelling among us" (v. 14). John quotes Jesus as saying, "If you really knew me, you would know my Father also (14:7), thereby implying not only his relationship to the Godhead, but also his representative characterization of the Godhead. This is followed by his command to his believers to be his witnesses throughout the entire world (Acts 1:8), a command that carries moral imperative (1 Tim 6:12; 2 Tim 2:1ff.; Heb 11:1–12:1).

of the symbols of the Hebrew cultic system as portrayed in the Torah or, even more remotely, in the metaphysical terminology of Western Christian philosophical theology. Rather he is now understood in terms of the original conception of human being, as humanity created in the image of God (cf. 1 Cor 15:45; and Gen 1:26-27) and as the spiritual and moral exemplar for human beings to follow (John 13:15). In this way, Jesus demonstrates the relational nature of human being. Human beings are then to reflect the being of God in their spiritual, moral, and physical ways of living.[113]

When we search for the philosophical common denominator in the disciplines, we find that some aspect of human being is important in all of them. As comparative and contrastive beings, humans understand the world about them in terms of who they are and how they intersect with other beings both vertically in a spiritual sense and horizontally in terms of their physical and moral relationships with other created life forms. In this sense, the universe that we occupy is anthropically oriented.

Therefore, in this brief overview it is possible to view humans along three broad disciplinary lines: the natural sciences, which are concerned with the complex relations of human physical processes and the relational role that they have with their physical environment; philosophy and the social sciences, which are interested in the way that humans think and behave morally and the ways in which they create social constructs that govern behavior and thereby impact their environment; and theology, which sees human being in terms of its relation with God and others.

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[113] "A true, lovable Christian is the most powerful argument that can be advanced in favor of Bible truth. Such a man is Christ's representative. His life is the most convincing evidence that can be borne to the power of divine grace" (Ellen G. White, *In Heavenly Places* [Washington, DC: Review and Herald, 1967], 318).

Having found a common philosophical ground for dialogue, it is now necessary to determine whether it is possible for theology to transcend its disciplinary boundaries so that meaningful dialogue, in which the concept of humans as relational beings, can take place.

Because theology sees a vital and necessary connection between the spiritual, moral, and physical ways that humans relate, it is able to enter into mutually beneficial dialogue with other disciplines without needing to begin with a concept of God that is largely and even, as in the case of the natural sciences, completely foreign to their approach.

Further, it gives theology the opportunity to demonstrate how its God-oriented concepts provide viable solutions to critical crises such as those of the economy and ecology. When, for example, one examines the blessings and curses that were recited by the ancient people of Israel as they were about enter the Promised Land (Deut 28), it becomes obvious that both a relation with God, one another, and others, including the natural environment, can bring blessing, while abrogating these relationships brings the opposite effect. The Torah provides a set of rules for establishing these relationships. Thus if one observes these rules,

> you will be blessed in the city and blessed in the country. The fruit of your womb will be blessed, and the crops of your land and the young of your livestock—the calves of your herds and the lambs of your flocks. Your basket and your kneading trough will be blessed. (Deut 28:3-5, NIV)

Conversely, failure to observe these relational rules will bring about negative results:

> you will be cursed in the city and cursed in the country. Your basket and your kneading trough will be cursed. The fruit of your womb will be cursed, and the crops of your land, and the calves of your herds and the lambs of your flocks. (Deut 28:16-18, NIV)

In a manner fitting a concerned and worried environmentalist, it can be seen that failure to respect our relationship with the natural environment can easily result in ecological disaster. The Torah provides a set of criteria for keeping this relationship healthy. If Christians and Jews alone would practice these criteria, how might they effectively influence society at large? In conclusion to the presentation of the blessings and curses, God reminds

the people that he has given these blessings and curses to them so that they can now "choose life, so that you and your children may live" (Deut 30:19, NIV).

Is this not a concern of all human beings? Is it not the central principle upon which the natural sciences are grounded: the problem of survival? But the difference of meaning between the Hebraic-Christian perspective and the natural sciences is that the Torah does not simply advocate survival, but genuine, authentic living.[114] We may not be able in this world to completely eradicate a "nature red in tooth and claw," but we can through our treatment of the Other, help to hold it at bay until the final restoration of all things (Rev 21).

The Hebraic-Christian perspective that I propose in this dissertation is an attempt to take advantage of a concept—humans as relational beings—that is common to all disciplines and use it not simply for interesting conversation opportunities, but for the purpose of generating interdisciplinary solutions to critical situations. The prophet Jeremiah envisioned something similar, noting, from God's perspective, that, when people would ask why disasters have come upon them, "it is because your ancestors forsook me. . . . They forsook me and did not keep my law" (Jer 16:10-11, NIV). But there is always hope that if humans restore their relationships, disasters can be averted. God promises that then "I will teach them—this time I will teach them" (Jer 16:21a, NIV).

Conclusion

In this chapter, we have explored two primary issues: (1) whether a methodological relationship between the disciplines of the theology-and-science dialogue can be achieved, and if so, (2) whether a common philosophical ground can be discovered that will make

[114] See Bill McKibben, *The Comforting Whirlwind: God, Job and the Scale of Creation* (Cambridge, MA: Cowley Press, 2005), 40ff.

fruitful discussion possible between the disciplines of the contemporary theology-and-science dialogue.

Kant suggests that human beings can be understood only in terms of the necessary relationship between their physical and moral attributes. Bhaskar builds a concept of the social observer on this idea, and suggests that it is necessary, then, to have not only a scientific knowledge for the natural sciences, but also for the social sciences. He therefore demonstrates how social concepts can become scientifically viable, but in a way that is different from the natural sciences. McGrath sees in Bhaskar's proposal a place for theology and, by placing theology at least partially within the social sciences, seeks to grant ontological status to the concept "nature as creation." Finally, I propose that while McGrath's approach is important, in order to initiate dialogue with other disciplines, theology must resist the urge to start conversations with the doctrine of God, such as nature as creation. This is because the Christian concept of God is philosophically foreign to other disciplines, particularly the natural sciences. Therefore, an even more basic philosophical ground must be found. I suggest that this ground is "humans as relational beings," which is a common theme to all disciplines as they study human relationship in various ways within their respective disciplines.

In the following chapters, I will explore and critique the current philosophical ground of the theology-and-science dialogue before presenting a more robust definition of humans as relational beings. In the next chapter, we turn to the role of the social observer as proposed by the anthropic arguments, one of which is interpreted philosophically and the other, theologically.

CHAPTER 2

THE ANTHROPIC COSMOLOGICAL PRINCIPLE AND ITS RELATION TO HUMAN BEING AS OBSERVER

Introduction

What is a human being? As proposed by Kant, a human is a relational being that exists somewhere between the starry heavens above and the moral law within, or as Bhaskar expands Kant's proposal, human beings are social observers. In this chapter, I will explore the possibility that, in their role as social observers, human beings have a tremendous ability to influence their environment and shape it according to their own presuppositions. I will accomplish this task by turning to the anthropic cosmological argument of John D. Barrow and Frank J. Tipler, who recognize the role of human interaction in this regard and attempt to create a final anthropic argument that addresses the unity of human being in both its physical and moral attributes. However, their attempt to create a theology of human being is unsuccessful because they do not have a doctrine of God. Therefore, their proposals remain not only futuristic, but philosophical rather than theological. In contrast, Alister E. McGrath, who builds on the anthropic argument, finds the notion that the universe is fine-tuned to be compatible with his own theology of nature as God's creation.

Because the anthropic arguments fall within the category of teleological argumentation, I will first examine the meaning of and relationship between universal order

and purpose in nature before examining the final anthropic argument of Barrow and Tipler, followed by the scientific-theological approach of McGrath.

Purpose (Teleology) and Order (Eutaxiology)

Modern theoretical cosmology suggests that the friendliness of the universe toward life is due to its fine-tuned physical laws, which Brandon Carter refers to as the "anthropic principle,"[115] which is, in reality, a cluster of arguments ranging from "weak" to "strong" in their proposals as to why and how this fine-tuning has occurred.[116] The reason for such plasticity in this principle is due to its theoretical nature and to the qualitative questions it poses that cannot be directly addressed by an empirical approach.[117]

In its weak form, the anthropic cosmological principle proposes that humans can exist only in a universe that is friendly toward carbon-based life[118] and that our location in the universe is "necessarily privileged to the extent of being compatible with our existence as observers."[119] The questions that it raises regarding human being—the nature and definition of human being, the role that humans play in the world, and whether they have an ultimate

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[115] Carter, "Large Number Coincidences and the Anthropic Principle," 291-298; Brandon Carter and W. H. McCrea, "The Anthropic Principle and Its Implications for Biological Evolution [and Discussion], *Phil. Trans. R.Soc. A* 310/1512 (20 December 1983): 347-363. This edition of the *Philosophical Transactions of the Royal Society A* is dedicated to a discussion of the anthropic cosmological principle.

[116] The definitive presentation of these anthropic arguments and their metaphysical presuppositions may be found in Barrow and Tipler, *The Anthropic Cosmological Principle*.

[117] As Alister E. McGrath notes, "The debate in the literature mainly concerns the *interpretation* of these [fine-tuned] phenomena, whose existence is generally conceded" (*A Fine-Tuned Universe: The Quest for God in Science and Theology*, 118, emphasis original).

[118] Barrow and Tipler, *The Anthropic Cosmological Principle*, 3.

[119] Carter, "Large Number Coincidences," 291.

purpose—cannot be ascertained from the quantitative data alone, but requires an interpretation.

Philosophers and theologians generally approach the question of human being somewhat differently than scientists, especially in regard to questions pertaining to purpose (*telos*) and order (*eutaxis*) in the universe.[120] On one hand, philosophers and theologians tend to ground their interpretation of natural phenomena in the assertion *nihil est sine ratione* ("nothing is without a reason").[121] There are, they believe, at the very least, teleological-like processes at work in the universe.[122] But scientific approaches such as the principle of mediocrity question whether there is indeed any *ultimate* purpose for why humans exist, and therefore, they consider the appearance of purpose in the universe to be primarily a question of order.[123] When considered from the perspective of purpose and order, three possible explanations for the fine-tuning of the universe emerge: (1) humans exist because the current rules of the universe provide a certain directionality (i.e., a question of order or eutaxiology); (2) humans are the result of the actions of an external agent (i.e., a question of purpose or teleology); or (3) the two ideas are compatible and apply to different situations so that humans exist because the current rules of the universe provide a certain directionality that is the result of the actions of an (external) agent.

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[120] See chap. 3 for a discussion regarding the relationship between *telos* (purpose) and human being.

[121] G. W. Leibniz, *The Monadology and Other Philosophical Writings*, trans., intro., and notes Robert Latta (Oxford: Clarendon, 1898), 414-415. Cf. Heidegger, *The Principle of Reason*, 3.

[122] Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003), 76.

[123] Ernst Mayr, *Toward a New Philosophy of Biology: Observations of an Evolutionist* (Cambridge: Harvard University Press, 1988), 3.

Because these ideas are important to the anthropic arguments, we will consider briefly the differences between teleology and eutaxiology. Since the difference between the two words is subtle, a brief examination of their etymology is helpful.

Teleology comes from the Greek root τελε-, meaning "end, purpose," while eutaxiology originates from the Greek adverb εὖ, meaning "good" and the Greek noun τάξις, meaning "order," as in "a fixed succession," or a "right order" ("some give it here a military sense, 'orderly array'").[124] The emphasis in teleology is on the purpose, or the sake for which an organism or process exists,[125] while eutaxiology focuses on order without any real concern for purpose.[126] As Barrow and Tipler note in regard to eutaxiology, "the intricate constructions of a watch can be appreciated without knowing anything of the 'end' for which it has been made."[127] It is not necessary to know exactly who the agent is that designed and created the watch in order to understand that it is an artifact that has a certain structure that allows it to work in a particular way. Such an idea is compatible with the notion of complexity.

Due to the great complexity of living things, determining all the causal mechanisms of an organism or natural process is virtually impossible, so as a working presupposition eutaxiology makes sense. As Ian Barbour suggests, "When we speak of 'the cause' of an

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[124] *Thayer's Greek Lexicon of the New Testament*, rev. and enlarged Joseph Henry Thayer (International Bible Translators, 1998-2000), s.v. τελε-, εὖ, and τάξις.

[125] Mariska Leunissen, *Explanation and Teleology in Aristotle's Science of Nature* (Cambridge: Cambridge University Press, 2010); see also Monte Ransome Johnson, *Aristotle on Teleology* (Oxford: Oxford University Press, 2008).

[126] Louis Ezra Hicks, *A Critique of Design-Arguments: A Historical Review and Free Examination of the Methods of Reasoning in Natural Theology* (New York: Charles Scribner's Sons, 1883), v.

[127] Barrow and Tipler, *The Anthropic Cosmological Principle*, 29.

event we are selecting from among the many necessary and jointly sufficient conditions the ones to which we want to direct attention in a particular context of inquiry."[128] Thus scientists choose the particular areas that they wish to study, while intentionally ignoring others. Further, they are also able to understand the structure and directionality of an organism or process without knowing the exact causal laws or the initial conditions at the point of origin.[129]

Therefore, to render a process eutaxiological does not necessarily mean that one must reject a metaphysical or theological explanation; nor does it reflect the loss of a sense of purpose in the natural realm. Louis Ezra Hicks, who first coined the term "eutaxiology," saw it as a "companion-word to teleology," and did not see any conflict between their approaches.[130]

Another related way that eutaxiological and teleological arguments differ, according to Barrow and Tipler, is in their orientation toward anthropocentricism. They explain that eutaxiological arguments are "based upon the presence of discernible order and mutual harmony in Nature rather than the recognition of any conscious or unconscious

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[128] Barbour, "Five Models of God and Evolution," 27.

[129] This is the approach taken by chaos theorists, who work from a global or universal perspective when they study the long-term behavior of an organism or process over time (see, e.g., James Gleick, *Chaos: Making a New Science* [New York: Viking, 1987], 46-47).

[130] Hicks then critiques teleology upon the basis of whether certain occurrences are really telic in nature or simply effects, and, importantly, proposes that true ends require the presumption of intelligence. These two points call for understanding the directionality of argumentation in teleology—thus one must argue not from ends to intelligence, but assume that if one discovers ends in a process or organism then intelligence must have been involved prior to these ends (*A Critique of Design Arguments*, v-vi). This is contrary to the way in which Barrow and Tipler envision things. For them, intelligence emerges from the physical processes (see below).

anthropocentric purposes."[131] However, it is possible to think of the anthropic principle without reference to anthropocentrism. The relational understanding of human being upon which this dissertation is grounded is one of "*nexus* and *connexio*, the necessary connection of the one with the other,"[132] so that the relation of human beings with their environment is one of respect and care-taking rather than dominance. Therefore, one can understand the fine-tuning of the universe as being friendly to the human observer, but it is equally appropriate to envision that the role of the human observer is not necessarily domineering or damaging. Therefore, what appears to be a conflict of ideas concerning purpose and order is not necessarily so.

We are now ready to turn to the question of the human observer as understood by the various anthropic arguments.

The Anthropic Arguments

The Weak Anthropic Argument and the Human Observer

As a reaction against the principle of mediocrity, the weak anthropic principle suggests that "our location in the universe is necessarily privileged to the extent of being compatible with our existence as observers."[133] Therefore, the fact that humans are present is because they have been privileged in some way to come into being in a universe that has all the necessary physical laws needed for them to survive—including, importantly, the intellectual capacity to observe. This proposal raises a number of questions, three of which we will examine in this chapter: In what way are human observers privileged to exist in the

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[131] Barrow and Tipler, *The Anthropic Cosmological Principle*, 44.

[132] Heidegger, *Identity and Difference*, 29.

[133] Carter, "Large Number Coincidences," 291.

universe? How does the notion of humans as observers help to define human being? Is it possible to view human beings as fulfilling a purposeful role in the universe without reference to theology?

The immediate scientific answer to these questions is addressed by the so-called "Copernican principle"[134] or, as it is more technically known, the principle of mediocrity, which states: (1) "large number coincidences" exist, meaning that the physical constants of the universe have such precise quantities that if they should be changed even slightly, humanity, along with all other life forms dependent upon these same conditions, would cease to exist;[135] and (2) this fine-tuning of the physical constants is neither completely random nor the result of "various exotic theories (e.g. involving departures from normally accepted physical conservation laws)," but confirms "conventional" physics and cosmology, "which could in principle have been used to predict them all in advance of their observation";[136] and (3) the current state of the universe is not due to intent, although everything follows rules, meaning that the "equations which govern the time development of the ultimate constituents of the world are deterministic; that is, the state of these constituents at a given time in the future is determined uniquely by the state of these constituents now."[137]

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[134] Barrow and Tipler, *The Anthropic Cosmological Principle*, 1.

[135] Carter, "Large Number Coincidences," 291; cf. Barrow and Tipler, *The Anthropic Cosmological Principle*, 5. The physical constants include, e.g., gravity G, the speed of light c, the Dirac-Planck constant $\hbar$, and Boltzman's constant k and are the basic forces that provide limits and boundaries for the universe.

[136]Carter, "Large Number Coincidences," 291.

[137] Barrow and Tipler, *The Anthropic Cosmological Principle*, 138.

The recognition of fundamental laws and principles in the formation of the universe in general and of human beings in particular provides an initial answer to the qualitative questions that surface in regard to human existence. The principle of mediocrity and the weak anthropic argument are in agreement that there are certain conditions needed for human life to exist. They both, however, leave the qualitative questions they have introduced largely unexplored. To attempt to fill this gap, proponents of the anthropic arguments attempt to provide answers that go beyond the disciplinary bounds of physical science and biology to suggest in what way the fundamental laws of the universe exhibit purpose and order. Barrow and Tipler's strong anthropic argument provides philosophical speculation about the role that human beings play in the universe, while McGrath's argument reflects his scientific theology.

Thus, for example, Barrow and Tipler explain that the "central problem of science and epistemology is deciding which postulates to take as fundamental."[138] On one hand, the modern idealists and ancient Greek materialists respectively considered Mind to be "logically prior" to the existence of human being and the innate properties of matter "to allow—or even require—the existence of intelligence to contemplate it." These are, for the ancients and idealists, fundamental principles that are necessary for life to exist.[139] On the other hand, physicists are against considering the question of Mind or intelligence in their theories.[140]

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[138] Ibid., 1.

[139] Ibid.

[140] See, e.g., Richard Dawkins's remarks in this regard in his dialogue on the origins of human beings with Archbishop of Canterbury Rowan Williams and Sir Anthony Kenny at Oxford University on 23 February 2012 ("Archbishop of Canterbury, Richard Dawkins and Anthony Kenny Discuss Origin of Human Beings," www.archbishopofcanterbury.org [accessed 8 June 2012]).

This includes quantum mechanics, in spite of its concern about the role of the observer because the observer does not need to have intelligence; it need only be a recording device.[141]

Nevertheless, in view of the growing consideration of natural scientists toward crises of the environment and the role that humans play in these crises, as well as what will happen to humans as the universe in its current state begins to wind down, a group of physicists and biologists, many of whom come from the British perspective, have begun to seriously consider the role of the human observer in their theoretical musings about cosmology. Beginning with the weak anthropic argument, many go on to propose stronger arguments that pierce more deeply into the qualitative questions raised there. We will now examine the cluster of strong anthropic arguments used by Barrow and Tipler as the foundation for their own theologically based final anthropic argument.[142]

The Strong Anthropic Arguments and the Human Observer

Barrow and Tipler's Final Anthropic Argument

The more speculative strong anthropic arguments attempt to provide ultimate reasons for the existence of human observers. Stated generally, the strong anthropic arguments propose that "the Universe *must have* those properties which allow life to develop within it at some stage in its history."[143] A number of radical approaches originate from the strong anthropic argument, including the classical design, participatory, multiverse, and final, which is Barrow and Tipler's approach that is based upon the other three strong arguments.

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[141] Barrow and Tipler, *The Anthropic Cosmological Principle*, 1.

[142] Here theology is understood in the ancient Greek sense (see chap. 4), meaning that there is no personal theistic God involved in their process. Rather they are employing their own set of parameters for their theological system that is based upon their scientific reasoning.

[143] Barrow and Tipler, *The Anthropic Cosmological Principle*, 21, emphasis supplied.

We will now examine the respective approaches of these arguments to the role of the human observer before inquiring into how Barrow and Tipler apply the classical design, participatory, and multiverse arguments to their own final anthropic principle.

The *Classical Design Arguments* propose that "there exists one possible Universe 'designed' with the goal of generating and sustaining 'observers.'"[144] Supporters of this view include the natural theologians of the past, as well as those of Harvard chemist Lawrence J. Henderson,[145] Cambridge physicist Fred Hoyle, and Anglican priest and former scientific consultant to the British Ministry of Defense, Rodney D. Holder.[146]

Hoyle, for example, asserts that "the laws of nuclear physics have been deliberately designed with regard to the consequences they produce inside the stars. If this is so, then my apparently random quirks have become part of a deep-laid scheme. If not then we are back again at a monstrous sequence of accidents."[147] For Hoyle, the "external universe" is the materialistic creator of human observers[148] and is comparable to LaPlace's supermathematician, who was able to completely understand "all the consequences of

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[144] Ibid., 22.

[145] Lawrence J. Henderson, *The Fitness of the Environment* (Cambridge: Harvard University Press 1970); and idem, *The Order of Nature* (Cambridge: Harvard University Press, 1917).

[146] Rodney D. Holder, *God, the Multiverse and Everything: Modern Cosmology and the Argument from Design* (Aldershot, England: Ashgate, 2004). Holder, 2, is especially interested in refuting the atheistic conceptions of the multiverse as proposed by Richard Dawkins, Peter Atkins, and Stephen Hawking.

[147] F. Hoyle, "F. Hoyle," in *Religion and the Scientists: Addresses Delivered in the University Church, Cambridge*, ed. and preface Mervyn Stockwood (London: SCM Press, 1959), 64. For Hoyle, humanity is an extension of nature.

[148] Ibid., 56.

scientific law."[149] Such a perspective is theological, and Barrow and Tipler render it, therefore, open neither to empirical proof nor disproof.[150]

Holder approaches the design argument apologetically as a defense against atheistic applications of the Many-Worlds or Multiverse argument. He notes that some argue, on the basis of Darwinian evolution, that because there is order and not purpose in nature, it is, therefore, inappropriate to see evidence of design in the fine-tuning of the universe. Speaking from the perspective of God-directed evolution, he counters that "whilst evolution may be regarded as 'naturalist' in the sense that it explains how complexity can be built up through the interplay of genetic mutation and environmental selection, the laws of nature must be special for this to occur. . . . The appeal is to the specialness of the laws of nature in both cases, not to a 'God of the gaps.'"[151] Therefore, for Holder, God is at work in the evolutionary process, but God does not simply fill in the gaps where needed. Rather the whole process is generated through nature working under God's direction, which is provided through the laws and processes of nature.

In regard to human observers, Holder believes that since God has allowed for a discoverable universe, he has also arranged for there to be beings who are capable of

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[149] Ibid., 65-66. Hoyle notes: "Now imagine an intellect to whom this would be a comparatively trivial exercise, an intellect who is interested in the consequences, not of just one specified system of laws, but in examining all systems of law with a view to devising the one most pregnant with possibilities, an intellect who is able to relate the design of the laws of nuclear physics to the conditions that operate inside the stars, and who can relate the origin of stars and planets to the intricate chemical details of the origin of life. Imagine that this is done, not by issuing an arbitrary fiat—'Let there be light', but by a complete mastery of all details of the situation. Imagine the intellectual magnitude and interest of such a problem. Then I think you will come as near as we can come, in our present inadequate state of knowledge, towards understanding the meaning and purpose of the universe" (ibid., 65).

[150] Barrow and Tipler, *The Anthropic Cosmological Principle*, 22.

[151] Holder, *God, the Multiverse and Everything*, 44.

discovering the mysteries of the universe. It should not be surprising, then, to need a "very special being," God, to provide both the elements of nature and human observers.[152]

The *Participatory Anthropic Argument* states that "observers are necessary to bring the Universe into being."[153] As John A. Wheeler, who coined the term "participatory anthropic principle," explains, quantum mechanics lends insight into the way that the observer interacts with the environment, noting that "the act of measurement [at the quantum level] typically produces an unpredictable change in the state of the electron. This change is different according as one measures the position or the momentum." He surmises that this ability to effect change by observation is not limited to the microscopic world, but also applies to the macroscopic world in which daily life takes place. Therefore, the presence of human observers changes the flow of history, leading Wheeler to propose that "the observer [in the process of observing] is elevated from 'observer' to 'participator'. . . . In some strange sense this is a participatory universe."[154]

Barrow and Tipler conclude, however, that Wheeler's participatory argument has not yet developed experimental capabilities and, therefore, must remain "a particularly strong form of SAP [strong anthropic principle]."[155] Although physicists would not generally see these observers from the perspective of human beings, but rather natural or technological

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[152] Ibid., 4.

[153] Barrow and Tipler, *The Anthropic Cosmological Principle*, 22.

[154] John Archibald Wheeler, "Genesis and Observation," in *Foundational Problems in the Special Sciences: Part Two of the Proceedings of the Fifth International Congress of Logic, Methodology and Philosophy of Science, London, Ontario, Canada, 1975*, ed. R. E. Butts and J. Hintikka (Dordrecht, Holland: D. Reidel, 1977), 5-6.

[155] Barrow and Tipler, *The Anthropic Cosmological Principle*, 505. I will not include the technical discussion as this falls outside our discussion. For further discussion on the topic, see ibid.

devices, if we extend participation to human observers or see their devices as human artifacts invested with meaning,[156] then the participatory argument seems to carry moral ramifications due to its observers' abilities to change outcomes by their presence.

The *Many-Worlds, or Multiverse, Anthropic Argument* proposes that "an ensemble of other different universes is necessary for the existence of our Universe."[157] According to this view, physical reality does not exist independently from the observer and his or her experimental apparatus. "Since it is the observer who ultimately defines which experimental apparatus is employed, in effect the necessary presence of the observer in quantum physics is recognized by an explicit axiom."[158]

Whereas the participatory argument supports the notion that human participation in the universe is essential to the flow of history, the multiverse argument was originally meant to be a realist interpretation of quantum mechanics[159] that was given in response to the idealism of the Copenhagen interpretation.[160] The role of the observer in the multiverse argument is to record the states of the quantum mechanical system and to provide a

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[156] Ibid., 1.

[157] Ibid., 22.

[158] Ibid., 464.

[159] Ibid., 472ff. For H. Everett's own description of his Many-Worlds principle, see "Relative State Formulation of Quantum Mechanics," *Review of Modern Physics* 29 (1957): 454. His Ph.D. dissertation, "The Theory of the Universal Wave Function," is also included in *The Many-Worlds Interpretation of Quantum Mechanics*, ed. B. S. DeWitt and N. Graham (Princeton: Princeton University Press, 1973), 1-40.

[160] The Copenhagen interpretation was the "first general attempt to understand the world of atoms as represented by quantum mechanics. It was created by Niels Bohr, Werner Heisenberg, Max Born, and other physicists (Jan Faye, "Copenhagan Interpretation of Quantum Mechanics," *Stanford Encyclopedia of Philosophy*, plato.stanford.edu/entries/qm-copenhagen [accessed 8 June 2012]).

historical account of this activity. There is, therefore, a need for a measuring and recording apparatus whose memory will be complex enough to both recognize and record the states.[161]

It is not clear what effect human observation has in the creation and carrying out of history in the multiverse argument. It seems that the role of the human observer is, at least in Barrow and Tipler's description of it, largely passive—a recorder of events, but not necessarily a direct, intentional, or reflective participator in the transformation of history. In fact, in none of the anthropic arguments presented thus far does the observer need to be human or even human-like, although the presence of a recording device does seem to imply, or at least call for, some purposeful intelligence, as in Holder's design argument. But one thing Barrow and Tipler do seem certain of is that the recorders must obey the laws of the universe in whatever state it is in for them to remain in existence.[162]

David Bohm and Basil J. Hiley's theory of *The Undivided Universe* also falls within the multiverse argument. They suggest that "there is no reason to suppose that physical theory is steadily approaching some final truth." Because there is no final theory, there is also no reason to say that the universe is "either ultimately deterministic or ultimately indeterministic. Therefore we cannot from physical theories alone draw any conclusions about the ultimate limits of human freedom."[163] Thus, by necessity, the role of the human observer is also neutral, in the sense that the observer is simply a part of the universe, which acts like a "mirror" through which the universe is able "to observe itself." Or conversely,

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[161] Barrow and Tipler, *The Anthropic Cosmological Principle*, 472-473.

[162] Ibid., 473.

[163] David Bohm and Basil J. Hiley, *The Undivided Universe: An Ontological Interpretation of Quantum Theory* (New York: Routledge, 1993), 3. This a point with which Stephen Hawking and Leonard Mlodinow agree (*The Grand Design* [New York: Bantam Books, 2010]).

they propose, "the universe could be regarded as continuous with the body of the human being. After all, this latter, like the plant, gets all its substance and energy from the universe and eventually falls back into it. Evidently the human being could not exist without this context (which has very misleadingly been called an environment)."[164]

In this case, human being is immanent within the greater universe and is not in any way ontologically distinct from it. In a certain sense, one might say that the universe is "panenhumanistic"—humans are nature, but nature is more than humans. Thus there is no clear dividing line between where humans end and the universe begins.

Building on the themes from these strong arguments, Barrow and Tipler's *Final Anthropic Argument* contends that "intelligent information-processing must come into existence in the Universe, and, once it comes into existence, it will never die out."[165] Barrow and Tipler formulated this principle to help explain the relationship between science and morality within the context of history—the ultimate qualitative questions regarding human being.

They begin by proposing that if the strong anthropic principle is true and if the universe "dies out at our stage of development, long before it has had any measurable non-quantum influence on the Universe in the large, it is hard to see why it *must* have come into

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[164] Bohm and Hiley, *The Undivided Universe*, 389.

[165] Barrow and Tipler, *The Anthropic Cosmological Principle*, 23. This is also the basis upon which Conway Morris argues in his convergence argument (*Life's Solution*, 106). He sees the possibility of a compatible relationship between his biological concept of convergence and the anthropic arguments, noting that "it would certainly be premature to invoke anthropic principles in evolutionary biology, let alone to argue that we can identify general laws and principles such as those that are familiar to physicists and chemists. Yet, at the very least, convergence is a fingerpost in that direction, and this is perhaps most forcibly brought home in terms of the evidence for the independent emergence of intelligence" (Simon Conway Morris ed., *The Deep Structures of Biology: Is Convergence Sufficiently Ubiquitous to Give a Directional Signal?* [West Conshocken, PA: Templeton Foundation Press, 2008], viii).

existence in the first place."[166] Thus, they contend, while the final anthropic argument is a physical statement and in itself has no moral or ethical content, it is, nevertheless, the "physical precondition for moral values to arise and to continue to exist in the Universe: no moral values of any sort can exist in a lifeless cosmology. Furthermore, the FAP [final anthropic principle] seems to imply a melioristic cosmos,"[167] meaning that the world can be made better by human effort.

Barrow and Tipler have, in effect, expanded the participatory argument to include the moral outcomes associated with the classical design argument, which allows for the existence of intelligent life forms that can, then, influence the flow and outcome of history, not just physically, but also morally. However, for Barrow and Tipler, there is a reversal in the idealist and Greek materialist perspectives that Mind or intelligence is logically prior to matter. Instead, Mind arises out of the evolutionary process.[168] The final anthropic argument, then, provides the basis not only for measuring and predicting the physical outcomes of fine-tuning, but also for identifying potential moral outcomes. There is then room for a robust teleology that exhibits both physical and metaphysical characteristics.

There is, however, no supernatural perspective that guides and directs the meaning and course of human history in the final anthropic argument, but instead Barrow and Tipler find hope in the ability of humans to preserve their legacy through computer technology. They propose that "from the behavioural point of view intelligent *machines* can be regarded

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[166] Barrow and Tipler, *The Anthropic Cosmological Principle*, 23, emphasis supplied; for an in-depth presentation of Final Anthropic Principle, see their final chapter "The Future of the Universe."

[167] Ibid., 23.

[168] This point is very similar to the Greek mythological conception of the gods, which had a beginning in time (see chap. 4).

as people. These machines may be our ultimate heirs, our ultimate descendants, because under certain circumstances they could survive forever the extreme conditions near the Final State." Their hope is that when the human race comes to an end, human civilization itself may be continued indefinitely by these technological devices, and the social values and concepts of human being "may thus be transmitted to an arbitrarily distant futurity."[169] Hopefully, the memory of human beings and their moral and social perspectives will help to jumpstart the universe to a higher level of intelligence at a quicker rate. Barrow and Tipler make the observer to serve as a recorder of events as in the multiverse argument. They do this by assigning humanity the task of creating supercomputers that will preserve human culture and intelligence beyond the life expectancy of the human race.[170] In one sense, humans are neutral recording devices that provide a record that they were once present in the universe. On the other, they will, hopefully, influence the next cycle of the universe due to their intelligence. By having their memories preserved, the tape of human history can be rerun and hopefully at a swifter and more efficient pace than in the current evolutionary paradigm.

Barrow and Tipler's final anthropic argument, then, takes on a form similar to that proposed by the Stoics:

> Socrates and Plato and each individual man will live again, with the same friends and fellow citizens. They will go through the same experiences and the same activities. Every city and village and field will be restored, just as it was. And this restoration of the universe takes place not once, but over and over again—indeed to all eternity without end. Those of the gods who are not subject to destruction, having observed the course of one period, know from this everything which is going to happen in all subsequent

[169] Barrow and Tipler, *The Anthropic Cosmological Principle*, 615.

[170] Ibid.

> periods. For there will never be any new thing other than that which has been before, but everything is repeated down to the minutest detail.[171]

Like the Stoics, Barrow and Tipler find the universe to be cyclical in nature. The preserved memories of human beings from the past cycle of the universe serve in much the same way as the Greek gods who remain through multiple cycles of the universe. Because everything is determined by physical law, from cycle to cycle there is the possibility that these memories can help the universe along and allow future observers to know what awaits them. However, if the Stoics are correct, there will only be an endless repetition of the past—in fact, we are merely a repetition of past cycles of the universe. The discoveries of today are only, in reality, illusional—there is indeed nothing new under the sun.

Barrow and Tipler find little difference between the human observer and the supercomputers of the future. They demonstrate this in their use of two theological terms—soul and eschatology—which they employ interchangeably for their recorders, human or otherwise. Speaking of the "soul," they propose that the human observer is "fundamentally a type of computer, and is thus subject to the limitations imposed on computers by the laws of physics."[172] The soul becomes a metaphor for "computer program," because both are defined as nonmaterial entities, which is "the essence of a human personality." Therefore, the "essence of a human being is not the body but the program which controls the body."[173]

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[171] Nemesius, Bishop of Emesa (fourth century A.D.), quoted in *Later Greek Religion* (London: Dent, 1927), 30-31.

[172] Barrow and Tipler, *The Anthropic Cosmological Principle*, 659.

[173] Ibid. Barrow and Tipler give further discussion about the relationship of the soul to their understanding of the genetic component of the human observer (*The Anthropic Cosmological Principle*, 680, n. 89). They draw their definition from *Aristotle's 'De Anima' in the Version of William of Moerbeke and the Commentary of St. Thomas Aquinas*, trans. K. Foster and S. Humphries (New Haven: Yale University Press, 1951). For Thomas Aquinas's view, see *Summa contra Gentiles, Book 2: Creation*, trans. J. F. Anderson (Notre Dame: Notre Dame Press, 1975); and idem, *The Soul*, trans. J. P. Rowan (London: Herder, 1949); cf. A. C. Pegis,

Barrow and Tipler base their perspectives of the human being as a specialized program on the immaterial soul of Aristotle and Aquinas. The so-called "soul," or computer-like program, for Barrow and Tipler, may long outlast the external material that contains the program because of its abstract, immaterial nature. One problem that presents itself immediately to them, however, is Aristotelian in its structure: While "in principle" a computer program can be stored in many different forms—"in books, on computer disks, in RAM—and not just in the brain of a particular human body," "a human being is a program designed to run on very special hardware, and most of the subprograms of the human program are present only because of the peculiar structure of the hardware, which will most likely not be present in "non-human intelligent programs."[174] Barrow and Tipler are not clear about how this problem might be surmounted, but this perspective does directly influence their eschatology.[175]

They propose that the universe as a hospitable place, finely tuned to the needs of human observers, will end.[176] To save what we can of our essence as human observers, supercomputers should be built that will survive the eventual decay of the universe—a time when only the most basic building blocks of life ("in the form of electrons, positrons and radiation") will survive into the next cycle of the universe—and that will thereby preserve something of ourselves as intelligent beings.[177] Barrow and Tipler note that "the basic

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St. Thomas and the Problem of the Soul (Toronto: St. Michael's College Press, 1934).

[174] Barrow and Tipler, *The Anthropic Cosmological Principle*, 659.

[175] For a more radical use of this idea, see Richard Dawkins, *The Selfish Gene: 30th Anniversary Edition*, 3d ed. (Oxford: Oxford University Press, 2006).

[176] Barrow and Tipler, *The Anthropic Cosmological Principle*, 615.

[177] Ibid., 659.

problem of physical eschatology is to determine if the forms of matter which will exist in the far future can be used as construction materials for computers that can run complex programs, if there is sufficient energy in the future environment to run the programs, and if there are any other barriers to running a program."[178]

When we examine how the various anthropic arguments define the human observer, we find a variety of ideas that appear, with the exception of Holder's classical design argument, to be centered on a materialistic theology. The human observer is not remarkable, but is simply a part of the basic trajectories that emerge from out of the evolutionary process. It can be replaced at any time by artificial intelligences that are able to (adapt? and) survive where humans cannot. By way of contrast, we will turn to McGrath's concept of a fine-tuned universe.

McGrath's Application of a Scientific Theology to the Strong Anthropic Argument

The anthropic principle, for McGrath, brings to light the fact that there are "certain aspects of the natural world that clearly require explanation—namely, evidence of fine-tuning within nature."[179] Such a task immediately calls for an investigation into the *reason* why fine-tuning exists. The belief that nature is creation[180] ties existence both to an external agent who grants order to the creation and to purpose and intentionality. Further, the orderliness of human existence (i.e., the physical and biological laws to which they are subject) and their purpose for existence are compatible. However, he asserts, science neither proves nor

[178] Ibid.

[179] McGrath, *A Fine-Tuned Universe*, xiv, xii.

[180] McGrath, *Nature*, 87-88.

disproves theology. Rather science is a profitable dialogue partner that helps to ground theology in objective reality.[181]

The purpose of a scientific theology, then, is to "treat the working assumptions and methods of the natural sciences as offering a supportive and illuminative role for the Christian theological enterprise, both assisting theological reflection and identifying and allowing exploitation of apologetic possibilities and strategies."[182] Further, an openness to the study of nature as creation can help to prevent biblical and systematic theology from losing their historical sense. It seems that the greatest danger for contemporary theology is its loss of a historical sense both in terms of the divine revelation of the Scriptures and, as McGrath notes, its theological traditions,[183] which insist that there is a real, unobserved reality that lies beyond human abilities with which to interact. Seeking evidence from nature appears to be in agreement with the very foundations of Christian theology (e.g., Job 38–41; Ps 8:3-4; Rom 1:20).

McGrath begins his anthropic argument, which he prefers to think of in terms of fine-tuning, from his understanding of nature as "creation" and his revived concept of a trinitarian natural theology and metaphysics. "'I believe in Christianity,'" he proposes in agreement with C. S. Lewis, "'as I believe that the Sun has risen, not only because I see it, but because by it I see everything else.'"[184] Therefore, the world of nature comes into focus and develops context as it comes under the lens of Christian theology. "While not in any way

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[181] Ibid., 8.

[182] Ibid., 7.

[183] Ibid.

[184] C. S. Lewis, "Is Theology Poetry?" in *C. S. Lewis: Essay Collection* (London: Collins, 2000), 1-21; quoted in McGrath, *A Fine-Tuned Universe*, 95.

denying God's direct or indirect causality in relation to the natural world, the particular style of explanation offered by a Trinitarian natural theology is that of offering a unitary vision of reality, which allows the correlations and interconnections of the natural world with itself and with God to be grasped and appreciated."[185] Even further, McGrath contends, this conception of natural theology provides justification for a trinitarian metaphysic.[186]

The foundation that McGrath uses to support his trinitarian metaphysic is classical Augustinian, which he "deliberately" chose because of Augustine's close reading of Scripture and tradition and because Augustine developed his thought long before the scientific revolution. Therefore, Augustine's reflections were not a response to scientific thought, but were a genuine response to his contemplation about the interaction between natural philosophy and theology.[187] Therefore, "Augustine offers us theological paradigms which are deeply rooted in the Christian faith, offering us a way of engaging with modern scientific knowledge without being constituted or determined by that knowledge in the first place."[188]

McGrath's human observer is, then, deeply rooted in the Augustinian understanding of creation, which is itself grounded in the natural elements of causation that first originated the universe.[189] In Augustine's concept of creation, there are two creative "moments": (1) "a primary act of origination" and (2) "a continuing process of providential guidance." For Augustine, creation is not simply a past event, but rather a process of sustenance and

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[185] McGrath, *A Fine-Tuned Universe*, 95-96.

[186] Ibid., 96.

[187] Ibid., 97.

[188] Ibid., 98.

[189] Ibid., 100.

direction in "the unfolding of the 'generations that he laid up in creation when it was first established.'"[190] According to McGrath, Augustine comes to this understanding through Eccleisasticus (Sirach) 18:1, concluding that "'God made all things together, disposing them in an order based not on intervals of time, but on causal connections.'"[191] McGrath understands Augustine to mean by this that the creation follows certain "embedded" principles of order, "which developed as appropriate at later stages." Therefore, the creation has the capacity to bring forth living things, that is, *rationes seminales*, which are "seedlike principles that are present from the cosmic beginning, in each of which is contained the potential for the later development of specific living kind."[192] Augustine understood this to mean that creatures develop along predetermined paths in a teleological series of processes, which are themselves independent of specific lengths of time in the process of coming to be. In spite of the fact that time does not play a specific role in when species come forth, there is, for Augustine, "fixity of species."[193]

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[190] Ibid.

[191] Augustine, *Gen. litt.* 5.5.12 (*Ancient Christian Writers*, ed. John Hammond Taylor, 1:154); see McGrath, *A Fine-Tuned Universe*, 100.

[192] McGrath, *A Fine-Tuned Universe*, 101-102.

[193] McGrath provides a helpful summary of Augustine's concept of the fixity of species: "1. God brought everything into being at a specific moment. 2. Part of that created order takes the form of embedded causalities which emerge or evolve at a later stage. 3. This process of development takes place within the context of God's providential direction, which is integrally connected to a right understanding of the concept of creation. 4. The image of a dormant seed is an appropriate but not exact analogy for these embedded causalities. 5. The process of generation of these dormant seeds results in the fixity of species" (ibid., 107). For the ways in which the concept of the fixity of species continued to develop, see Neal C. Gillespie, *Charles Darwin and the Problem of Creation* (Chicago: University of Chicago Press, 1979), see esp. chap. 2, "Special Creation among British and American Naturalists, 1830-59."

McGrath suggests that even though Augustine clearly does not possess the scientific knowledge that we have, nevertheless, "the ways in which he interacts with his scientific authorities and personal experience suggest that, on this point at least, his views would be open to correction in the light of prevailing scientific opinion."[194] For Augustine, the believer is not to become stuck in a position merely for the sake of tradition. If, in a thorough study of Scripture, greater light is shed upon a subject, then one should be willing to accommodate this increased knowledge.[195] Therefore, McGrath believes that Augustine, due to his belief in the "ongoing creation," would be open to the teachings of biological origination that are found in Darwin's *Origin of Species*.[196]

What does this mean in terms of the human observer? For McGrath, it is inevitable that humans would evolve in a universe such as ours. The fine-tuning of the universe,[197] the directionality of the evolutionary process toward intelligent beings,[198] the emergent creation of a "multileveled reality,"[199] all point toward a universe that was, at its point of origin, McGrath proposes, "virtually instantaneously endowed with potentialities for anthropic development."[200] The human observer is not an accidental occurrence.

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[194] McGrath, *A Fine-Tuned Universe*, 104.

[195] Ibid., 104-105; cf. Augustine, *Gen. litt.* 1.18.37.

[196] Alister McGrath, "Augustine's Origin of Species," *Christianity Today*, May 2009, 39-41.

[197] McGrath, *A Fine-Tuned Universe*, 115-121.

[198] Ibid., chap. 14, 183ff.

[199] Ibid., chap. 15, esp. 206.

[200] Ibid., 125.

Therefore, when McGrath compares the anthropic argument against that of Augustine's he finds that

> Augustine's model elegantly enfolds the broad features of modern cosmology; though weak on detail, as one might expect, the broad brushstrokes of his approach resonate strongly with contemporary understandings of the origin and development of the cosmos. The intellectually capacious notion of *rationes seminales* [i.e., λόγοι σπερματικοὶ] is consonant with a universe that evolves and, as time progresses and conditions change, unfolds potentialities that were present early, though not yet actualized. There is no fundamental difficulty in affirming the autonomy of nature to develop on the one hand, and providential divine agency on the other.[201]

As an evolutionary theist, McGrath embraces the notion that "evolution is to be understood as God's chosen method of bringing life into existence from inorganic materials, and creating complexity within life."[202] Thus, where Darwinian evolution would grant right of place to random events in the evolutionary process, "evolutionary theism sees the process as divinely directed."[203] What does this ultimately mean for the definition of human being?

McGrath, like Augustine, finds that the image of God is found in the rational processes of the mind, which may be thought of metaphorically as the "footprints of the Trinity."[204] McGrath is further influenced by Athanasius, who proposed that "humanity was created by God in such a way that, 'by looking into the heights of heaven, and perceiving the harmony of creation, they might know its ruler, the Word of the Father, who, by his own providence over all things, makes the Father known to all.'" Therefore, McGrath proposes, "although Athanasius holds that human nature has been corrupted by sin, his understanding

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[201] Ibid.

[202] Alister E. McGrath, *Christian Theology: An Introduction*, 4th ed. (Oxford: Wiley-Blackwell, 2006), 388.

[203] Ibid.

[204] Augustine, *Trin.* 16.4.6 and 9.12.18; McGrath, *A Fine-Tuned Universe*, 76.

of the dialectic of nature and grace is such that humanity retains a God-given capacity to discern its creator within the created order."[205] But who is given this ability to discern God?

Only the predestined elect. If we return to Augustine, predestination means that "God withholds the means of salvation from those whom he has not elected."[206] Out of all the human beings destined by their fallen state (due not to their own chosen fallenness, but as a direct consequence of their proto-ancestors' original sin) for "perdition," God chose to save a few; the rest he ignored; in other words, "they were merely not elected to salvation."[207] Those who were chosen may see God in his creation and believe.[208] It seems that these are the only "real" human beings, who have been restored from original sin to a complete, or moving toward complete, restoration of their original being. But how do we know who has been elected?

McGrath proposes that "for Augustine, God bestows justifying righteousness upon the sinner, in such a way that it becomes part of his or her person. As a result this righteousness, although originating from *outside* the sinner, becomes part of his or her person."[209] While this is certainly good news for the elect, it must be remembered, however, that such help is given only to those chosen few whom God has elected from eternity. If humans are biologically determined, physically determined, spiritually determined, then by

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[205] McGrath, *A Fine-Tuned Universe*, 76-77.

[206] McGrath, *Christian Theology*, 381.

[207] Ibid.

[208] Ibid.

[209] Ibid., 375.

what means can they be held responsible for the inhumane treatment of the Earth and its occupants?

Augustine's anthropology poses important questions. While he certainly anticipates the theology-and-science dialogue in his quest to draw together theology and natural philosophy, his concept of human being and its relation both to God and others leaves serious questions as to whether he will be able to resolve the problem of human accountability and thereby fulfill the relational aspects of human being.

Conclusion

The anthropic arguments indicate that the universe is not only friendly toward life, but that the human observer plays an important role in the way that history flows through time, a point that is taken seriously by scholars such as Barrow and Tipler, who look for a universe that will continue to nurture Mind and intelligence as a part of its emergent properties. McGrath, who seeks to find a common ground upon which to engage in interdisciplinary dialogue about nature as God's creation, helps to open the door to fruitful contributions from theology; however, his acceptance of the Augustinian view of human being leaves questions about the role that humans play in the universe and whether they have any real accountability for their actions.

If human beings have the capacity for shaping and influencing the flow of history through the creation of social concepts and structures that govern human behavior, then it appears that the definition of human being plays a central role in determining how humans interact with their environment. In light of this significant insight, we will next examine Heidegger's twofold and integrated definition of Being/being and how this definition might be influential in the human engagement with nature.

CHAPTER 3

MORE THAN PURPOSE: RETHINKING *TELOS* FOR A RESPONSIBLE ONTOLOGICAL APPROACH TO THE ENVIRONMENT[210]

Introduction

There is a correlation between the way that human being is defined and the way in which the human observer relates to the natural environment. In tandem with my hypothesis is the notion that human beings are teleological in nature, meaning that as observers they act purposefully. In other words, they may act positively or negatively toward their environments, and through their actions (or lack thereof) effect change.

In light of this capability to influence and shape their environment, in the previous chapter I explored the definition of human being from the perspectives of a natural science informed by philosophical perspectives and one that was influenced by Christian theology. In addition, I broached the question of human accountability as a necessary element of human being. In order to begin answering the accountability question from within the theology-and-science dialogue, I must first establish the possibility of a common ontological ground of human being. To accomplish this task, I will begin by examining the definition of human being proposed by Martin Heidegger. Heidegger, who examines the question of being against the backdrops of human technology and the telic cause, is, as with my previous

[210] This paper was presented at Sweden's grand celebration of the 300th anniversary of Carl Linnaeus's birthday. It was presented under the title "More Than Purpose: Rethinking *Telos* for a Responsible Approach to the Environment," by Karen K. Abrahamson (paper presentation, "Linnaeus and *Homo Religiousus*, Uppsala University, Sweden, May 30-June 2, 2007).

dialogue partners, concerned about how humans impact their environment as relational beings.

Therefore, in contrast to contemporary scientific thought, which calls into question a viable teleology of nature, Heidegger suggests not only the need for applying the telic cause within the moral realm, but indicates the need for a wider application of it that respects the bounds of scientific objectivity, while providing a basis for environmental responsibility within the natural world. In other words, behavior toward the environment is directly related to the way in which human being and purpose come together in definition.

The purpose of this chapter is to examine Heidegger's definition of *telos* and its relationship to being and to discuss three possible implications of applying this understanding of being toward a more responsible approach to the environment. I will begin by briefly examining Heidegger's understanding of the *telos* and the role that it plays in the process of causation.

The Heideggerian Definition of *Telos*

In an examination of the modern understanding of technology in his essay "The Question Concerning Technology," Heidegger suggests that the telic cause plays a foundational role in Aristotle's system of thought, underlying his entire structure of causation. In his example of the development of a sacrificial vessel from concept to tangible object, he points out that, for Aristotle, the *telos* is

> above all responsible for the sacrificial vessel. It is that which in advance confines the chalice within the realm of consecration and bestowal. Through this the chalice is circumscribed as sacrificial vessel. Circumscribing gives bounds to the thing. With the bounds the thing does not stop; rather from out of them it begins to be what after production, it will be. That which gives bounds, that which completes, in this sense is called in Greek *telos*, which is all too often translated as "aim" or "purpose," and so

misinterpreted. The *telos* is responsible for what as matter and for what as aspect are together co-responsible for the sacrificial vessel.[211]

Heidegger raises a number of intriguing suggestions about Aristotle's *telos*: it is *above all responsible* for the object; *in advance* the *telos confines* and *circumscribes* the object within certain limits, that is, in the case of the sacrificial vessel as consecration and bestowal; by circumscribing the object, it is *given its bounds*; the bounds, in turn, *free* the object to be, in its postproduction phase, what it was in advance confined and circumscribed to be. Thus the telic cause provides more than simply aim or purpose. In the act of placing an object within bounds, it frees the object to become its intended self, and to pass from potentiality into actuality.

In order to lay the ground for his discussion, Heidegger challenges several notions that he believes have crept into philosophy in regard to the question of causation. First, he wishes to challenge the meaning of the term "cause," as "that which brings something about," thereby calling into question the notion that the efficient cause "sets the standard for all causality."[212]

Following Aristotle's lead, that art imitates nature, Heidegger acknowledges that the difference between art and nature lies with the role and identity of the so-called efficient cause.[213] In nature, Aristotle and Heidegger agree, the primary cause is the Supreme Being called God.[214] However, there are also secondary movers in the world. These movers, while

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[211] Heidegger, *The Question Concerning Technology and Other Essays*, 8.

[212] Ibid., 7.

[213] Ibid., 14-19.

[214] Aristotle, *De mundo*, 6; Heidegger does not address the question of God in *The Question Concerning Technology*, 3-35. However, he does note that from a purely metaphysical perspective God is the "*causa sui*": "This is the right name for the god of philosophy. Man

not originating causes in and of themselves, are, nonetheless, capable, with the help of the other causes, of directing, delimiting, and circumscribing the material objects of the world.[215] While movers are not limited to intellectual beings, as in the case of self-replicating natural processes, it is the secondary and specifically human causes that Heidegger addresses in "The Question Concerning Technology."

Heidegger's goal, however, is not to differentiate between causal agents. His ultimate goal is to examine the question of Being/being and he accomplishes this task by turning to the question of causation, especially the telic cause. What defines the being of a thing? Heidegger asks. To answer this question, he turns to what he believes to be the defining characteristic of the modern scientific age.

Heidegger sees the modern scientific age as being technological in nature. However, he asserts, "technology is not equivalent to the essence of technology."[216] What then is the essence of technology? He states:

> According to the ancient doctrine, the essence of a thing is considered to be *what* the thing is. We ask the question concerning technology when we ask what it is. Everyone knows the two statements that answer our question. One says: Technology is a means to an end. The other says: Technology is a human activity. The two definitions of technology belong together. For to posit ends and procure and utilize the means to them

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can neither pray nor sacrifice to this god. Before the *causa sui*, man can neither fall to his knees in awe nor can he play music and dance before this god" (*Identity and Difference*, 54ff.). For further discussion of this materialistic concept of Greek theology, see Frederick Copleston, S. J., *A History of Philosophy*, Volume 1, *Greece and Rome* (New York: Image Books, 1993); Martin Heidegger and Eugen Fink, *Heraclitus Seminar*, trans. Charles H. Seibert (Evanston, IL: Northwestern University Press, 1994); Johnson, *Aristotle on Teleology*; and Leunissen, *Explanation and Teleology in Aristotle's Science of Nature*.

[215] Aristotle, *Physics*, 7 ("Everything that is in motion must be moved by something."); 8.4-5; see again Heidegger, *The Question Concerning Technology*, 14-19, where Heidegger demonstrates the attempt by humans to change the meaning and purpose of nature as a means to an end.

[216] Heidegger, *The Question Concerning Technology*, 4.

> is a human activity. The manufacture and utilization of equipment, tools, and machines, the manufactured and used things themselves, and the needs and ends that they serve, all belong to what technology is. The whole complex of these contrivances is technology. Technology itself is a contrivance, or, in Latin, an *instrumentation*.[217]

According to Aristotle, the *telos* is an intimately connected process that brings together the essence or being of a thing, its instrumentality, and the activity that sets it in motion for the purpose of reaching its specified ends. This is because Aristotle sees the formal and telic causes as essentially being two sides of the same coin. He notes that "the definition (formal) and the final (telic) cause are the same."[218] Heidegger, who capitalizes on this two-sided coin, contends, "Wherever ends are pursued and means are employed, wherever instrumentality reigns, there reigns causality."[219]

This leads us to the second point of challenge. Heidegger questions the idea that the four causes may work individually apart from one another, noting that "the four causes are the ways, all belonging at once to each other, of being responsible for something else."[220] Stepping back from an examination of the clearly observable (the particular) to contemplate their ultimate meaning (the universal) is the goal that Aristotle has in mind.[221] Thus the task

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[217] Ibid., 4-5.

[218] Aristotle, *Generation of Animals*, 1.1.715a.8-9.

[219] Heidegger, *The Question Concerning Technology*, 6.

[220] Ibid., 7.

[221] This is what Aristotle has in mind when he discusses moving from a particular to a universal mode of investigation: "When the objects of an inquiry, in any department, have principles, causes, or elements, it is through acquaintance with these that knowledge and understanding is attained. For we do not think that we know a thing until we are acquainted with its primary causes or first principles, and have carried our analysis as far as its elements. Plainly, therefore, in the science of nature too our first task will be to try to determine what relates to its principles" (*Physics* 1.1.184a.10-15). To fully know an object, then, is to know

of philosophy is to connect the physical (material cause) with the metaphysical (formal/telic and efficient, whether divine or human, causes). In other words, metaphysics supplies the hermeneutical circle—the grounds and limitations in which the process of interpretation takes place. Heidegger notes: "Metaphysics grounds an age, in that through a specific interpretation of what is and through a specific comprehension of truth it gives to that age the basis upon which it is essentially formed. This basis holds complete dominion over all the phenomena that distinguish the age. Conversely, in order that there may be an adequate reflection upon these phenomena themselves, the metaphysical basis for them must let itself be apprehended in them."[222] In order to understand the true meaning of physical phenomena—the "why"—it is necessary to contemplate the metaphysical basis upon which they are grounded.

Integral to the process of understanding is the way in which causation works. Heidegger sees the four causes as coming together in a mutually responsible way in order to bring about causation. He considers the example of a silver chalice. The material cause of the silver chalice is, obviously, silver. Thus the chalice is indebted to the silver because without the silver it would not exist as a *silver* chalice. The silver chalice, as a sacrificial vessel, is not only indebted to the material cause. It is indebted to the aspect which the vessel takes as a chalice, which gives it its "chaliceness"; in other words, the silver did not become a ring or a brooch. Thus the formal cause also comes into play in the formation of the silver chalice.[223]

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the relationship of its existence with its primary causes or first principles, and thus the "first task" of scientific observation is "to try to determine what relates to its principles."

[222] Heidegger, *The Question Concerning Technology and Other Essays*, 115-116.

[223] Ibid., 7.

The material and formal causes are not all that pertain to the making of the silver chalice. There are two other causes: the *telos* and the so-called efficient. As noted above, the *telos* performs a number of important functions in the process of causation: It is "above all responsible for the sacrificial vessel."[224] In confining, circumscribing, and bounding an object, the *telos* limits and gives directionality in the actual coming forth of the object. The object takes its shape, form, and function from the totality of causation, of which the telic cause is the foundation: "The *telos* is responsible for what as matter and for what as aspect are together co-responsible for the sacrificial vessel." [225]

Heidegger notes that "there is a fourth participant in the responsibility for the finished sacrificial vessel's lying before us ready for use, i.e., the silversmith—but not at all because he, in working, brings about the finished sacrificial chalice as if it were the effect of a making; the silversmith is not a *causa efficiens*."[226] The role of the silversmith is not an originating cause. Heidegger sees the silversmith as an artisan using *technē* as the means by which the silver chalice is brought about. While in nature an object *appears to* come forth in itself, as in a blossom bursting into bloom, in art (*technē*) the silver chalice does not come into being on its own as a silver chalice.[227] Rather, the silver chalice exists because "the

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[224] Ibid., 8.

[225] Ibid.

[226] Ibid.

[227] Ibid., 10-11. Aristotle and Heidegger seem to intimate that while there is within the flower the capacity to reproduce, grow, and change (i.e., secondary and intermediate movers), there still remains above all the Unmoved Mover (*Physics*, 8.5.257b.24-26, "the necessity that there should always be motion makes it necessary that there should be some mover that is either unmoved or moved by itself"), for, according to Heidegger, "metaphysics is onto-theo-ology" meaning that there is always a mover who moves or there would be nothing (Heidegger, *Identity and Difference*, 54). Heidegger and Fink address this issue in lectures 1 and 2, referring to the directedness of the One in bringing forth being as a

silversmith considers carefully and gathers together the three aforementioned ways of being responsible and indebted [i.e., the material, formal, and telic causes]." As such, the silversmith is responsible for the point of departure in which the silver moves toward becoming a silver chalice that is circumscribed for the purpose of use as a sacred vessel. "The three previously mentioned ways of being responsible owe thanks to the pondering of the silversmith for the 'that' and the 'how' of their coming into appearance and into play for the production of the sacrificial vessel."[228] But what happens when the efficient human cause comes to consider itself as both the beginning and end of causation? This leads to a third reason for re-examining Aristotle.

The third and primary reason for Heidegger's wish to restore Aristotle's true understanding of the *telos* in "The Question Concerning Technology" is that he wishes to call into question the purely instrumental and nonpsychological understanding of causation that has become the hallmark of modern technological understanding.[229] His proposal, while

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"steering" and debating the nature of that steering in terms of coercion (i.e., determinism).

[228] Heidegger, *The Question Concerning Technology*, 8.

[229] Andrea Falcon believes that Aristotle's intent was, solely, to emphasize the artistic production that is involved in the development of an object rather than to endorse the purposive intent of an external agent. She notes that "some have contended that Aristotle explains natural process on the basis of an inappropriately psychological teleological model; that is to say, a teleological model that involves a purposive agent who is somehow sensitive to the end. This objection can be met if the artistic model is understood in nonpsychological terms. In other words, Aristotle does not psychologize nature because his study of the natural world is based on a teleological model that is consciously free from psychological factors" ("Aristotle on Causality," *Standard Encyclopedia of Philosophy*, setis.library.usyd.edu.au/Stanford/entries/Aristotle-causality, 2006 [accessed 8 June 2012]). Falcon is influenced by S. Broadie, "Nature and Craft in Aristotelian Teleology," in *Biologie, Logique et Métaphysique chez Aristote*, ed. D. Devereux and P. Pellegrin (Paris, editions du CNRS, 1990), 389-403. This article first appears as "Nature, Craft, and *Phronesis* in Aristotle," *Philosophical Topics* 15 (1987): 35-50.

allowing for the possibility of divine action in the world,[230] is also a call for moral, responsible action on the part of humanity as tenants within and caretakers of the natural environment.[231] Heidegger's biographer, Rüdiger Safranski, states: "Heidegger's ideas in *Being and Time* can be summed up in one sentence: Do whatever you like, but make your own decision and do not let anyone relieve you of the decision and hence the responsibility."[232] The responsibility that belongs to humans is to contemplate the meaning of Being. Being is

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[230] Heidegger, *The Question Concerning Technology and Other Essays*, 99; idem, *Identity and Difference*, 71ff.

[231] Heidegger, "The Question Concerning Technology," 14-16.

[232] Rüdiger Safranski, *Martin Heidegger: Between Good and Evil*, trans. Ewald Osers (Cambridge: Harvard University Press, 2002), 166. This idea of "do whatever you like, but make your own decision and do not let anyone relieve you of the decision and hence the responsibility" finds its roots deep in seventeenth-century European thinking. For example, it is stated in a foreman's speech at the induction of a printing apprentice to the level of journeyman: "'Live as you like but be an *honnête homme* [an honest person], no hypocrisy'" (Robert Darnton, *The Great Cat Massacre and Other Episodes in French Cultural History* [New York: Basic Books, 1984], 89). Darnton notes that "hypocrisy turned out . . . to be the main characteristic of the bourgeois, a superstitious religious bigot. He occupied a separate world of pharisaical bourgeois morality. The workers defined their 'republic' against that world and against other journeymen's groups as well—the cobblers, who ate inferior cuts of meat, and the masons or carpenters who were always good for a brawl when the printers, divided into 'estates' (the *casse* and the *presse*) toured country taverns on Sundays. In entering an 'estate,' [the journeyman] assimilated an ethos. He identified himself with a craft; and as a full-fledged journeyman compositor, he received a new name. Having gone through a rite of passage in the full anthropological sense of the term, he became a *Monsieur*" (ibid.).The journeyman, who was supposed to have moved beyond the superstitions of the general peasantry, is, however, still caught somewhere between superstition and objectivity. Darnton successfully shows how the popular culture of seventeenth-century France was still deeply mired in the superstition of the medieval period, even as the Enlightenment sought to bring the light of science that would make superstition extinct. Even the printers, who had some level of literacy and thus a certain liberating education, he points out, "lived and breathed in an atmosphere of traditional customs and beliefs which permeated everything" (ibid., 92). Bringing together Darton's discoveries with Heidegger's musings on being, it seems that knowledge itself, here in the form of some literacy, is not enough to break the bands of superstition entirely; nor is it enough to move higher within society. Heidegger here proposes that only an intentional search for the meaning of Being will provide an antidote to superstition and hypocrisy.

not merely the domain of metaphysics or theology, but is necessary for science to be possible. This is because one of the tasks of science is to identify as accurately as possible the objects of nature. Heidegger notes in *Identity and Difference*:

> What the principle of identity, heard in its fundamental key, states is exactly what the whole of Western European thinking has in mind—and that is: the unity of identity forms a basic characteristic in the Being of beings. Everywhere, wherever and however we are related to beings of every kind, we find identity making its claim on us. If this claim were not made, beings could never appear in their Being. Accordingly, there would then also not be any science. For if science could not be sure in advance of the identity of its object in each case, it could not be what it is. By this assurance, research makes certain that its work is possible. . . . The claim of the identity of the object *speaks*, whether the sciences hear it or not, whether they throw to the winds what they have heard or let themselves be strongly affected by it.[233]

Heidegger here brings together the two sides of the formal/telic coin, uniting them systemically. Without these two elements, identity would not be possible. The form, investing to material its objectness, and the *telos*, bringing with it the circumscription, bounds, and directionality are not only inseparable from one another, but also are, according to Heidegger, necessary for identity to take place. The problem of the acting efficient, human cause in modern society and the mark that it leaves upon nature is the point to which Heidegger next turns.

The final and crucial point, for Heidegger, is that we must examine thoughtfully and carefully the reality of the universe which we inhabit. To correct the problems that we face, we must do more than simply acknowledge the symptoms. Rather we must understand the underlying meaning of being.

Heidegger outlines two phases of Being/being in *Identity and Difference*: being, as in the belonging to the totality of being; and Being, as present to humanity in the unique sense

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[233] Heidegger, *Identity and Difference*, 26.

of reason and thought.[234] He describes these two phases as "belonging *together*" and "*belonging* together."[235]

In regard to the first point, "belonging *together*," Heidegger notes:

> If we think of belonging *together* in the customary way, the meaning of belonging is determined by the word together, that is, by its unity. In that case, "to belong" means as much as: to be assigned and placed into the order of a 'together,' established in the unity of a manifold, combined into the unity of a system, mediated by the unifying center of an authoritative synthesis. Philosophy represents this belonging together as *nexus* and *connexio*, the necessary connection of the one with the other.[236]

Thus it is that humans, as beings within the united whole of nature, are connected with all of the rest of nature. We share its abundance, but also share in its problems and crises. However, this is not the sum totality of being. There is also the phase of Being, in which there is a "*belonging* together."

For Heidegger, the "*belonging* together" plunges beneath the surface of being in search of Being:

> When we understand thinking to be the distinctive characteristic of man, we remind ourselves of a *belonging* together that concerns man and Being. Immediately we find ourselves grappling with the questions: What does Being mean? Who, or what, is man? Everybody can see easily that without a sufficient answer to these questions we lack the foundation for determining anything reliable about the *belonging* together of man and Being.[237]

To put the matter in its most simple terms, for Heidegger, the "*belonging* together" is a direct reference to the soul. The soul is able to transcend the clearly observable to understand its deeper meaning. Referring to Thomas Aquinas's demonstration of the

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[234] Ibid., chap. 1, "The Principle of Identity."

[235] Ibid., 29.

[236] Ibid.

[237] Ibid., 30.

transcendence of Being, Heidegger remarks that Thomas accomplishes this task "by invoking an entity which, in accordance with its very manner of Being, is properly suited to 'come together with' entities of any sort whatever. This distinctive entity, the *ens quod natum est convenire cum omni ente* ["the being whose nature it is to meet with all other beings"], is the soul (*anima*). Here the priority of 'Dasein' [Being] over all other entities emerges."[238]

To further highlight the difference between the two phases of Being/being, Heidegger states: "Man obviously is a being. As such he belongs to the totality of Being—just like the stone, the tree, or the eagle. To 'belong' here still means to be in the order of Being. But man's distinctive feature lies in this, that he, as the being who thinks, is open to Being, face to face with Being: thus man remains referred to Being and so answers to it."[239]

Of all created beings, Heidegger avows, humanity alone possesses the ability to think, judge, reason, to ponder and reflect.[240] "A belonging to Being prevails within man, a

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[238] Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (San Francisco: HarperSanFrancisco, 1962), 34. I will not engage in a further discussion of the soul until chap. 5. However, I will state that while I do accept the classical Christian understanding in which the cognitive aspects of the mind are the point of contact between God and humanity, there are other aspects of the doctrine that I do not agree with. Cf. Fernando Canale, *Understanding Revelation-Inspiration in a Postmodern World* (Berrien Springs, MI: Fernando L. Canale, 2001), §43. The important point here is that human beings possess an intellectual capability that is unique to all earthly creatures and thus hold a position in the care of the Earth that is both divinely mandated and for which humans will be held ultimately accountable: "Here is the conclusion of the matter: Fear God and keep his commandments, for this is the whole duty of man. For God will bring every deed into judgment, including every hidden thing, whether it is good or evil" (Eccl 12:13-14).

[239] Heidegger, *Identity and Difference*, 31.

[240] This does not mean that other creatures don't share some of these same capacities, but it would appear that they are not able to use these abilities in the way that humans can, as, e.g., to destroy the environment. In other words, human morality appears to be significantly more complex than that of other creatures. See, e.g., Ceila Dean-Drummond, *The Ethics of Nature* (Malden, MA: Blackwell, 2004), 77.

belonging which listens to Being because it is appropriated to Being."[241] Therefore, Heidegger urges, we must learn the true meaning of Being. The purpose of science is not simply to acknowledge the activities of nature or to use it for instrumental purposes, but to understand its underlying meanings. Because humans are endowed with a capacity for moral reasoning, the task of understanding lies not only in seeing humanity as part of the systematic whole of nature, but of understanding the connection between ourselves and the other components of nature—what it is that connects us together.

Failure to do so places humanity (and nature) within harm's way. Heidegger illustrates his point in a classic example by contrasting premodern and modern relationships to the land:

> a tract of land is challenged into the putting out of coal and ore. The earth now reveals itself as a coal mining district, the soil as a mineral deposit. *The field that the peasant formerly cultivated and set in order [bestellte] appears differently than it did when to set in order still meant to take care of and to maintain* (emphasis supplied). The work of the peasant does not challenge the soil of the field. In the sowing of the grain it places the seed in the keeping of the forces of growth and watches over its increase. But meanwhile even the cultivation of the field has come under the grip of another kind of setting-in-order, which *sets* upon [*stellt*] nature. It sets upon it in the sense of challenging it. Agriculture is now the mechanized food industry. Air is now set upon to yield nitrogen, the earth to yield ore, ore to yield uranium, for example; uranium is set upon to yield atomic energy, which can be released either for destruction or for peaceful use.[242]

Heidegger suggests that there are ways to be a part of the living system of the world without doing it irreparable harm by remembering all organisms' intrinsic causes of being. However, the tendency of the modern age is not to take care of or maintain the Earth, but to challenge it. Through human activity that challenges rather than cares for and maintains, Heidegger contends, the meaning of the land, air, the ore, indeed the meaning of life itself,

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[241] Heidegger, *Identity and Difference*, 31.

[242] Heidegger, *The Question Concerning Technology*, 14-15, first emphasis supplied.

has been changed, redefined. This point is further emphasized by considering an airplane that stands ready for use on the runway: "Revealed, it stands on the taxi strip only as standing-reserve, inasmuch as it is ordered to ensure the possibility of transportation. . . . Seen in terms of the standing-reserve, the machine is completely unautonomous, for it has its standing only from the ordering of the orderable."[243] But should it concern us that airplanes are viewed as "unautonomous" "standing-reserves"? Heidegger contends that it indeed should, for here lies the heart of the society built upon a purely instrumentalist technology: "Only to the extent that man for his part is already challenged to exploit the energies of nature can this ordering revealing happen. If man is challenged, ordered, to do this, then does not man himself belong even more originally than nature within the standing-reserve?"[244] To the extent that humanity loses sight of its Being ("And God said, 'Let us make man in our image, after our likeness,'" Gen 1:26),[245] so, too, it loses sight of its responsibility toward its being as a unity within nature. Such a state is reflected not only in the emergence of environmental crises, but in the treatment of humans toward one another. Ultimately, Heidegger's understanding of the *telos*, with its deep intertwining with the material, formal, and efficient causes, which it underlies, is a challenge to consider carefully the role of the *telos* in moving toward a more responsible approach to the environment.

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[243] Ibid., 17.

[244] Ibid., 18.

[245] Heidegger quotes the passage from Genesis in the note following his equation of "soul" with "Being" (*Being and Time*, 34, n. vii). It can also be added that humanity, even in its high connection to God, is not a separate entity from nature in that "God formed man from the dust of the ground," but there is always that something other as well that separates humanity from all other earthly creatures: its image, granted by God, and "the breath of life," placed there by God (Gen 2:7). So there is always a tension in humanity.

Telos: Toward a More Responsible Approach to the Environment

How, then, might we apply the lessons of Heidegger toward real life? Toward what applications might the *telos* lend itself? Three possible suggestions emerge:

1. *The* telos *supports the notion that Earth's resources are limited and proposes seeking more than a simply instrumental, economic approach toward natural resources, of which humans are a part*.[246] Environmentalist Bill McKibbens muses that "the earth is a museum of divine intent, and as the museumgoers we should be responsive not just to the beautiful mosaic but also to the specifications. For example, the planet we live on is not so large after all." While the circumference of the globe may still seem quite large, vertically, however, the world is very small. "Just a few miles above—a couple of hours walk if we could walk straight up—you come to the end of the useful atmosphere. . . . Into this narrow envelope between ground and atmospheric ceiling is squeezed pretty much everything that maintains life."[247]

E. O. Wilson concurs, noting that because "Homo sapiens *is a species confined to an extremely small niche*," and because "*alien planets are not in our genes*," then "it follows that human self-interest is best served by not overtly harming the other life forms on Earth that still survive."[248] While Wilson's comments here are pointed to the inability of humanity to tolerate "much tinkering,"[249] the same warning also applies to all life things. With the Earth poised to witness the massive "extinction of a quarter of the species of plants and animals on

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[246] Heidegger, *The Question Concerning Technology*, 5, 15-18.

[247] McKibben, *The Comforting Whirlwind*, 13-14.

[248] E. O. Wilson, *The Creation: An Appeal to Save Life on Earth* (New York: W. W. Norton & Co., 2006), 26, 27, emphasis original.

[249] Ibid., 28.

the land by mid-century" from "climate change alone,"[250] there is a need to ponder carefully the ways in which we live and challenge the Earth. While humans may not have intended such terrible consequences, the fact remains that human activity, in the process of creating a safer and more desirable environment for itself, has placed the entire system at risk. As Wilson points out, human activity has presented a number of crises that must be attended to. These destructive activities include: "habitat loss, including that caused by human-induced climate change; invasive species (harmful aliens, including predators, disease organisms, and dominant competitors that displace natives); pollution; human overpopulation, a root cause of the other four factors, and overharvesting (hunting, fishing, gathering)."[251]

But with Wilson's list of environmental crises comes a corresponding series of moral dilemmas. How should humans respond to the environment? If, for instance, ethanol becomes the transportation fuel of the future for the express purpose of reducing greenhouse gases, does it really make the environment safer? In what ways will agriculture change as a result, including food production, land allocation, soil and water conservation? In terms of human overpopulation, the possibilities for committing grave and unforgivable grievances are frightening to consider. Heidegger's call to reflection on the ontological character of life is, therefore, timely.

2. *Because the ontological being of each object of nature is acknowledged within the concept of* telos*, there is a moral imperative to care for all natural resources with respect and not simply as a means to an end.*[252] Heidegger's two-phase concept of Being/being highlights the unique place that

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[250] Ibid., 74.

[251] Ibid., 75.

[252] Heidegger, *The Question Concerning Technology*, 34. Heidegger refers to this moral imperative as the state of being "pious, *promos*, i.e., yielding to the holding-sway and the safe-

humanity occupies in the Earth: as beings, humanity belongs within the delicate system of Earth. Simon Conway Morris aptly highlights the interconnectedness of life, pointing to the necessary size and location of the Earth (i.e., the "Circumstellar Habitable Zone"),[253] the size of the Moon,[254] and the role of Jupiter as a gate-keeper and protector from invading comets,[255] and even comets themselves[256]—all these and more preserving a delicate and fragile concept called "life."

What is life from this universal perspective? Molecular biologist Tibor Gánti finds three physical indicators, which must all be present simultaneously, and which are the minimum differentiation between living (i.e., "chemoton") and nonliving systems: the presence of a metabolic (i.e., the supply and transformation of nutrients for the whole animal such as the digestive tract, secretory organs, blood circulation, and reproductive system) subsystem, a membranous, geometrical subsystem (which provides well-defined borders such as skin and bones), and an informational and control subsystem (i.e., nervous system).[257] Gánti notes that "the existence and co-operation of these three subsystems is the

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keeping of truth."

[253] Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003), 92-93, 99.

[254] Ibid., 87ff.

[255] Ibid., 94ff.

[256] Ibid., 96ff.

[257] Tibor Gánti, *The Principles of Life*, commentary by James Griesemer and Eörs Szathmáry (New York: Oxford University Press, 2003), 6.

prior condition for the presence of life at the prokaryotic level. If any of them is absent, the system is no longer alive."[258]

Gánti expands his basic units of life, the chemoton, into more complex units that make up "biological supersystems, whose elementary units are living cells themselves."[259] Thus, for Gánti, there are two basic levels of life: primary life, which is life at the prokaryotic level (the chemoton), and secondary, or "real," life, which is characterized by a higher level of organization as laid out above to ensure the coordinated working of the organs under given internal and environmental conditions."[260] Because Gánti believes that "the secondary life is the real life of the animal,"[261] he finds moral imperatives, especially in regard to human life, to be inherently necessary. Questions regarding the beginning of real life, its ending, and the care and maintenance of it in the in-between stages become essential.

Heidegger maintains that humanity as Being cannot escape the moral dilemma of being on Earth. The way that we treat the crops in the field eventually spills over into the way in which we relate to the Other, whether that Other be ourselves or other living creatures, extending even to prokaryotic life forms.

3. *The extreme anthropocentrism of a purely instrumentalist technology may be called into a responsible relationship with nature, including humanity itself, through a cooperative effort on the part of all disciplines.*[262] How, then, should we look at the Earth? Alister E. McGrath suggests that

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[258] Ibid., 7.

[259] Ibid., 8.

[260] Ibid.

[261] Ibid.

[262] The *telos*, while respecting scientific objectivity and the need to limit its scope of reality to the observable, makes it possible for broader applications to be made across the

> the Christian understanding of creation leads directly to the conclusion that there is a correspondence—the degree of which requires clarification—between the works of God and the being of God. Creation and redemption are not merely interconnected within the economy of salvation; they can each be argued to embody the character of God. For the Christian, the creation is not divine, but bears the hallmarks of divine crafting. The fundamental assumption of a responsible natural theology . . . is that we are authorized by Scripture to seek a partial disclosure of the glory of God through the works of God in creation. God is rendered in and through the creation.[263]

The imperative to care for and maintain the creation is, according to the Scriptures, the first task given to humanity (Gen 1:28). This imperative is not a license to exploit and dominate in terms that have become all too familiar, but is rather, according to McKibben, "the call to humility and the call to joy."[264] He muses: "This nonrational world of smells and sounds and sights, of immersion, of smallness and quietness, answers to some of our deepest yearnings."[265] Why? Because ultimately, we are Being and being. Necessarily we are linked to the creation through the shared rarity of life, which is carefully orchestrated in such a way that life is possible against the greatest odds, and to the divine, who is the one who orchestrates, allowing humanity the right to step up to the task of creating a more responsible approach to the environment.

Heidegger's understanding of the *telos* thus extends far beyond the realm of the merely philosophical. Instead, it reaches into the heart of scientific and theological investigations as they seek to understand the "why," the "how," and the "what for" of

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disciplines. Following the perspective of a stratified reality, as used by McGrath, each discipline brings to the table its own methodology and scope of reality (*Reality*). Cf. my review of McGrath's work, "Review Article: Alister E. McGrath's *A Scientific Theology*," 341-355. McGrath is influenced in his approach to a stratified reality by Bhaskar, *The Possibility of Naturalism*.

[263] McGrath, *Nature*, 193.

[264] McKibben, *The Comforting Whirlwind*, 47.

[265] Ibid.

nature. Most importantly, however, the *telos* demands respect and a sense of personal accountability for all of life in all its multifarious forms. For no matter how small, seemingly insignificant, or grotesque a life may appear to be, it is, in the end, an integrated and necessary part of the greater whole.

Conclusion

I have shown in this chapter that there is a necessary relationship between concepts of human being and the *telos*. Being/being is an active state that requires purpose. Therefore, the way in which humans define themselves in terms of being has a moral impact on the world because being itself is geared toward purpose. However, it is necessary to ask if Heidegger's ontology goes far enough.

As we have argued, humans are not simply physical beings, they are also moral beings. But, as was suggested in the previous chapter, humans recognize their full potential as spiritual beings only when they encounter the Creator God. It is important, then, to take into account the intensely theological nature of human being.

Heidegger appears to make room for a theologically grounded concept of human Being/being by taking seriously the relational nature of human being. It is not difficult to envision ways that this understanding can be used to address critical problems in the environment as it brings together the physical and moral attributes of human being. However, in order to determine whether it fulfills the requirement of also recognizing and integrating a spiritual dimension of human being, we will need to turn, in the following chapter, to Heidegger's concept of God and its relationship to human being.

CHAPTER 4

THE PRE-SOCRATIC CONCEPT OF GOD AND ITS INFLUENCE ON HEIDEGGER'S CONCEPT OF BEING

Introduction

Heidegger proposes that the question of human Being/being is central to our understanding of life itself and for defining the role that humans play in the greater realm beyond themselves. His treatment of both the moral and physical attributes of human being provides a foundation from which humans may envision a care-taking role in their engagement with the environment. However, does his ontology go far enough? Does it allow for a spiritual dimension within the concept of human being?

To answer this question, I will examine Heidegger's concept of God and how it relates to his understanding of human Being/being. I will allow Heidegger to dialogue with the nineteenth-century philosopher Friedrich Nietzsche. Nietzsche, whose philosophy Heidegger considers to be the conclusion of the Western concept of being, provides the opportunity for Heidegger to carry his own concept of being to its logical conclusion. Nietzsche's mantra that "God is dead" is indicative, Heidegger asserts, of how Western Christianity has lost its own sense of being by becoming a social political force Heidegger terms "Christendom." However, just when one expects that Heidegger now will address the value of apostolic Christianity as a possible tool for bringing corrective to the Western history of interpretation of human being, in an ironical turn of events he does not seek the lost roots of Christianity in the foundational Scriptures of the Hebraic-Christian tradition.

Instead he turns to the roots of Western Greek philosophy and, in particular, to Heraclitus, reasoning that in doing so he has removed all the problems and presuppositions of Christendom that Nietzsche so ably sheds light upon. In doing so, Heidegger abandons Christian theology, leaving his concept of Being/being uncompleted.

Therefore, in this chapter, I will continue my investigation of Heidegger's concept of human being. To accomplish this task, I will examine Heidegger's encounter with and evaluation of the Western concept of being that dominated Christian and natural philosophical thought from the Pre-Socratics through Nietzsche's revelatory word that "God is dead."

We now turn to Heidegger's thoughts about Being and the history of Being.

The History of Being

> . . . δῆλον γὰρ ὡς ὑμεῖς μὲν ταῦτα (τί ποτε βούλεσθε σημαίνειν ὁπόταν ὃ φθέγγησθε) πάλαι γιγνώσκετε, ἡμεις δὲ πρὸ τοῦ μὲν ᾠόμεθα, νῦν δ' ἠπορήκαμεν . . .
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> "For manifestly you have long been aware of what you mean when you use the expression '*being*'. We, however, who used to think we understood it, have now become perplexed."[266]

As observers who long to understand the world beyond them, humans often find themselves serving as the standard by which they compare and contrast the Other, the external natural world in which they reside. In order to accomplish this task, it is necessary to understand what one means by the term "being." Plato's Theaetetus here notes the ambiguity that surrounds the question of being, pointing to the fact that being is simultaneously so familiar that we innately recognize what it is, but yet, perplexingly, can provide no concrete definition for it. Heidegger elegantly details this problem in his classic work, *Being and Time*,[267] but later

[266] Plato, *Sophist* 244a; cited in Heidegger, *Being and Time*, 1.

[267] Heidegger, *Being and Time*, 1.

in life comes to the realization that the metaphysical genre from which he has argued concerning being is itself problematic. "Metaphysics," he proposes, "grounds an age, in that through a specific interpretation of what is and through a specific comprehension of truth it gives to that age the basis upon which it is essentially formed. This basis holds complete dominion over all the phenomena that distinguish the age."[268]

What are these phenomena that humans consider so vital for grounding the question of being? Heidegger provides five instances of human activity that help to unveil human being in the present age: science, machine technology, aesthetics, culture, and the loss of the gods.[269] These grand schema are often thought to provide the structure upon which modern human being has progressively evolved to become. It would appear, Heidegger notes, that human being, expressed as modern technological and scientific society, has sought the ability to change the meaning of not only the things of nature but nature itself[270] and to do so, as Edward O. Wilson proposes, "without reference to religion or ideology and upon massive scientific evidence."[271] These activities, it would appear, are the ultimate cultural elements that provide the entry into defining human being.[272] Or are they?

Heidegger addresses what appears from the surface to be an emergence of human being from a theistically centered to a humanly centered concept that he sees reaching its

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[268] Hediegger, *The Question Concerning Technology and Other Essays*, 115.

[269] Ibid., 116-117.

[270] Ibid., see esp. 15-18.

[271] Edward O. Wilson, "Introduction," in *Evolution: The First Four Billion Years*, ed. Michael Ruse and Joseph Travis (Cambridge: Harvard University Press, 2009), vii.

[272] Ibid., 78. Wilson proposes here that "Human social evolution proceeds along a dual track of inheritance: cultural and biological. Cultural evolution is Lamarckian and very fast, whereas biological evolution is Darwinian and usually very slow" (ibid.).

climax and completion in Friedrich Nietzsche's proposal "God is dead,"[273] which is itself anchored in the "human will to power" that is to Nietzsche the true essence of being.[274] In this proposal, "metaphysics is thought of as the truth of what *is* as such in its entirety, and not as the doctrine of any particular thinker,"[275] meaning that while Nietzsche's perspective may be thought of as *the* accurate depiction of an anthropocentrically centered (i.e., self-centered, narcissistic, and nihilistic) concept of human being, it is actually only one perspective that reflects its Western cultural roots. Therefore, while Nietzsche's perspective on being is certainly profound and induces one to reflection, Heidegger limits the scope of Nietzsche's depiction of being from a universal to a primarily local, cultural sphere of influence. He proposes that although Nietzsche's understanding of being is certainly indicative of its Western roots, it is also "a reflection on the situation and place of contemporary man, whose destiny is still but little experienced with respect to its truth."[276] The failure of Nietzsche, and perhaps the good news for the concept of human being, is that his thought merely reflects a particular orientation, a certain culture and society; it is not the final and most authentic depiction of being, human or otherwise.

Nevertheless, Heidegger believes that Nietzsche's proposal is a powerful force with which to be reckoned, for it is the culmination toward which the whole of Western society and culture have been building, including even that grand bastion of Truth, the Christian church, described by Heidegger and Nietzsche as a social, political force they call

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[273] Heidegger, *The Question Concerning Technology and Other Essays*, 53-112.

[274] Ibid., 74.

[275] Ibid., 54, emphasis original.

[276] Ibid.

"Christendom."[277] Heidegger finds that Truth, for Nieztsche, becomes a value, which is itself the essence of "the [human] will to power."[278] "Truth is now."[279] Therefore, it is relative to the situation, rather than normative. What comes higher in value than Truth? For Nietzsche, "'Art is *worth more* than truth' (*Will to Power*, Aph. 853, 1887-88)."[280] Human activity—science, machine technology, aesthetics, culture, the loss of the gods—is the unveiling of human being; however, it is an unveiling that has no ultimate grounding in Truth, but is, rather, a constant cultural development of being.[281]

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[277] Ibid., 64. Heidegger briefly outlines here the trajectory of Western metaphysics from ancient Greece to the Christian church to secularization, noting "that which must take the place of the suprasensory world will be variations on the Christian-ecclesiastical and [-]theological interpretation of the world, which took over its schema of the *ordo* of the hierarchy of beings from the Jewish-Hellenistic world, and whose fundamental structure was established and given its ground by Plato at the beginning of Western metaphysics" (ibid.).

[278] Ibid., 84.

[279] Ibid., 85.

[280] Ibid., 86, emphasis original.

[281] The Greek word for art is *technē*, from whence comes the English word "technology." Heidegger notes that "*technē* is the name not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts. *Technē* belongs to bring-forth, to *poiēsis*; it is something poietic" (*The Question Concerning Technology*, 13). *Technē* also is linked "from earliest time until Plato" with the *epistēmē*. "Both words are names for knowing in the widest sense. They mean to be entirely at home in something, to understand and be expert in it. Such knowing provides an opening up. As an opening up it is a revealing" (ibid.). However, whereas *epistēmē* is knowledge, *technē* is "a mode of *alētheuein*. It reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another. Whoever builds a house or a ship or forges a sacrificial chalice reveals what is to be brought forth, according to the perspectives of the four modes of occasioning. This revealing gathers together in advance the aspect and the matter of ship or house, with a view to the finished thing envisioned as completed, and from this gathering determines the manner of its construction. Thus what is decisive in *technē* does not lie at all in making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that *technē* is a bringing-forth" (ibid.). In other words, knowledge is knowledge, but in order to understand what it means it must be put into context. Western society has made *technē* a means of revealing what this knowledge means. It is the hermeneutical circle or horizon from which

For Heidegger, the meaning of being is found in the historical manifestation over time and not simply in the present instance, that is, not in Nietzsche's or even his own conception of it; rather it is found in what he understands to be the "history of being." The history of being reveals that we have moved from a concept of *being* to a concept of *beings*. Therefore, while medieval scholastic metaphysics spoke of beings as *entia creatum* ("created things") and grounded them in *en perfectissimum* ("the perfect being," God), likewise present-day metaphysics makes technology the ground of all being.[282] In other words, Heidegger proposes, *being* has become misidentified with *beings* [283]—water to one philosopher, fire to another, earth and air to yet others.

What is needed, Heidegger opines, is "the courage to make the truth of our own presuppositions and the realm of our own goals into the things that most deserve to be called into question."[284] In what he calls the "Turning," he recognizes that coming to understand being from within the general realm of metaphysics is, therefore, "dangerous" because in viewing human being only from within a particular cultural context, some element of being remains hidden and veiled; the true essence of human being is lost.[285] Speaking of the "loss of the gods," he finds that "whether the god lives or remains dead is not decided by the religiosity of men and even less by the theological aspirations of philosophy and

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interpretation takes place.

[282] W. J. Korab-Karpowicz, "Martin Heidegger (1889-1976)," §5, *Internet Encyclopedia of Philosophy: A Peer-Reviewed Academic Resource*, http://www.iep.utm.edu/ heidegge/#H4 (accessed 8 June 2012).

[283] Ibid. For Heidegger's discussion, see *Identity and Difference*, 58-59, 66.

[284] Ibid., 116.

[285] Heidegger, *The Question Concerning Technology and Other Essays*, 37.

natural science. Whether or not God is God comes disclosingly to pass from out of and within the constellation of Being."[286]

The question is, From whence does this conception of God arise? For Heidegger, it arises from the roots of Western philosophy and it is here that he returns, especially to its pre-Socratic origins, which he believes had not yet become corrupted by a socially and culturally mediated metaphysics and thus preserves a truer, more fundamental sense of being.[287] Heidegger is interested in understanding how being extends itself beyond metaphysics. He discovers that what draws together all the disciplines, Heidegger finds, is their dedication to the study of being, which is reflected in the last syllable of each discipline, "-ology": ontology (the study of being), theology (the study of God), psychology (the study of the mind), biology (the study of organic, living beings), cosmology (the study of the origins of the universe), and archeology (the study of past civilizations). "The last syllable," he proposes,

> means broadly and usually that we are dealing with the science of the soul, of living things, of the cosmos, of ancient things. But –ology hides more than just the logical in the sense of what is consistent and generally in the nature of a statement, what structures, moves, secures, and communicates all scientific knowledge. In each case, the –Logia is the totality of a nexus of grounds accounted for, within which nexus the objects of the sciences are represented in respect of their ground, that is, are conceived. Ontology, however, and theology are "Logia" inasmuch as they provide the ground of beings as such and account for them within the whole. *They account for Being as the ground of beings.* They account to the λόγος, and are in an essential sense in accord with the λόγος-, that is, they are the logic of the λόγος. Thus they are more precisely called onto-logic and theo-logic. More rigorously and clearly thought out, metaphysics is: onto-theo-logic.[288]

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[286] Ibid., 49.

[287] Korab-Karpowicz, "Heidegger," §5.

[288] Heidegger, *Identity and Difference*, 58-59, emphasis supplied.

Because Heidegger's concept of Being originates in pre-Socratic philosophy, it is from here that he draws his descriptions. Referring back to the mythical high God, Zeus, he proposes that it is "the lightning-flash of Being,"[289] "the ground of all beings," that is reflected in the Western understanding of human being and the ways in which human technology, science, aesthetics, culture, and, even, the loss of the gods have come to be understood. Heidegger is not here speaking of the later Christian theology, but of the ancient theology of the pre-Socratic Greeks, which attempted to understand being through its trifold concept of theology—*theologia fabulosa* (mythology), *theologia civilis* (civil law), and *theologia naturalis* (natural theology)—all of which have their epistemological and ontological foundation in the Greek notion that came to be called "providence" by the Stoics.[290] If we can no longer see the gods, or more importantly, God, then we cannot see who we are, we cannot see how to be, or where our aspirations and activities take us because we no longer have a normative standard of comparison; we have only ourselves to serve as a standard. It is in this sense that metaphysics, for Heidegger, is onto-theo-logic and the reason why all λογία become part of the history of being.

Heidegger finds Nietzsche's madman to be a particularly helpful metaphor of the ultimate outcome of the Western concept of being. Nietzsche's madman announces that God is dead, then asks, "Who gave us the sponge to wipe away the entire horizon? What did we do when we unchained this earth from its sun? . . . Is not night and more night coming

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[289] Heidegger, *The Question Concerning Technology*, 49. See also Heidegger and Fink, *Heraclitus Seminar*. Heidegger and Fink reveal that it is Zeus, the manifestation of the force of nature, who is the lightning bolt (ibid., 15ff.).

[290] As I argue in this dissertation, all of Western society is reflective in some way—greater or lesser—of its ancient Greek roots and this includes Christian theology, even biblical theology.

on all the while? Must not lanterns be lit in the morning?"[291] These four iconic questions set the tone for our investigation into human being. The nature of their questioning is the foundation of all reflective thought—if the first principle of interpretation is lost, if the entire horizon upon which a society orients itself is wiped away, then upon what fixed point shall we train the compass? Bereft of map and stars, we are left merely to drift into a night that grows darker by degree.

Nevertheless, in spite of Nietzsche's deep pessimism, Heidegger is confident that there is a deeper reality that lies below any cultural expression of being. What is most often thought of as being proclaimed dead by Nietzsche's madman is the theistic God of Christianity, which leaves humans to be the masters of their own fate and evolution. But a closer look at the language used by both Nietzsche and Heidegger is revealing, pointing instead to the death of Western civilization and the Greco-Roman roots upon which it is built. Heidegger's critique of "Christendom" is that Western Christianity has built its massive theological, political, and scientific structure upon this Greco-Roman, that is, Platonic, rock.[292] Heidegger notes, "Metaphysics, i.e., for Nietzsche Western philosophy understood

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[291] Friedrich Nietzsche, *The Portable Nietzsche* (New York: Viking, 1968), 95-96; cited in Heidegger, *The Question Concerning Technology*, 59-60. Lovitt states that quotations from Nietzsche in this essay are "regularly taken from Kaufmann or Kaufmann-Hollingdale translations when these are available. In some instances quotations have been revised, usually only slightly, where the context of Heidegger's thinking makes changes necessary so as to bring out the meaning that Heidegger sees in Nietzsche's words" ("Introduction," in *The Question Concerning Technology*, 60, n. 7).

[292] As I shall discuss more fully below, Heidegger notes that even science, although it is reluctant to admit it, is also reliant upon metaphysics because it is, like every discipline, interested in "the Being of beings." He notes: "Everywhere, wherever and however we are related to beings of every kind, we find identity making its claim on us. If this claim were not made, beings could never appear in their Being. Accordingly, there would then also not be any science. For if science could not be sure in advance of the identity of its object in each case, it could not be what it is. By this assurance, research makes certain that its work is possible" (*Identity and Difference*, 26).

as Platonism, is at an end. Nietzsche understands his own philosophy as the countermovement to metaphysics, and that means for him a movement in opposition to Platonism."[293] Then, evocatively, he cautions that Nietzsche's nihilism is not directed against what is truly Christian:

> Hence, also, nihilism in Nietzsche's sense in no way coincides with the situation conceived merely negatively, that the Christian god of biblical revelation can no longer be believed in, just as Nietzsche does not consider the Christian life that existed once for a short time before the writing down of the Gospels and before the missionary propaganda of Paul to belong to Christendom. Christendom for Nietzsche is the historical, world-political phenomenon of the Church and its claim to power within the shaping of Western humanity and its modern culture. Christendom in this sense and the Christianity of New Testament faith are not the same. Even a non-Christian life can affirm Christendom and use it as a means of power, just as, conversely, a Christian life does not necessarily require Christendom. Therefore, a confrontation with Christendom is absolutely not in any way an attack against what is Christian, any more than a critique of theology is necessarily a critique of faith, whose interpretation theology is said to be. We move in the flatlands of the conflicts between world views so long as we disregard these essential distinctions.[294]

The key to better understanding the Western Christian concept of being depends then not only on the rediscovery of Christianity's own unique philosophical roots, but particularly in understanding the way in which it lost touch with its original Hebraic-Christian roots.

In order to understand Heidegger's final conception of being and the history of being, we will turn to his confrontation with Nietzsche's nihilism that takes its form in his conception of the madman.

Heidegger and the Roots of a Greek Theology of Human Being

Heidegger turns to Nietzsche's madman as the ultimate example of a philosophy of being that is firmly anchored in Platonism. Nietzsche's metaphysics is "probably [Western

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[293] Heidegger, *The Question Concerning Technology*, 61. Heidegger nuances his reading of the ancient Greeks.

[294] Ibid., 64.

philosophy's] final stage."[295] The reason for this is quite clear to Heidegger: "The suprasensory is transformed into an unstable product of the sensory. And with such a debasement of its antithesis, the sensory denies its own essence. The deposing of the suprasensory does away with the merely sensory and thus with the difference between the two. . . . It culminates into meaninglessness."[296] What Heidegger means here is that man has become a god and in a complete reversal of the Greek New Testament sense of Jesus Christ's incarnation (this is Nietzsche's revelatory "word"). Human being has been separated from its source of Being. Nietzsche's madman rushes to the town square in the brightness of the noon day with his lantern held aloft. A whole story of the degradation of a society is told in this simple act by the madman.

Nietzsche not only uncovers the pre-Socratic roots of being with the madman's references to the lantern, but he goes beyond this to call into question the ancient Greek anthropomorphism of the gods that ultimately leads to the overcoming of Greek mythology[297] and to demonstrate that what lies at stake in this overcoming is the role of

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[295] Ibid., 53.

[296] Ibid., 53-54.

[297] Heidegger and Nietzsche argue that the downfall of the gods (i.e., mythology) came with Plato's development of ethics, which itself comes to an end with Nietzsche (Heidegger, *The Question Concerning Technology*, 61). However, Wolfgang P. Kunze, professor emeritus, Andrews University, notes, in a private email dated 2 February 2012, that Heidegger is incorrect on this point. The pre-Socrates also had an ethic, in spite of the immorality of the gods, who behave badly in Homer's and Hesiod's writings and who were themselves humans who had attained immortality through the founding of cities and other heroic acts in prehistoric Greece (Will Durant, *The Story of Civilization*, Part II, *The Life of Greece* [New York: Simon & Schuster, 1939], 38ff.). The gods simply reflect their human origins and the ethics and morality of their creators (*A Fine-Tuned Universe*, 20, 24). For example, when Patroclus dies and is cremated in the custom of the Achaeans, "games are played that set a precedent for Olympia—foot races, disk-throwing, javelin-throwing, archery, wrestling, chariot races, and single combat fully armed; all in excellent spirit, except that only the ruling class may enter, and only the gods may cheat." "As a prize for the

human being in setting the hermeneutical horizon. Heidegger speaks of Nietzsche's act of unveiling as "the destining of two millennia of Western history."[298] But in his unveiling, Nietzsche also obscures not only human being, but Being itself. In an effort to revive the concept of Being/being that he so carefully constructed early in his career, Heidegger turns

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chariot race Achilles offers 'a woman skilled in fair handiwork'; and on the funeral pyre horses, dogs, oxen, sheep, and human beings are sacrificed to keep the dead Patroclus well tended and fed.' Achilles treats Priam with fine courtesy, but only after dragging Hector's body in mangled ignominy around the pyre. To the Achaean male, human life is cheap; to take it is no serious matter; a moment's pleasure can replace it" (Durant, *The Life of Greece*, 48). McGrath notes that "By the time Varro [a Roman philosopher, 116 B.C.-27 B.C.] was writing, mythology was seen as being primarily of dramatic rather than moral or intellectual interest" (*A Fine-Tuned Universe*, 24). Nevertheless, in spite of the immorality of the gods, there was an ethical system. Fredrick Copleston, S.J., notes of pre-Socratic society that "early Greek philosophy, though naturally the work of individuals, was also the product of the City and reflected to a certain extent the reign of law and the conception of law which the pre-Socratics systematically extended to the whole universe in their cosmologies. Thus in a sense there is a certain continuity between the Homeric conception of an ultimate law or destiny or will governing gods and men, the Hesiodic picture of the world and the poet's moral demands, and the early Ionian cosmology. When social life was settled, men could turn to rational reflection, and in the period of philosophy's childhood it was Nature as a whole which first occupied their attention" (*A History of Philosophy*, Volume 1: *Greece and Rome: From the Pre-Socratics to Plotinus* [New York: Doubleday, 1993], 14). Nature becomes the anchoring point of Greek ethics, rather than the behavior of the gods, who rise no higher than the humans. As McGrath notes, "immortality denoted only the infinite extension of existence, not of moral qualities (*A Fine-Tuned Universe*, 24). This understanding is not even the invention of the pre-Socratics, but has an even older tradition. As Copleston also points out, even the earliest extant Greek writings are only "early" from our perspective. They reflect an even more ancient and mature civilization (*Greece and Rome*, 14; for further discussion of these even more ancient people and their beliefs, see Durant, *The Life of Greece*, 14f.).

[298] Heidegger, *The Question Concerning Technology*, 58. Heidegger notes that Nietzsche grounds the essence of human being in "the will to power." As such, being becomes closely associated with the "passions." One particularly defining passion of human beings is hate. Ultimately, hate not only obscures human being, but destroys it. It "does not simply lift us up and away beyond ourselves. It gathers up our essential being to its proper ground, it exposes our ground for the first time in so gathering, so that the passion is that through which and in which we take hold of ourselves and achieve lucid mastery over the beings around us and in us." It is thus in passion that we come to understand the will to power. The immediate consequence of hate is the loss of the ability to reflect, the needed element for building relationship. "The angry man loses the power of reflection. He who hates intensifies reflection and rumination to the point of 'hardboiled' malice" (Martin Heidegger, *Nietzsche, Volumes 1 and 2*, trans. David Farrell Krell [New York: HarperCollins, 1991], 1:48).

to the ancient Western roots, which are to be found in the fragments of the pre-Socratic philosopher Heraclitus.

Heidegger and Eugen Fink, in their *Heraclitus Seminar*, attempt to outline this process of re-centering Western philosophy on its pre-Socratic roots. In a passing tribute to the theology of the ancient pre-Socratic Greeks and its connection to the concept of being, Fink remarks that when confronted by Heraclitus's texts, "we are not so much concerned with the philological problematic, as important as it might be, as with advancing into the matter itself, that is, toward the matter that must have stood before Heraclitus's spiritual view. This matter is not simply on hand like a result or like some spoken tradition; rather, it can be opened up or blocked from view precisely through the spoken tradition."[299] Fink here reiterates a favorite position of Heidegger, that somewhere in the course of questioning after this spiritual sense of Being, being itself became obscured in the very act of clarification. It is no wonder, then, that Nietzsche's madman provides Heidegger with such a compelling characterization of the decline of Western thought—this society had lost its ability to see and to know in the very act of becoming Enlightened.[300] It had done so in its commitment to uncover the truth of the natural realm and human being through the dismissal of traditional forms of religious revelation and its seeking to empirically define being as mere phenomena, observed and experienced.[301] It is for this very reason that Heidegger reaches back to the

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[299] Heidegger and Fink, *Heraclitus Seminar*, 3.

[300] By "becoming" I mean here, similarly to Heidegger, that there is a progression and development of thought that comes to fruition and culmination in Nietzsche. Nietzsche is the end of the Enlightenment, even though, as the madman states, his "time has not yet come."

[301] Heidegger laments that the broad approaches to causality and being as evidenced in, e.g., the Aristotelian causes, have been reduced to the physical efficient cause alone (*The Question Concerning Technology*, 7). There are two basic approaches that, broadly outlined, are

beginning of pre-Socratic thought—to Heraclitus—in order to attempt to recapture the essence of the Western conception of being, which is itself a "spiritual" task, not simply an empirical, rational one.[302] He hoped that he could find the "sweet spot" that once existed before philosophy obscured the meaning of being. Nietzsche's madman becomes, for Heidegger, the mediating figure that opens the way back to this ancient conception of being, while yet standing, without true knowledge or understanding, in the midst of his own being.

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the older continental approach that is centered on philosophical theology and the British/American empirical approach (McGrath briefly alludes to this difference in *A Fine-Tuned Universe*, 22-23). While Heidegger is concerned about the obfuscation of being in both approaches, he is especially concerned that the empirical approach has reduced the question of being to a purely physical approach (here we distinguish between a "physical" and a "natural" understanding of being. As we shall discuss below, the natural approach to Greek thought overtly and deliberately includes both physical and metaphysical elements, while modern scientific approaches seek to dismiss the metaphysical elements). For further discussion of the difference between the structure of continental philosophy, see John E. Murdoch, "The Analytic Character of Late Medieval Learning: Natural Philosophy without Nature," in *Approaches to Nature in the Middle Ages*, ed. Lawrence D. Roberts (Binghamton, NY: Center for Medieval and Early Renaissance Studies, 1982), 171-213; and for the British/American approaches to natural theology and ultimately the question of human being, "which stressed the importance of the providential ordering of nature and the consequent lawful operation of the universe as a proof of divine superintendence and the power of the divine will," see McGrath, *A Fine-Tuned Universe*, 22-23; for McGrath's deeper analysis of concepts of nature, including his own, see *Nature*). I have had the privilege of being tutored in both the philosophical-theological and empirical perspectives: the continental view under the private tutoring of Wolfgang P. Kunze, professor emeritus, Andrews University, Berrien Springs, Michigan, and the empirically based approach under my doctoral adviser, John T. Baldwin (see, e.g., "The Argument to Design in British Religious Thought: An Investigation of the Status and Cogency of Post-Humean Forms of Teleological Argumentation with Reference to Hume and Paley" [Ph.D. dissertation, University of Chicago, Divinity School, 1990]).

[302] The problem of seeking an empirical answer to the question of being is determining whether one has isolated the actual true nature of an object so that its true being (i.e., its primary or intrinsic being) has been found or if it has had a secondary or extrinsic being added to it in such a way that its primary being has been altered. Technology, e.g., to Heidegger is a "revealing" of being rather than a "manufacturing" process. In other words, technology reveals its human maker and in so doing places a new meaning upon the matter or organism which it alters (see, e.g., Heidegger's discussion in *The Question Concerning Technology*, 13ff.).

In order to better understand this point, let us here imagine what lies behind the actions of Nietzsche's characters as they gather in the marketplace (for the complete passage, see Appendix A at the end of this dissertation).

The madman who lights a lantern in the bright morning hours is, it would appear, the counterpoint to Enlightened man. He is the one who recognizes that the Enlightenment is still bathed in darkness and so he brings his lighted lantern. In spite of the struggle to find that original sense of being in mythology (Greek or otherwise), or the "common sense" of civil law (granted by providence to human society)[303] and the bursting forth of natural theology in the Enlightenment and scientific revolution (expressed through teleology and history), it appears to Nietzsche's madman that darkness is drawing on, that the very foundation of Western society is collapsing around about him.

I suggest that the symbols that Nietzsche employs to convey this collapse are evocative of ancient Greek theology: The madman's lighting of the lantern and his cry, "I seek God! I seek God!" point to the deep underlying theological roots of Western thought, but leaves the question, Who is the god that the madman seeks (*theologia fabulosa*)? His running to the marketplace points toward the secularization of Western theology and the roots of modern Western politics (*theologia civilis*). The "bright morning hours" refer to the triumph of Enlightenment and the scientific revolution (*theologia naturalis*). But still there is the darkness. Human beings have become untethered from their source of Being—"God is dead."

There is, then, a deep symbolism in this introductory scene. The lantern, which appears to be the erstwhile and badly chosen tool of the madman, is in actuality the

[303] Giambattista Vico, *First New Science*, ed. and trans. Leon Pompa (Cambridge: Cambridge University Press, 2002) 10.

grounding symbol of the ancient Greek concept of being—to reiterate Heidegger's words, "it is the ground of all beings."

In both the theology of ancient Greece and that of Christianity (cf. John 8:12; 1:14; also Matt 5:14), the concept of light plays an important grounding role, so it is not surprising that Greek theology has been considered an appropriate dialogue partner throughout the ages by Christian philosophers and theologians seeking an *apologia* for their systems of thought.[304] In order to understand the deep ties that lie between not only the theology of the Western church and ancient Greek philosophy, but also the relation between natural theology, natural philosophy, and the natural sciences, it is necessary to "unveil" the meaning of the lantern, for it serves as both *nexus* and *connexio* in bringing together the various manifestations of human being across the disciplines.

As we have noted, Heidegger finds a starting point for the Western conception of being in the pre-Socratics, especially the philosopher Heraclitus, who is best known for his belief, as recorded by Aristotle, that "all things are in motion, nothing steadfastly is."[305] John Burnet proposes that, while Heraclitus does not seem to have made this direct statement,[306]

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[304] I will be guided in this process by Heidegger and Fink's *Heraclitus Seminar*, given during the winter semester of 1966-1967 at Freiburg University. Although they use Hermann Diels's translation and arrangement of Heraclitus's fragments as their text for the seminar, they choose a new arrangement of the fragments because they wish to "cast light on an inner coherence of the fragments' meaning, but without pretending to reconstruct the original form of Heraclitus' lost writing, Περὶ φύσεως [*On Nature*] (ibid., 4). For the English translation of Diel, see Kathleen Freeman, *Ancilla to the Pre-Socratic Philosophers: A Complete Translation of the Frament in Diels, Fragmente der Vorsokratiker* (Cambridge: Harvard University Press, 1966). "Though Freeman has been consulted, Diels' rendition of the fragments are newly translated throughout the present work [*Heraclitus Seminar*]" (Heidegger and Fink, *Heraclitus Seminar*, 163, n. 3).

[305] Aristotle, *De Caelo*, 3.1.298b.30. In Fr. 41, Heraclitus notes that one is not able to step into the same stream twice.

[306] John Burnet, *Early Greek Philosophy, with Burnet's Notes*, 3d ed. (London: A & C

nevertheless his understanding of fire as the essence of all things fits well within this idea, noting that "fire burns continuously and without interruption. It is always consuming fuel and always liberating smoke. Everything is either mounting upwards to serve as fuel, or sinking downwards after having nourished the flame." The logical conclusion, then, is that the whole of realty is "like an ever-flowing stream, and that nothing is ever at rest for a moment. The substance of the things we see is in constant change. Even as we look at them, some of the stuff of which they are composed has already passed into something else, while fresh stuff has come into them from another source."[307] Heraclitus's understanding of flux—change and movement—appears to be reality. For Heraclitus, as well as the later Stoics who borrowed from him, the essence of all things (τὰ παντά) is fire.[308] The burning fire changes everything it touches.

However, there is a nonintuitive element in Heraclitus's philosophy. While it appears that the essence of all things is change and movement, Frederick Copleston, S.J., warns that Heraclitus does not see things only in terms of flux and change, "for this is contradicted by the rest of his philosophy. Nor is the proclamation of change even the most important and significant feature of his philosophy."[309] Rather, Heraclitus has a revelatory "word" for humanity—a revelation about being—that loses its value immediately, Copleston proposes, if it is only the pronouncement that everything is changing.[310] The underlying message that

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Black, 1920), Burnet notes that this does not seem to be direct quotation by Heraclitus (ibid., 70).

[307] Ibid.

[308] Copleston, *Greece and Rome*, 40.

[309] Ibid., 39.

[310] Ibid.

the essence of all things is change and movement "consists in the conception of unity in diversity, difference in unity."[311] This unity in diversity is the basis of the partitive view of the human being: a body and an immortal soul, unified in their diversity, and is reflective of how Heraclitus envisions the One.

For Heraclitus, the One—the impersonal god-force of the universe—"only exists in the tension of opposites: this tension is essential to the unity of the One."[312] It is "Identity in Difference."[313] For Heidegger, the principle of identity that is speaking here is "the Being of beings. As a law of thought, the principle is valid only insofar as it is a principle of Being that reads: To every being as such there belongs identity, the unity with itself."[314]

What is the One-in-Many, the unity in diversity? For Heraclitus, and the Stoics who later used his concept, the essence of being is Fire; that is, the presence of the One's movement within the Many.[315] Fink notes that "Heraclitus speaks of πὰντα [the many] vis-á-vis Κερανυός [lightning]. In so doing, he enunciates a connection between many things (πὰντα) and the one of lightning. In the lightning bolt, the many, in the sense of "everything," are lit up by the illumination of the lightning, thereby showing that "'everything' is a plural."[316]

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[311] Ibid., 40.

[312] Ibid.

[313] Ibid.

[314] Heidegger, *Identity and Difference*, 26.

[315] Copleston, *Greece and Rome*, 40; see also Heidegger and Fink's discussion of Fr. 64, "Lightning steers the universe," in Lecture One of *Heraclitus Seminar*.

[316] Heidegger and Fink, *Heraclitus Seminar*, 4.

While the early church fathers would often comment on how the Greek concept of God mirrored their own conceptions of the Christian God, the relationship between Fire (Lightning), the One, and Zeus is not the manifestation of a personal God.[317] Rather, Heraclitus proposes, "the wise is one only. It is unwilling and willing to be called by the name of Zeus."[318] For the sake of demonstrating some aspect of the divine, Zeus is used in an anthropomorphic sense, but the One, in neither its abstract sense or in Zeus, is ever personal and the people would never have believed that he is the actual manifestation of God. The One, for Heraclitus, is "the universal Reason (λόγος), the universal law immanent in all things, binding all things into a unity and determining the constant change in the universe according to universal law."[319]

The way in which the One (i.e., Universal Reason) works is through movement, or as Fink describes it, "in the lighting of lightning, in the outbreak of brightness," which "goes out from ἓν τὸ σοφόν ["the wise is one thing only"] and continues on in the many things in entirety."[320] The task of the lightning is to go out from the Wise One to "diversify things in movement," which is the "coming-to-being" of things.[321]

In Fr. 1, Heraclitus speaks of the coming-into-being of all things. Here there is a differentiation between γινομένων (i.e., coming-to-be) and γένεσις (genesis). While "γινομένων [coming-to-be] belongs to γένεσις [genesis]," it differs in meaning from that

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[317] Copleston, *Greece and Rome*, 43.

[318] Heraclitus, Περὶ φύσεως, Fr. 102.

[319] Copleston, *Greece and Rome*, 43.

[320] Heidegger and Fink, *Heraclitus Seminar*, 7.

[321] Ibid.

used in the Hebrew-Christian Scriptures. "When the Bible speaks of γένεσις, it means by this the Creation, in which things are brought into existence [*ex nihilo*],"[322] and by a personal Creator God. But what does the word mean in the Greek sense?

Heidegger proposes that what the Greeks meant by γένεσις "we can also label as ontic."[323] Heidegger distinguishes between "ontic knowledge" and "ontological knowledge": "Ontic knowledge is knowledge pertaining to the distinctive nature of beings as such, it is the knowledge of the sciences, whereas ontological knowledge is the basis on which any such theory (of *ontic* knowledge) could be constructed, the *a priori* conditions for the possibility of such sciences."[324] For the Greeks, then, the coming-to-be of things is not the coming-to-be of material things, for matter is eternal.[325] Likewise, so is Being as the ground of all beings. Rather, coming-to-be means that eternal matter is illuminated and moved, that is, steered, by the lightning, which in its act moves things by bringing them into the light and thereby diversifying them. The lightning is not the source of Being—Being comes from the λόγος.[326] The lightning is the agent of Being and with its lighting up of matter, the beings themselves become differentiated into their respective types. The coming-into-being is the phenomenal occurrence of being, which the natural sciences study. Fink uses the following analogy to help illustrate this point:

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[322] Ibid.

[323] Ibid., 8.

[324] Stuart Elden, *Mapping the Present: Heidegger, Foucault and the Project of a Spatial History* (New York: Continuum, 2001), 9.

[325] Copleston, *Greece and Rome*, 70.

[326] I will return to this point in chap. 7 in my discussion of Jesus as the Word.

> As lightning on a dark night lets us see everything individual in its specific outline all at once, so this would be in a short time span the same as that which happens perpetually in πῦρ ἀείζωον [ever-living fire] in Fr. 30. The entry of entities in their determinateness is thought in the moment of brightness. . . . Now we can say that it [the movement of lighting in the lightning bolt] is the movement of bringing-forth-to-appearance. But bringing-forth-to-appearance, which lightning accomplishes in entities, is also a steering intervention in the moving of things themselves. Things are moved in the manner of advancing and receding, waxing and waning, of local movement and alteration. The movement of lightning corresponds to the moving of ἓν τὸ σοφόν [the wise is one thing only]. . . .
>
> As the captain, in the movement of the sea and winds to which the ship is exposed, brings a course to the movement of the ship, so the steering bringing-forth-to-appearance of lightning gives to all entities not only their outline but also their thrust. The steering bringing-forth-to-appearance is the more original movement that brings to light the whole of entities in their manifold being moved and at the same time withdraws into it.[327]

Thus there is a process deep at work within nature that imputes being to matter. Heidegger likens this process to that of cybernetics,[328] "the science of communications and automatic control systems in both machines and living things."[329] The process at work is not God, working as an efficient agent steering matter through the creative act of genesis: "The Greeks did not have faith in their gods. There is . . . no faith of the Hellenes." And in spite of the fact that the Greeks had myth, myth is something other than faith.[330] Rather than a theistic understanding of a personal Creator God who intervenes in history, the One of Greek theology is a material force. The One is, Heidegger and Fink suggest, the material of

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[327] Heidegger and Fink, *Heraclitus Seminar*, 9, 11.

[328] Ibid., 12.

[329] *Oxford Dictionaries Online*, s.v. "cybernetics," http://oxforddictionaries.com/definition/cybernetics?q=cybernetics (accessed 8 June 2012).

[330] Heidegger and Fink, *Heraclitus Seminar*, 13.

inheritance, that is, genetics,[331] and it is this concept of being that they ultimately accept as the grounding of Western thought. Heidegger's concept of Being/being comes to its culmination in a materialistic force, genetics.

Heidegger's understanding of the thinking, reflective, relational being that humans are becomes muddied by his desire to abandon the traditional roots of Christianity with its concept of the image of God. In reality, it is Heidegger, even more than Nietzsche, who renders God dead. W. J. Korab-Karpowicz concludes that as with many of his contemporaries, Heidegger

> adopts a Eurocentric perspective and sees the revival of German society as a condition for the revival of Europe (or the West), and that of Europe as a condition for the revival for the whole world; like them, while rejecting God as an end, he attempts to set up fabricated ends for human beings. . . . Like being, which he describes as 'disclosing self-concealing, after making a disclosure he withdraws. . . . He says: 'only a God can still save us,' but the God for whom, in the absence of philosophical thought, he now looks is clearly not that of the Christians or of any contemporary religion.[332]

By rejecting God as an end, Heidegger seems to actualize the opposite of his earlier philosophical potential. His thought is not in continuity with the rest of Western thought; rather it is "a history of radical transformations. Christianity challenges the classical world, while assimilating some aspects of it, and is in turn challenged by modernity. Modernity overturns the ideas and values of the traditional (Christian and classical) culture of the West, and, once it becomes global, leads to the erosion of nonwestern traditional cultures,"[333] which Heidegger, in his joining of the Nazi party, helped to accomplish. His concept of being without the image of God has nowhere further to go.

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[331] Ibid.

[332] Korab-Karpowicx, "Heidegger," §7.

[333] Ibid.

Heidegger has proven to be a helpful dialogue partner. However, he cannot ultimately stand as the "master of being," for he bludgeons his own concept of being in his rejection of the image of God. He is not incorrect in understanding the physical mover of human beings to be genetics, but his concept of Being/being, which is so helpful from the moral and physical perspective, needs a truly spiritual (i.e., Christian theological) perspective.

Conclusion

In this chapter, I have explored Heidegger's concept of human Being/being as it relates to his concept of God. Heidegger, at the critical juncture in his confrontation with Nietzsche, turns from what has thus far appeared to be a theistic concept of God to a materialist concept of God as understood by the pre-Socratic philosopher Heraclitus.

As Heidegger's commitment is no longer to a theistic concept of God, I will retain his thoughts on Being/being as presented in the previous chapter, but move on toward a theology of human being that is based upon Christian theology. In the following chapter, I will explore whether the theological foundation of the Augustinian concept of human being is sufficiently relational.

CHAPTER 5

RETHINKING THE AUGUSTINIAN CONCEPT OF HUMAN BEING[334]

Introduction

Human being provides an appropriate common ground from which interdisciplinary dialogue may commence. However, even though moral and scientific perspectives can provide reasonable possibilities for dealing with critical relational problems relating to human being, such as those of the economy and ecology, it has been suggested that a theological perspective is also needed to address the relationship between God and human being.

Within the theological perspective, Alister E. McGrath discusses the possibility of a theology-and-science dialogue grounded on the Augustinian tradition. However, I concluded that Augustine's anthropology, particularly in relation to the problem of human accountability, was not sufficient for my definition of humans as relational beings.

In this chapter, I will explore more fully Augustine's approach to human being, particularly in regard to (1) his dualistic approach to the immortal soul and body and the concept of original sin, and (2) the meaning of history and the concept of predestination. Next, I will explore two critiques of these concepts: (1) Anna Case-Winters explores how

[334] A part of the present chapter was published by a different title, "Rethinking the Augustinian Foundation of the Theology-and-Science Dialogue," by Karen K. Abrahamson, *AUSS* 49 (2011): 93-123.

dualistic concepts have negatively impacted the concepts of God and humans, as well as relationships between humans and their environment; (2) Rudolf Bultmann investigates how the Augustinian concepts of history and predestination seriously impinge upon human free will and accountability.

The Augustinian Concept of Human Being

Two central ideas in Augustine's perspective that are important to the Christian theology-and-science dialogue are, first, the twin notions of the special creation of the immortal soul and original sin, and second, the problem of history and predestination. Augustine's views on these areas are, briefly, as follows:

1. *The immortal soul and original sin*. The soul is immortal for Augustine for two reasons: "It is the subject of a science which is eternal;[335] and "it is the subject of reason, which is not changed," that is, is timeless as God is, and thus it cannot become mortal.[336] Augustine's complete human being is not a dual being as Descartes would later describe it; nor was it based upon the idea that the body was a corrupt vessel that "trapped" the pure soul within it. Rather, a true human being, according to Augustine, was a composite of body and soul. As Michael Mendelson notes, Augustine does not see the material world as inherently evil in and of itself. We are not "trapped" in the world as in the Manichean proposal. "Rather, it is a more subtle problem of perception and will: we are prone to view things materialistically and hence are unaware that the sensible world is but a tiny portion of what is real [*Confessions* IV.xv.24], an error Augustine increasingly attributes to original sin [*De*

[335] Augustine, *Immort. an.* 1 (*Basic Writings of Saint Augustine* [New York: Random House, 1948], 1:301).

[336] Ibid., 2 (*Basic Writings*, 1:302-303).

Libero Arbitrio III.20; *De Civitate Dei* XIII.14-15]."[337] Humans become accustomed, due to this limited insight, to focusing only on the sensible world and so it becomes a place of "moral danger, one wherein our will attaches itself to transitory objects that cannot but lead to anxiety [*Confessions* VII.xi.17-18]."[338] For Augustine, then, immortality was lost due to Adam and Eve's free choice to disobey God: "Man's nature . . . was created at first faultless and without sin."[339] Now, however, this original sin is passed on through "natural propagation."[340]

When challenged by the Pelagians on the passing on of original sin by "natural propagation," Augustine contended that while human procreation is motivated "by the concupiscence which is in his members, and the law of sin is applied by the law of his mind to the purpose of procreation," the righteous do not "carnally beget, because it is of the Spirit, and not of the flesh, that they are themselves begotten."[341] Adam and Eve thus lost their first access to a limited immortality through sinning, and this tendency to sin was passed on in some mysterious way to their offspring, and on to the entire human race through the act of human willing to disobedience. Now humanity must find salvation through the subjugation of the will to God. For Augustine, then, the human being only reaches its true actuality when it subjects its will to God's will and reunites the changeless,

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[337] Michael Mendelson, "Saint Augustine," *Stanford Encyclopedia of Philosophy*, http://plato.stanford.edu/entries/augustine (accessed 8 June 2012), brackets original.

[338] Ibid.

[339] Augustine, *Nat. grat.* 3.1.

[340] Cf. Chris Siefert, "Augustine of Hippo and Thomas Aquinas on Original Sin" (unpublished paper, College of William and Mary, May 2000), http://www.memoryhole.net/~chris/research/ original_sin.html (accessed 8 June 2012).

[341] Augustine, *Pecc. merit.* 2.11 (NPNF[1] 48-49).

immortal soul with the changeableness of the human body and corrupted mind. The immortal soul becomes the true nature of the restored human being.[342]

Immortality belongs to the soul, or mind, for, as Augustine proposes in a subtitle, "Mind is Life, and Thus It cannot Lack Life." "For whatever dead thing is said to be abandoned by life, is understood to be deserted by the soul. Moreover, this life which deserts the things which die is itself the mind, and it does not abandon itself; hence the mind does not die."[343] Here Augustine's Platonism comes to the fore. Plato, in *Phaedo*, records Socrates's final conversation before his execution, noting that Socrates stated: "I want to make my argument before you, my judges, as to why I think that a man who has truly spent his life in philosophy is probably right to be of good cheer in the face of death and to be very hopeful that after death he will attain the greatest blessings yonder."[344] He then asked, "Do we believe that there is such a thing as death?" Having received an affirmative answer, he asked, "Is there anything else than the separation of the soul from the body? Do we believe that death is this, namely, that the body comes to be separated by itself apart from the soul, and the soul comes to be separated by itself apart from the body? Is death anything else than that?"[345] Socrates, after a discussion concerning the way that the body impedes the acquisition of knowledge, notes that "freedom and separation of the soul from the body is

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[342] Augustine, *Conf.* 7.17 (*Basic Writings*, 1:105).

[343] Augustine, *Immort. an.* 9.

[344] Plato, *Phaedo* 64a, trans. G. M. A. Grube, in *Plato: Complete Works*, ed., intro., and notes John M. Cooper (Indianapolis: Hackett, 1997), 55.

[345] Ibid., 64c-d (*Complete Works*, 56).

called death."[346] The soul, Socrates proposes, after being imprisoned in the body becomes polluted by its association,

> having always been associated with it and served it, bewitched by physical desires and pleasures to the point at which nothing seems to exist for it but the physical, which one can touch and see or eat and drink or make use of for sexual enjoyment, and if that soul is accustomed to hate and fear and avoid that which is dim and invisible to the eyes but intelligible and to be grasped by philosophy—do you think such a soul will escape pure and by itself?[347]

The punishment for impurity is for such souls to wander, "paying the penalty for their previous bad upbringing. They wander until their longing for that which accompanies them, the physical, again imprisons them in a body, and they are then, as is likely, bound to such characters as they have practiced in their life."[348] Thus the soul becomes reincarnated in another body similar to the bad one that died. The goal is, then, to live a good life while it is possible to do so, for the soul is life itself. Socrates said, "What is it that, present in a body, makes it living?—A soul. . . . Whatever the soul occupies, it always brings life to it?—It does."[349] For Socrates, death was only, then, of the body; his soul, he believed, would live on, enjoying the benefits of the afterlife.[350]

If the soul and body, then, have different origins, from where does Augustine's soul come? The *Catholic Encyclopedia* proposes that Augustine takes a moderate position between traducianism, the heretical doctrine which proposes that, "in the process of generation, the human spiritual soul is transmitted by the parents," and creationism, "the [orthodox Roman

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[346] Ibid., 67d (*Complete Works*, 58).

[347] Ibid., 81b (*Complete Works*, 71).

[348] Ibid., 81e (*Complete Works*, 71).

[349] Ibid., 105c-d (*Complete Works*, 90).

[350] Ibid., 115d (*Complete Works*, 98).

Catholic] doctrine that every soul is created by God."[351] Augustine's own position is known as "generationism," which is a mild form of traducianism. "When a distinction is made between the terms traducianism and generationism, the former denotes the materialistic doctrine of the transmission of the soul by the organic process of generation, while the latter applies to the doctrine according to which the soul of the offspring originates from the parental soul in some mysterious way analogous to that in which the organism originates from the parent's organism." The *Catholic Encyclopedia* goes on to note that both traducianism and generationism are against the notion of emanationism[352] and evolutionism due to the fact that both traducianism and generationism posit that "the first human soul originated by creation. They differ only as to the mode of origin of subsequent souls."[353]

The *Catholic Encyclopedia* contrasts the pros and cons of generationism, which Augustine held. Speaking in favor of the view, generationism preserves, as does creationism, the "union of body and soul, which constitutes the human being. A murderer really kills a man, although he does not destroy his soul." Further, humans differ and are hierarchically superior to animals due to humans' "spiritual nature which requires that it should be created by God." The argument against generationism is that the "organic process of generation cannot give rise to spiritual substance" because "the soul is immaterial and indivisible," thus "no spiritual germ can be detached from the Parental soul (cf. St. Thomas, "Contra gent." II, c. 86; "Sum. theol." I:90:2, I:98:2, etc.). As to the power of creation, it is the prerogative of

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[351] *Catholic Encyclopedia*, s.v. "Traducianism," http://www.newadvent.org/cathen/15014a.htm (accessed 8 June 2012).

[352] Cf. ibid., s.v. "Emanationism."

[353] Ibid., s.v. "Traducianism."

God alone (see Creation, VI)."[354] Roman Catholicism, then, while not explicitly condemning generationism, is opposed to it and it cannot "be held without temerity."[355]

2. *History and predestination*. For Augustine, "predestination involves God withholding or making available, according to the divine will, the means by which salvation is possible. Augustine stresses that the divine judgment which determines who will be allowed to be saved in this manner is beyond human understanding."[356] Turning to the biblical examples of Tyre and Sidon, he proposed that God knew from eternity that they would not believe, thus he did not make their eventual, eternal punishment worse by forcing upon them a direct knowledge of himself. For Augustine, predestination is from eternity and, therefore, beyond

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[354] Ibid.

[355] Ibid. A significant consequence of Christian theology's acceptance of a dualistic concept of human being was that, in its attempt to be informed by Greek theological categories such as Plato's concept of the soul, the other underlying concepts such as the evilness of matter and its tainting of the soul have come into Christian theology as well. Jacques Doukhan notes this problem in regard to the Christian rejection of the Jewish day of rest. For Jews, the Sabbath is a day for blessing God for his creation of the Earth, a day which God himself proclaims good. As such, the Sabbath is to be a day of joy and feasting in honor of the goodness of the Creator. However, with the emphasis gradually shifting to a dualistic Christian theology, in which the body and the Earth were evil and in need of deliverance, an increasing resistance to the celebration of the goodness of the creation began to build. Sunday, the day of resurrection, became the day of deliverance from the evils of this world and as such began to replace the Sabbath, which celebrated God's giving of a good creation (*Israel and the Church: Two Voices for the Same God* [Peabody, MA: Hendrickson, 2002], 69; and personal communication, 25 February 2012). Alister E. McGrath notes in this regard that, according to the Patristics, "the doctrine of creation in the image of God was also seen as being directly related to the doctrine of redemption. Redemption involved bringing the image of God to its fulfillment, in a perfect relation with God, culminating in immortality (*Christian Theology*, 361).

[356] Alister E. McGrath, ed., *The Christian Theology Reader*, 3d ed. (Oxford: Blackwell, 2007), 415.

the choice of humans, unless so empowered from eternity by God in his foresight of individual human beings.[357] Augustine saw this as a merciful act by God, noting:

> Therefore the mercy is past finding out by which He has mercy on whom He will, no merits of His own preceding; and the truth is unsearchable by which He hardens whom He will, even though His merits may have preceded, but the merits for the most part common to Him with the man on whom He has mercy. As of two twins, of which one is taken and the other left, the end is unequal, while the deserts are common, yet in these the one is in such wise delivered by God's great goodness, that the other is condemned by no injustice of God's. For is there unrighteousness with God? Away with the thought![358]

Human free will and the nature of the human being are called into question by the Augustinian worldview. If humans are dual organisms, even composite unions of body and soul as in the Augustinian perspective, then some evangelicals argue that classical theology is at risk for even greater dualisms in social orderings that lead to the subjugation of humans on the basis of issues such as gender or ethnicity and social classism (see Anna Case-Winters below). Others worry that the Augustinian worldview leads to the notion of fate in regard to human destiny and thus to a lack of human accountability (see Rudolf Bultmann below). These two concerns are also important to the Hebraic-Christian perspective, and Case-Winters and Bultmann help to lay a foundation for discussion of these issues.

Anna Case-Winters: A Critique of Reformed Theology and the Relation of God to the World

A growing number of evangelical theologians express concern about the ecological and economic crises that assail the planet. As a result, a number of these theologians and scientists-turned-theologians have come to embrace forms of feminist philosophical

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[357] Augustine, *De praed. sanct.*, 2.23-25 (Fathers of the Church).

[358] Ibid., chap. 25. As McGrath correctly notes, "The contrast with Calvin is of particular interest, in that predestination is there defined as God's decision to save some and condemn others" (*The Christian Theology Reader*, 415).

theology (e.g., Rosemary Reuther, Sharon Welch, Nancy Frankenberry, and Vandana Shiva) and Process thought (e.g., Charles Hartshorne, Ian Barbour, John Cobb, John Haught, Philip Clayton, and David Griffin).

Anna Case-Winters, a professor of theology at McCormick Theological Seminary, Chicago, shares her concerns about the current ecological crisis that is facing planet Earth and searches for a way for Christian theology to address the problem.[359] Writing from insights she has gained from feminist theology and Process thought, as well as from the religion-and-science dialogue, she argues that Christianity has much to say about a theology of nature and encourages Christians to search for ways to live more conservatively and sustainably for the sake of the planet, especially for those who are most vulnerable. She rises to the challenge brought forth by critics of Christianity, particularly those regarding Christianity's "desacralization of nature, its dualisms and elevation of the spiritual over material reality, and its habit of ignoring or resisting scientific understandings of the natural world," believing that it is important to study such critiques so that *if* there is even a modicum of truth in them that Christianity should recognize and correct its theological expression(s) and approach(es) to nature.[360]

Case-Winters begins by contemplating "Why We Need a New Theology of Nature," which includes deconstructing the traditional Christian views of "the state of nature" and "the state of theology." She finds a necessary relationship between the "companion crises" in ecology and economy, noting that "the work of eco-justice (*eco*-logical and *eco*-nomic) is

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[359] Anna Case-Winters, *Reconstructing a Christian Theology of Nature* (Aldershot, England: Ashgate, 2007).

[360] Ibid., see esp. chap. 2.

one work."[361] Thus her goal is to better grasp human self-understanding in relation to the rest of nature.

In her book, *Reconstructing a Theology of Nature*, Case-Winters addresses a number of important deconstructive elements in the Augustinian worldview, three of which are important to this study: (1) "a critical appreciation of Christian tradition should be evidenced"; (2) "the anthropocentric and dualistic habits of thought that are embedded in Christian tradition should be addressed"; and (3) "an accounting that is fully conversant with scientific perspectives on the origin and operation of the natural world should be developed."[362]

"A Critical Appreciation of Christian Tradition"

One of the most important points in Scripture is that God is involved intimately in the creation, sustenance, and maintenance of life in the universe. Case-Winters believes strongly in this point and draws a careful line between a pantheistic perspective, in which God is the world, and a wholly transcendent God, who is completely other than the world. Here she is heavily influenced by Process thought, which "maintains divine immanence alongside a reconstructed understanding of transcendence [she has] called 'relational transcendence,'"[363] which means that there is a two-way relationality between God and the world. She notes, "God is not the world and the world is not God. But neither are these two mutually exclusive. God is in the world and the world is in God. There is a genuine relation of mutual influence because God and the world are *internally related*. Internal relations

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[361] Ibid., 5.

[362] Ibid., 145. For point 1, see her discussion in chap. 3 and throughout; for point 2, see chaps. 4 and 6; and for point 3, see chap. 6.

[363] Ibid., 147.

between entities entails there [*sic*] being co-constituted in such a way that what happens in one affects what happens in the other and *vice versa*."[364] Case-Winters's perspective stands in contrast to the classical Augustinian view in which "the world is internally related to God (subject to divine influence) while God, on the other hand, is *externally related* to the world (not influenced by the world, impassible)."[365]

While I strongly agree with Case-Winters's first point, that we must return to Scripture as our source for understanding God's relation to the world and with her contention that classical Christian thought needs to be thoroughly deconstructed in regard to God's impassivity to the world, I am uncomfortable with her reliance upon Process and feminist thought to accomplish her perspectives, primarily because it directs her away from a biblical perspective and toward a more nuanced philosophical perspective. She notes that "God leads the way in the creative advance, all the while supporting the creation in its freedom and respecting its integrity. . . . The traditional theological idea of a 'principle of plentitude' illumines this apparent directionality in the evolutionary process."[366] Yet, God guides, she proposes, all levels of the creation, from the tiniest particle to the most complex of all organisms, the human being, both allowing for freedom to thwart his plans and to conform to his "luring." Each level of the creation responds appropriately to God's activity at its own level.[367] The eschatological problem that arises from this position is that God has no ultimate goal for history—a problem that we will encounter again in our discussion of

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[364] Ibid., 130.

[365] Ibid.

[366] Ibid., 143.

[367] Ibid.

Bultmann—and responds only within the present evolutionary process. In other words, the historical acts of God in history are not to intentionally direct history toward an eschatological goal, but to make each act eschatological in the present moment. While there is certainly a freeing of the historical future from the eternity of the past and a call for human accountability in the present, both of which are needed, the focus seems more on human action and involvement than on God's directionality in history.

Anthropocentrism and Dualism

I also find Case-Winters's second point to be helpful in which she calls into question the problems of anthropocentrism and dualism that have become embedded in classical Christian thought. In chapter 1, she presents the case for a new theology of nature by offering a sampling of various ecological and economic crises with which the world is currently contending. Her examples include the increasing consumption of nonrenewable energy sources such as fossil fuels, global warming, diminished biodiversity, and armed conflict over resources. While these examples are not new to environmental discussion, they are helpful in reminding the reader of the need for reform and for providing a reminder of the terrible impact that flagrant usage of natural resources has upon the poorest and most vulnerable elements of society. Her examination of economic crisis in the global economy is provocative and includes discussion of the ever-increasing gap between rich and poor (e.g., "In 2001, the average annual pay of USA CEOs was 350 times as much as the average annual pay of a factory worker, who earned on average $31,260"), economic globalization (e.g., globalization has led to "human exploitation and environmental degradation," meaning that there has been a "commodification," in which people and their labor are treated as commodities, nature is commodified as well," while local cultures have been annihilated and replaced with "a kind of consumer monoculture"), debt crisis (in which poor nations' debts

become a form of enslavement from which they can never escape), the AIDS pandemic (the poor cannot pay for medication to treat the disease and young people are cut down in their prime), and population explosion (Earth's human population reached 6.2 billion in 2002, is now at 7 billion, and is expected to reach 8.9 billion by 2050). The "neo-liberal economic globalization" of economic trade includes "unrestrained competition and consumerism, privatization of public utilities and natural resources (like water), unlimited economic growth and accumulation of wealth—all without social obligation." Of deep concern, then, is the fact that "of the 100 largest economies in our world today, 49 are nation states and 51 are corporations." In such a society, "the transnationalization of corporations and capital" mean that there is no "state" to provide moral or civil boundaries. There is no concept of "common welfare," leaving labor and nature open for exploitation.[368]

In the face of such difficulties, Case-Winters asks, "Where Do We Go from Here?" Her first response is to re-envision the "Common Good." Based on the research of Herman Daly and John Cobb, she proposes that the common good is not something that is limited to humans, but must take into account the wider community of all living organisms, of seeing the world as a "community of communities."[369] Thus there is a need for understanding wholeness of life on Earth, for understanding the interconnectedness of all the parts together. Living organisms are valued not simply for their service potential for humans, but for their intrinsic value. For Case-Winters, humans become a part of the whole process of

[368] Ibid., 9-11.

[369] Ibid., 14.

the universe, "reframed as a 'link in the vast communitarian chain of the cosmos'" and "humans cannot be abstracted out of this larger web of being as a species apart."[370]

For me, Case-Winters's understanding of humans, as she expresses it here, is the most disturbing part of her proposal. Coming, as I do, from a more traditional view of humans as made in the image of God, it seems, by contrast, that she relinquishes too much in her attempt to stress the point that humans need to become more eco- and enviro-centric in their orientation and that in seeing humans as evolutionarily related to the rest of nature they are better equipped to step into these roles. I am not ready to acquiesce to the notion that there is no special difference between humans and other earthly life forms, although I can relate to her concern that seeing humans as the crowning act of creation can lead to a sense of entitlement over the so-called "lower" forms of creation. Nevertheless, her position is not a necessary conclusion.

The Gen 1 account—or, in fact, any part of the Scriptures—does not in any way condone human dominance over the creation. Rather, the Scriptures hold humans responsible for care-taking as their divinely appointed task (Gen 1:26-28). Human beings were intended to bear the image of God in the world in the carrying-out of their role as care-takers of their earthly home. That this was to be a role of care-taking rather than the domination and exploitation of the natural realm is noted in Isa 11:8 (NIV), which describes the "Peaceful Kingdom," in which the law of God prevails supreme on Earth because humans willingly observe it ("They will neither harm nor destroy on all my holy mountain, for the earth will be full of the knowledge of the LORD as the waters cover the sea"), and in Rev 11:18c (NIV), which underscores that in the final outpouring of God's wrath on

[370] Ibid.

unrepentant humanity, a significant purpose for the final judgment is "for destroying those who destroy the earth." The connection between physical and moral perspectives is important from the point of ecological and economic crisis—as humans move through the world, their moral behavior, or lack thereof, has physical causal consequences, which put into play a series of events that are thereafter out of their control and which may lead to catastrophic consequences.

Such a view does not require Christian theology to fall into neo-animism, in which God is virtually inseparable from the world. This perspective is also not only a rejection of neo-animism, but of the Augustinian concept of the immortal soul. The relationship between God and his creation cannot be reduced to mere spirituality, but is, particularly in regard to human-divine relationships, of a personal nature. God comes to dwell personally with his people ("Then have them make a sanctuary for me, and I will dwell among them," Exod 25:8, NIV; ""The virgin will be with child and will give birth to a son, and they will call him Immanuel,' which means, 'God with us,'" Matt 1:23, NIV).

This biblically based perspective also deals with the problem of original sin. While it is true that the consequences of the sin of Adam and Eve have been passed to the entire creation in the sense of cause and effect (cf. Rom 5:12ff.), the fate of individual humans is not a matter of predetermined destiny, a point that I will return to in my discussion of Bultmann.

A Scientifically Informed Natural Theology

Case-Winters's proposal that natural theology should be scientifically informed is a proposal that I can also agree with. Too often in the course of history, theology has relied more heavily upon the moral lesson than on the accuracy of the natural phenomenon,

bringing with this an interpretation that splits reality into spiritual and material elements.[371] Originally, Augustine's intent was not to splinter reality into types, but to find spiritual lessons in natural phenomena. He notes in his treatise *De Doctrina Christiana* that

> all doctrine concerns either things or signs, but things are learned by signs. Strictly speaking, I have here called a 'thing' that which is not used to signify something else, like wood, stone, cattle, and so on; but not that wood concerning which we read that Moses cast it in bitter waters that their bitterness might be dispelled, nor that stone which Jacob placed at his head, nor that beast which Abraham sacrificed in place of his son. For these are things in such that they are also signs of other things.[372]

Therefore, Augustine's intent is clear: he is attempting to draw together the spiritual and physical things to draw moral lessons, or signs, from them.

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[371] See, e.g., a favorite allegory of the Middle Ages: the pelican, who through its beneficial death on behalf of its young, represented Christ's atonement for humanity. The legend stated that "if the Pelican brings forth young and the little ones grow, they take to striking their parents in the face. The parents, however, hitting back kill their young ones and then, moved by compassion, they weep over them for three days, lamenting over those whom they killed. On the third day, their mother strikes her sides and spills her own blood over their dead bodies . . . and the blood itself awakens them from death" (*Physiologus: A Medieval Book of Nature Lore*, trans. Michael J. Curley [Austin: University of Texas Press, 1979], 9-10). The problem with this lovely moral lesson is that pelicans exhibit no such behavior. As Erick Auerbach notes, this type of mixing of lessons of truth (or rhetorical/ethical perspective) with natural phenomena was a highly developed feature of Christian hermeneutic. He notes, "All the more frequently, however, do we find the Fathers pursuing the interpretation of reality—interpretation above all of Scripture, but also of large historical contexts, especially Roman history, for the purpose of bringing them into harmony with the Judeo-Christian view of history. The method employed is almost exclusively that of figures. . . . Figural interpretation 'establishes a connection between two events or the second involves or fulfills the first. The two poles of a figure are separated in time, but both, being real events or persons, are within temporality [even as in the case of mythical creatures]. They are both contained in the flowing stream which is historical life, and only the comprehension, the *intellectus spiritualis*, of their interdependence is a spiritual act.' In practice we almost always find an interpretation of the Old Testament, whose episodes are interpreted as figures or phenomenal prophecies of the events of the New Testament" (*Mimesis: The Representation of Reality in Western Literature*, trans. Willard R. Trask, intro. Edward W. Said [Princeton: Princeton University Press, 2003], 73). While Auerbach's examples of the OT influence on the NT interpretation, the idea can also be applied to the same type of interpretative interaction between natural phenomena and, e.g., Christology.

[372] Augustine, *Doct. chr.* 2, trans. D. W. Robertson Jr. (Upper Saddle River, NJ: Library of Liberal Arts, Prentice Hall, 1958), 8.

Eventually, however, Augustine's intent was lost. With Descartes came an intentional splitting of reality into moral and physical realms, the realms of mind and body. Case-Winters is correct in calling into question the truth of Descartes's myth of the body/mind dualism in which he contends that

> I correctly conclude that my essence consists in this one thing: that I be a cogitating thing. And, although I might perhaps . . . have a body which is very closely joined to me, because I have—on the one hand—a clear and distinct idea of myself, in so far as I am only a cogitating thing and not an extended one, and because I have—on the other hand—a distinct idea of [the] body, in so far as it is only an extended thing and not a cogitating one, it is still certain that I am really and truly distinct from my body, and that I can exist without it.[373]

Not only does Descartes prioritize mind over body, but he makes existence immaterial. The mind does not need the body to exist. Such a view is not in agreement with the scriptural notion that "the LORD God formed the man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being" (Gen 2:7, NIV).

While we must be careful in the separating of moral, spiritual, and physical attributes of human being,[374] we must also take care not to over relate these attributes of the human being either. First, it is not simply a God-of-the-gaps argument to say that we do not understand the relation between these aspects of reality; their relationship is a deep and intriguing mystery that beckons us to a contemplation that eschews simplistic answers. Second, while I agree with Case-Winters's reason for rejecting all forms of dualism—because it ultimately leads to the subjugation of the weakest elements of nature—once again, I propose that a thoughtful reconsideration of the Gen 1 account in tandem with the rest of

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[373] René Descartes, *Meditations on First Philosophy in which the Existence of God and the Distinction of the Human Soul from the Body Are Demonstrated*, trans. George Hefferman (Notre Dame: University of Notre Dame Press, 1992), 76, quoted in Case-Winters, *Reconstructing a Christian Theology of Nature*, 70-71.

[374] See chap. 6.

Scripture should lead to similar conclusions. In other words, each of the concerns brought forth by Case-Winters and the critics of Christian theology can be corrected by a fresh reading of Scripture.

Rudolf Bultmann and the Authentic Self

Rudolf Bultmann, who critiques twentieth-century evangelicalism's propensity toward Augustinian theology, examines Augustine's concept of time as it relates to history and eschatology, the soul and freedom of the will, and the understanding of human being.

Citing Gerhard Krüger, Bultmann orients *History and Eschatology: The Presence of Eternity* toward the statement, "'Today history is our biggest problem'. Why is it so?"[375] Looking back on the recent events played out in his own life, Bultmann shuddered at how history had, apparently, swept humanity along toward the cataclysmic events that resulted in World War II. Reminiscing on the unlearned lessons from the French Revolution, he notes,

> The powers which rule as fate over man are not only foreign powers opposed to his will and plans but often such as grow out of his own will and plans. It is not only that "the curse of the wrong deed ever must beget wrong," as Schiller said, but good intentions and well considered beginnings also have consequences which no one could foresee and lead to deeds which nobody wanted to do.[376]

The lesson that Bultmann gleans from history is that "'willed actions reach beyond the mark of their intended goal, thus revealing an inner logic of things which overrules the will of man.'" In the French Revolution, what was intended to result in "a liberal constitution and a federation of free nations" led instead to military dictatorship and the death of countless innocent bystanders; "it intended peace, and it led to war."[377] The question at stake, then, is

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[375] Rudolf Bultmann, *The Presence of Eternity: History and Eschatology*, The 1955 Gifford Lectures (New York: Harper Torchbooks, 1957), 1.

[376] Ibid., 2-3.

[377] Ibid., 3.

"whether our personal existence still has a real meaning when our own deeds do not, so to speak, belong to us."[378] If history is a mere coming to be and passing away, in which humanity is "a ball in the play of the waves," then history can be nothing more than the playing out of fate.[379]

Christ's entry into history forever changes the notion of time, Bultmann proposes. Prior to Christ, time was the place in which preparation for his appearing, under the guidance of Providence, took place. "The whole course of history has now a meaning."[380] However, history in both the Hebrew Bible and the Greek New Testament is seen as an "organic unit," a "unity of historical development." The Christian church "amalgamates" Greek and Hebraic traditions—medieval humanity finds freedom in the realization of God's order both in nature and history and through obedience to the laws of God given to the church. It is here that Bultmann, as he contemplates Augustine's new synthesis of history, finds his true, authentic self and true existence.[381]

Augustine endorses this new teleological understanding of history, primarily on the grounds of his belief in creation. Time and history are not "eternal cyclical movement"; rather time has both beginning and ending that are determined by God. Bultmann notes that "the Christian understanding of man is the decisive reason for this view. Augustine has taken it over from Paul, and he unfolds it mainly in opposition to the ancient manner of thinking.

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[378] Ibid., 4.

[379] Ibid.

[380] Ibid., 58.

[381] Ibid., 7.

For in ancient thought, man has to be distinguished in principle from the world."[382] It is here that Augustine's view of the soul and original sin comes to the fore. "Man as a being distinct from world" and as a "free person" is now able with his own will to follow God or oppose him. "He is free in his decision for good and evil, and therewith he has his own history."[383]

As Bultmann studies the trajectory of Augustine's view of history, now secularized as it proceeds through time, he finds its ultimate expression to be progressivism.[384] "This belief in progress is not in accord with the Christian faith, indeed, it is opposed to it. It originated," Bultmann contends, "in the polemics against the Christian belief in providence." Progress, according to Voltaire, becomes "the progress of knowledge; and the meaning in history is the fact that men become richer in knowledge and thereby in welfare."[385] This understanding of history, combined with the discovery of civilizations that are older than the Hebraic one and an "idea of progress promoted by science," usher in biblical criticism and result in an understanding of "eschatological perfection [that] is transformed into that of the ever-increasing welfare of humanity."[386]

However, even as the understanding of history as progress appears to bloom, its fate is already sealed. This is because, Bultmann proposes, this teleological view of history, expressed so eloquently in Augustine, asks that humans either "stand at the end or goal of history and detect its meaning by looking backwards; or if we could stand outside history. . . .

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[382] Ibid., 59.

[383] Ibid., 60.

[384] Ibid., 70.

[385] Ibid., 70-71.

[386] Ibid., 73, 71.

But man can neither stand at the goal, nor outside history. He stands within history. . . . And this brings us again to the question: What is the core of history? What is its real object?"[387] The answer, Bultmann states, is "man"; "to live in actions is the very essence of man," "history is constituted by human actions. 'Action is distinguished from natural events in so far as it does not merely happen, but has to be expressly performed, borne and animated by some kind of consciousness.'"[388] But it is a consciousness that is undoubtedly influenced by natural events. Decisions about the present are influenced by past events and encounters that bring about the future: "The future is open in so far as it brings the gain or the loss of our genuine life and thereby gives to our present its character as moment of decision."[389]

In seeing himself as a free being, Bultmann ultimately rejects the Augustinian view of history, noting that in accepting a new life of grace, given by God, "I also decide on a new understanding of my responsible acting. This does not mean that the responsible decision demanded by the historical moment is taken away from me by faith, but it does mean that all responsible decisions are born of love. For love consists in unreservedly being for one's neighbor, and this is possible only for the man who has become free from himself."[390] Bultmann's view here is an echo of the apostle Paul's second great statement on love in Rom 13:8-14. Paul's central point in this passage is that love does not harm its neighbor; therefore, it follows the moral law as set out in the Decalogue, which can be easily extended to include Case-Winters's concern for all living things. To care-take means to see other living

[387] Ibid., 138-139.

[388] Ibid., 139.

[389] Ibid., 141.

[390] Ibid., 152.

things, including humans and natural resources, as more than things to be appropriated for one's own use. Rather, the goal of care-taking is to see also others' intrinsic purposes for being, granted through the creative acts of God.

Finally, and ultimately, Bultmann's rejection of the Augustinian view of history is also a radical rejection of the Augustinian conception of predestination. "To be historical," he asserts, "means to live from the future. . . . In principle, the future always offers to man the gift of freedom; Christian faith is the power to grasp this gift. The freedom of man from himself is always realised in the freedom of historical decision."[391] No longer a prisoner of history and fate—of God's eternal predestination—humanity is free to choose God's availing power to do what is good and right. Augustine's proposal seals the individual's eschatological destiny from eternity. Bultmann, by contrast, recaptures the scriptural element by making every moment an eschatological choice; the future is changed by the actions of the present. For Bultmann, the "authentic self" is the moral being choosing to act under the direction of God's power to do right.

Conclusion

The purpose of this chapter has been to explore the Augustinian concept of human being. It has been seen that there is a need to consider alternative possibilities that are more compatible to a relational concept of human being. As suggested by Case-Winters, dualism too often leads to the subjugation of the weaker elements both in society and nature. Bultmann proposes that an understanding of free will and human accountability is virtually nonexistent in the Augustinian concept of human being, and thereby abandons unelected human beings to be pawns to fate.

[391] Ibid.

However, while a serious rethinking of the Augustinian concept of human being is indeed called for, one does not need to be limited to arguing within the Augustinian tradition itself. As I introduced at the beginning of this dissertation, we may re-examine the concept of human being from within the Hebraic-Christian perspective, which bases its understanding of humans as relational beings upon the ancient Hebrew cosmology found throughout both the Hebrew Bible and the Greek New Testament.

Before I turn to the Hebraic-Christian perspective, it is important to first investigate my hypothesis that there is a correlation between definitions of human being and the way that humans interact with their environment, including other humans. In the following chapter, I will explore how dualistic interpretations of human being carry baggage that allowed for crimes against humanity. To neglect to consider the impact of human behavior in historical terms would make this dissertation a mere academic exercise.

CHAPTER 6

CREATION OF THE SOUL, CREATION OF THE BODY: THE SOCIAL IMPACT OF DUAL CREATIONS IN CHRISTIAN TRADITION AND THEIR RELATION TO BIOLOGICAL THEORIES OF HUMAN BEING[392]

Introduction

The relationship between theology and science is deeply complex and, at points, muddied, especially in regard to the question of human being. In this chapter, I will attempt to better understand the relationship between theology and science in regard to human being due to the heavy criticism that has been laid on theology for introducing terrible doctrines about God and humans. Stephen Jay Gould, for example, is highly critical of the theological justifications that lay behind racist views that came to life in the late eighteenth century and continued unabated through the turn of the twentieth century. During this period, American and European scholars in the behavioral sciences sought to institute a new scientific basis that, consciously or unconsciously, upheld older types of racial profiling that had previously justified the slavery and extermination of so-called savages. At stake in this profiling, Gould believes, was the underlying hermeneutical horizon that continued, without change, to lay

[392] A modified version of this chapter was published as "The Creation of the Soul, the Creation of the Body: Dual Creations in Christian Tradition," by Karen K. Abrahamson, *AUSS* 49 (2011): 67-91.

the foundation for the definition of human being.[393] Arguments regarding human being might run something like this, as noted by Adrian Desmond and James Moore:

> Belief in Adam as the father of mankind was solid and the theological premise of anti-slavery. St. Paul's message, 'He . . . hath made of one blood all nations of men' was definitive. Every person of every race was descended from Adam and inherited his 'original sin'. All men therefore needed to be saved. That was why the Church existed. If all races were not of one species born of Adam, then the non-Adamic races would have no original sin to be saved from. Missionaries to the heathen would be redundant. One would no more need to convert those races or free their slaves than one would convert or free domestic animals.[394]

This is a rather ambivalent understanding of human being. All humans might be descended from Adam. If they were, they need to be saved from original sin; if they weren't, they were not really humans, at least not in an Adamic sense. Such a position raises questions such as, Are all humanoid life forms really human? What makes a human completely human? Are there more than one species or races of human beings? Does nature evolve the body, while God provides the soul?

The purpose of this chapter is to examine the ambiguity which surrounds the question of human being at the point of intersection between theology and science. Both theology and science work to understand how best to integrate science into theology, especially in regard to the constitution of human being. As I propose, this problem is best seen in dualistic conceptions of body and soul (i.e., monogenism, traducianism, and polygenism) within the older orthodox traditions of the theology-and-science dialogue that

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[393] Stephen Jay Gould, *The Mismeasure of Man* (New York: W. W. Norton, 1981).

[394] Adrian Desmond and James Moore, *Darwin's Sacred Cause: Race, Slavery, and the Quest for Human Origins* (Chicago: University of Chicago Press, 2011), 54. There are two different versions of Desmond and Moore's book. The first was published in 2009 by Houghton Mifflin Harcourt under the title *Darwin's Sacred Cause: How a Hatred of Slavery Shaped Darwin's Views of Human Evolution*. I will use the 2011 edition unless otherwise noted.

arose as early as the late eighteenth century, but which did not rise to prominence until the nineteenth and early twentieth centuries.

I will begin by examining theological categories cited by G. C. Berkouwer on the origin of the immortal soul. In Roman Catholicism and the mainline Protestant and Reformed churches, there are two approaches to dual creations, which Berkouwer terms "creationism" and "traducianism." The problem that these approaches are concerned with relates to the question of the "mysterious nature of man."[395] He proposes that the core of the problem is "the immortality of the soul" and "the general questions relating to its origins."[396] If this was simply a matter of theological choice, the problem would not be so significant. However, as I will discuss in this chapter, there are social ramifications that come out of the various interpretations of the dual creations and one's orientation toward them. What I hope to demonstrate in this chapter is that the concept of dual creations carries certain baggage and that this baggage does not affect just how theology views human being, but can also affect the way that science sees the world. In spite of the professed "objectiveness" of the scientific platform, even it can succumb to underlying hermeneutical presuppositions. However, this is not simply a matter of academic discourse. The way in which the human being is conceived carries, as history makes plain, social ramifications that impact everyone from the individual to the community.

We now turn to the question of dual creations of body and soul, examining how theology approaches the question and then how science has applied these same ideas to real individuals and communities.

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[395] G. C. Berkouwer, *Man: The Image of God*, Studies in Dogmatics (Grand Rapids: Eerdmans, 1962), 279.

[396] Ibid.

The Origin of the Immortal Soul in Humanity: Traducianism versus Creationism

Berkouwer begins his discussion of the problem by noting that "it is indeed true that both the Church and theology have been interested in the origin of man, in a sense; but this interest was always directed to the origin of the human race."[397] However, he clarifies, the ancestry of humanity is not directly the problem at hand. The crux of the problem lies in the question of dual origins, that is, the origin of the material universe and the origin of the immortal soul. Are there two separate creations of human body and of the human soul (creationism), or does the immortal soul, following the first direct divine impartation, come into existence with the body, i.e., the body and soul are inherited from the parents (traducianism)? While the debate over these issues can become very complex, this chapter will focus primarily on the question of one versus two origins.

Berkouwer notes that by separating the origin of the material universe from that of the origin of the immortal soul, science and theology have managed to find room for simultaneous, but discipline-oriented, discussion about the origins of humanity. Thus, whereas the origin of the material universe is spoken of from within the Darwinian scientific realm, the origin of the immortal soul falls within the purview of theology.[398] However, he questions the legitimacy of such a dualistic approach, stating: "It can hardly be denied that the formulation of the two 'questions of origin' is quite different, and that this very fact suggests the question as to how justified the usual treatment in dogmatics is; in how far the dogmatician may legitimately speak of a duality of origin."[399]

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[397] Ibid., 279.

[398] Ibid.

[399] Ibid.

Historically, questions regarding the creation and unity of the human race and the Fall of humanity have been closely related. Berkouwer notes that "this is apparent already from the fact that traducianism has always appealed, in its fight against creationism, to the unity of the human race. . . . Both [traditionally] held to the unity of the human race in Adam (in which not only the story of creation but especially Paul's statement in Rom. 5, and the text of Acts 17:2, played a role); and this was true in Catholicism (e.g., at Trent) as well as in Protestantism."[400] Therefore, except for rare denials, the problems surrounding the question of the unity of the human race were of an "incidental and peripheral nature until recently."[401]

The Problem of Science and Theology in Relation to the Immortal Soul: Monogenism versus Polygenism

The change in the biological sciences that came as a result of the Darwinian and Neo-Darwinian scientific proposals gave meaning to the related problem of monogenesis, or the origin of humanity from a single pair, versus polygenesis, the origin of humanity from multiple pairs.[402] The terms may be applied to two separate, but related, issues: the issue of human ancestry and the issue of a dual origin of material and immaterial elements of creation.

Creationism versus Traducianism

Before turning to these two approaches to the origin of the immortal soul, it is first necessary to briefly clarify the relationship between traducianism and creationism, on one hand, and polygenism and monogenism, on the other. As noted briefly above, creationism

[400] Ibid., 279-280.

[401] Ibid., 280.

[402] Ibid.

refers to the idea of separate origins of the material and immaterial, or spiritual, aspects of the human being, while traducianism contends that the soul comes into existence with the body. *The Catholic Encyclopedia* helpfully notes that traducianism is

> the doctrine that, in the process of generation, the human spiritual soul is transmitted to the offspring by the parents. When a distinction is made between the terms Traducianism and Generationism, the former denotes the materialistic doctrine of the transmission of the soul by the organic process of generation, while the latter applies to the doctrine according to which the soul of the offspring originates from the parental soul in some mysterious way analogous to that in which the organism originates from the parent's organism.[403]

Whereas creationism posits the special impartation of the immortal soul in human beings, "Traducianism is opposed to Creationism or the doctrine that every soul is created by God."[404] Thus Berkouwer posits that, due to their respective orientations toward the interpretation of Scripture, "we note in Lutheran theology a fairly general sympathy for traducianism, while in Catholic and Calvinist theology preference is given to creationism."[405] Berkouwer clarifies how these two orientations differ:

> Lutherans saw the image of God primarily in the spiritual attributes of man (*justitia originalis*) and thus had little interest in what distinguishes man from animal after the Fall, since the (lost) *justitia originalis* was for them the one thing that matters. Calvinists and Catholics wished to concern themselves with 'the wholly unique essence of man,' and thus with what remained human also after the Fall.[406]

The relationship between creationism and traducianism and monogenism and polygenism is complex. However, as noted, both creationism and traducianism are grounded upon the unity of humanity. Thus there is a unity in the coming together of bodily matter

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[403] *The Catholic Encyclopedia*, s.v., "Traducianism," http://www.newadvent.org/cathen/15014a.htm (accessed 8 June 2012).

[404] Ibid.

[405] Berkouwer, *Man*, 286.

[406] Ibid., 287.

and immortal soul that creates a whole human being. The connection, then, to monogenism and polygenism, which will be discussed below, is that monogenism refers to this "mysterious way" in which the soul and body come together, either by being passed on from the parents (as in traducianism) or via a special individual creative act by divine fiat (as in creationism). As we will see, these ideas are not separate from ideas concerning the ancestral origin of humans. In the following discussion of polygenesis and monogenesis, for the sake of brevity, I will focus only on the Roman Catholic orientation and responses to these issues. However, as noted, the Calvinist tradition shares a similar view, although it differs slightly in its position from Roman Catholicism due to its orientation toward Scripture and tradition.[407] Traditional Lutheranism tends more toward a position supporting traducianism.

Polygenesis as It Relates to Human Ancestry

The term "polygenesis" typically refers to the "origination of a race or species from a number of independent stocks."[408] During the Renaissance, many traditional and orthodox ideas were openly questioned.[409] Among these was the idea of the unity of the human race, which resulted in speculations that "only civilized men were descendents [*sic*] of Adam and that 'savage' people had been separately created," ideas that were "closely associated with efforts to find a niche for the savage below civilized human beings on the elaborately graded

[407] For a more complete discussion of the Reformed understanding of creationism, see ibid., 287ff. Here Berkouwer discusses at length the positions of Bavinck and Kuyper.

[408] *Oxford Dictionaries Online*, s.v. "polygenesis," http://oxforddictionaries.com/definition/polygenesis?region=us&q=polygenesis (accessed 8 June 2012).

[409] Jonathan I. Israel, *Radical Enlightenment in Philosophy and the Making of Modernity 1650-1750* (Oxford: Oxford University Press, 2001). Israel's introduction to *Radical Enlightenment* helps to provide a context of this period.

hierarchy known as the 'great chain of being,' a traditional device for ranking all forms of life inherited from the Middle Ages."[410]

However, the attempt to fix a distinct and inferior species of humans was not made until the Englishman William Petty, F.R.S., tried to do so in an unpublished paper of 1676-1677, but his "religious heterodoxy would preclude the widespread acceptance of such a mode of thinking about the 'types of mankind' until the nineteenth century," G. M. Fredrickson proposes.[411] Indeed Petty's ideas about race did not begin to fully engage until some fifty years later when, in Sweden, Carl Linnaeus laid out the different races of humans in *The System of Nature* (1735). *Homo Sapiens*, he proposed, include a number of races, or human subspecies: *Ferus*, *Americanus*, *Europaeus*, *Asiaticus*, *Afer*, and *Monstrosus*.[412]

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[410] George M. Fredrickson, *White Supremacy: A Comparative Study in American and South African History* (Oxford: Oxford University Press, 1981), 10.

[411] Ibid., 11.

[412] Caroli Linnaei, *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis*, Tomus I., edition Decima, Reformata (Holmiae, Impensis Direct. Laurentii Salvii, 1758), 20-23. Following are his races of human beings:

1. "Four-footed, mute hairy. *Wildman* (i.e., *Ferus*).
2. Copper-coloured, choleric, erect. *American* (i.e., *Americanus*).

Hair black, straight thick; *nostrils* wide; *face* harsh; *beard* scanty, obstinate, content, free. *Paints* himself with fine red lines. Regulated by customs.

3. Fair, sanguine, brawny. *European* (i.e., *Europaeus*).

Hair yellow, brown, flowing; *eyes* blue; gently [*sic*], acute, inventive. *Covered* with close vestments. *Governed* by laws.

4. Sooty, melancholy, rigid (i.e., *Asiaticus*).

Hair black; *eyes* dark; *fevere* haughty, covetous. *Covered* with loose garments. *Governed* by opinions.

5. Black, phlegmatic, relaxed (i.e., *Afer*).

Hair black, frizzled; *skin* silky; *nose* flat; *lips* tumid; craft [*sic*] indolent, negligent. *Anoints* himself with grease. *Governed* by caprice."

6. Fabled people (*Monstrosus*).

(Emmanuel Chukwudi Eze, *Race and the Enlightenment* [Oxford: Blackwell, 1997], 13; cf. James Samuel Logan, *Good Punishment? Christian Moral Practice and U.S. Imprisonment* [Grand Rapids: Eerdmans, 2008], 123).

In late eighteenth-century Germany, Johann Gottfried Herder[413] followed in the steps of Petty and Linnaeus. Rudolf Bultmann points to Herder as the beginning of sorrows for the German nation in Herder's affirmation of the *Völkische* (or populist, ethnic) Movement in Germany, noting that

> it was Herder who broke away from the concept of the unity of human nature. He distinguished types of humanity which differ not only in physical but also in mental characteristics. In fact, he thought that the individual types were constant, namely, fixed by nature; they are products of nature. From this it follows that human history must be understood as natural history.[414]

Herder's biological determinism not only became the excuse for the Holocaust of the mid-twentieth century, but prior to this became the basis for a new type of racial profiling that helped to lay the foundation of psychological racism in the United States. Gould details how, in the search for new cheap labor following the emancipation of the African slaves, a scheme was hit upon that ranked the European nations by intelligence. This was accomplished by making the so-called "soft" sciences of psychology and sociology empirically based by the creation of the intelligence quotient test.[415] Already based upon dubious notions of the correlation between cranium volume and intelligence,[416] these tests

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[413]See, e.g., Johann Gottfried Herder, *Reflections on the Philosophy of the History of Mankind* (Chicago: University of Chicago Press, 1968). Here Herder attempts to demonstrate that the nation of Germany had been set apart by Providence in terms of language, inclinations, character, and heredity.

[414] Bultmann, *The Presence of Eternity*, 10; in the German, see idem, *Geschichte und Eschatologie* (Tübingen: Mohr Siebeck, 1979), 11.

[415] See the updated reversion of Stephen Jay Gould, *The Mismeasure of Man*, rev. and expanded (New York: W. W. Norton, 1996), chap. 5, "The Hereditarian Theory of IQ: *An American Invention*," 176ff.

[416] Ibid., 176. This method is still used to differentiate the difference in intelligence between humans and other living organisms having some form of intelligence and a cranium.

supposedly proved that Anglo-Saxons were the standard by which all other human beings, including other European "races," were to be adjudged. The scientific conclusion was that "European immigrants can be graded by their country of origin. The average man of many nations is a moron. The darker peoples of southern Europe and the Slavs of eastern Europe are less intelligent than the fair peoples of western and northern Europe. Nordic supremacy is not a jingoistic prejudice. The average Russian has a mental age of 11.34 [years]; the Italian, 11:01; the Pole, 10.74. The Polish joke attained the same legitimacy as the moron joke—indeed, they described the same animal." And needless to say, "the Negro lies at the bottom of the scale with an average mental age of 10.41." [417] No one, it seems, was safe from profiling and no one was able to rise above his station in life. This was biological determinism with the new ferocity of scientific validation.

The notion of polygenism, once stated, was not scientifically confounded until the 1980s with the discoveries made about the human genome and its rich historical value by human population genetics.[418]

Polygenism as It Relates to the Origin of the Soul

Within Roman Catholicism, the question of polygenism arises in regard to the impartation of the immortal soul into the material creation for the purpose of specially creating human beings. Jesuit scholar Pierre Teilhard, who does not represent the orthodox Roman Catholic view on the soul, once commented that "in the eyes of science, which at long range can only see things in bulk, the 'first man' is and can only be a crowd, and his

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[417] Ibid., 227.

[418] Spencer Wells, *Deep Ancestry: Inside the Genographic Project* (Washington, DC: National Geographic, 2006), 25. For varying opinions and debates among geneticists and archaeologists, see *Nature*'s special edition, "Peopling the Planet," 3 May 2012.

infancy is made up of thousands and thousands of years."[419] What Teilhard means here is that Adam is a universal concept, the symbol of all fallen humanity which is marked by original sin in the moment that they become human beings. There was, contra orthodox Roman Catholic theology, no first Adam who committed original sin.[420] Rather, humanity is subject to original sin because this is the condition imposed upon it due to the evolutionary nature of the world—original sin is the law of the universe.[421] Teilhard's justification for such a proposal is that even though the problem of monogenism versus polygenism is ultimately a theological problem, the fact that science studies populations rather than individuals means that there should not be a contradiction between theological explanations and scientific findings.[422] Thus Teilhard appears to contradict the individual impartation of the immortal soul, as understood by orthodox Roman Catholicism, by his reduction of Adam to a symbol of an original population.

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[419] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper and Row, 1959), 185.

[420] This is a point agreed upon by Archbishop of Canterbury Rowan Williams and Richard Dawkins in their debate on human origins ("Archbishop of Canterbury, Richard Dawkins, and Anthony Kenny Discuss Origin of Human Beings," www.archbishopofcanterbury.org [accessed 8 June 2012]). They, of course, have differing opinions as to what this means, with Dawkins openly questioning why Christian theologians continue to make things difficult by turning to a tradition that they do not actually believe in (i.e., that there was a first Adam and Eve).

[421] Robert Faricy, *Teilhard de Chardin's Theology of the Christian in the World* (New York: Sheed and Ward, 1967), 158-159, n. 46.

[422] Pierre Teilhard de Chardin, *Monogenisme et monophyletisme*, 1950: 1-2 (Woodstock Theological Center Library, Special Collections Division, Washington, DC, Box 7, Folder 38).

Karl Rahner, S.J., who similarly accepted polygenesis as a reasonable answer to the question of dual origins, stated, in contradiction to Popes Pius XII[423] and Paul VI,[424] that "In the present state of theology and science it cannot be proved that polygenism conflicts with orthodox teaching on original sin. It would be better therefore if the magisterium refrained from censuring polygenism."[425] He continues:

> It is doubtful, to say the least whether a bodily, historical unity of the first human beings can be understood in terms of monogenism. It is a general principle of biology that true, concrete genetic unity is not found in the individual but in the population . . . and in the same biotype (organisms of the same genetic constitution). Only within such a situation can evolution come about since selection can exercise its pressure only within such a population and not in isolated individuals.[426]

Thus the question of dual origins of the body and immortal soul, as well as the possibility of the dual origins of human beings as a result of evolutionary development, has become increasingly important to Roman Catholics, especially those promoting a relationship between evolutionary theory and the church's teaching on the nature and ontology of human beings. Such a view, its proponents believe, is not in conflict with a long evolutionary process and can, according to some, allow for the accommodation of Roman Catholic theology to evolutionary perspectives. However, as we will observe later, Roman Catholicism has not pronounced any authoritative word on either the question of evolution

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[423] Pope Pius XII, *Humani Generis* (Weston, MA: Weston College Press, 1951).

[424] Pope Paul VI, L'Osservatore Romano, 15 July 1966; quoted in Patrick O'Connell, *Original Sin in the Light of Modern Science* (Houston: Lumen Christi Press, 1973), 90-91.

[425] Karl Rahner, "Evolution and Original Sin," in *The Evolving World and Theology, Concilium*, 26 (Glen Rock: Paulist Press, 1967), 64; see also idem, "Theologisches zum Monogenismus," *Schriften zur Theologie* 1 (1954): 262.

[426] Rahner, "Evolution and Original Sin," 64. Two more recent articles accepting Teilhard de Chardin's and Rahner's position on polygenism are Joan Acker, "Creation and Catholicism," *America*, 16 December 2000, 6-8; and Daryl P. Domning, "Evolution, Evil and Original Sin," *America*, 12 November 2001, 17-20.

or the issue of polygenesis, although several popes have commented, from a slightly less-than-dogmatic position, in favor of monogenism and the "appropriate" use of evolutionary theory, to say nothing of the fact that the church has consistently, in its orthodox position, promoted monogenesis.[427]

Monogenism as It Relates to Human Ancestry

Monogenism is the notion that humans are descended from a single pair of ancestors.[428] It has not only a biblical-theological, but also a scientific definition. The scientific understanding of monogenism is described by scientist Spencer Wells, who points out that "any piece of DNA that is not shuffled through the action of recombination can be traced back in time to an earlier ancestor."[429] Of the nearly seven billion pieces of mtDNA, or in other words, the world's current human population, and about half that number of Y-

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[427] E.g., Pius XII, *Humani Generis*, and Paul VI in *L'Osservatore Romano*. See also P. Schoonenberg, *Het Geloof van ons Doopsel: gesprekken over de Apostolische geloofsbelijdenis* [The faith of our baptism: Talks on the Apostles' Creed] (Hertogenbosch, The Netherlands: L.C.G. Malmberg, 1955), 1:143-144. Berkouwer states: "The canon [*Humani Generis*] affirmed belief in the common origin of the human race in Adam, and condemned those who denied it, holding that such denial would involve the dogma of original sin and the salvation of all men in Christ. It was prepared because of the denial of monogenism by some 'geologists and ethnographers'" (ibid., 280, n. 3).

[428] *Oxford Dictionaries Online*, s.v. "Monogenesis," http://oxforddictionaries.com/?attempted=true (accessed 8 June 2012).

[429] Wells, *Deep Ancestry*, 155. While there is new research showing the possibility of Neandertal and human interbreeding (see, e.g., John J. Shea, "Neadertals, Competition, and the Origin of Modern Human Behavior in the Levant," *Evolutionary Anthropology: Issues, News, and Reviews* 12/4 [5 August 2003] 173-187), this would not detract from Well's point here because the human DNA, which is differentiated from Neandertal DNA, would still have its own origin.

chromosomes, all can be traced back to a sole root.[430] "This entity, known as the coalescence point, is the single mtDNA or Y-chromosome type from which they all trace their descent. In any given sample of nonrecombining DNA sequences there must be a single ancestor at some point in the past."[431] This ancient pair has, evocatively, been named Adam and Eve.[432]

Wells is only too happy to promote his concept of monogenism because as recently as the 1960s little was known about how the vast diversity observed in humans came about. He points to the anthropological work of Carleton Coon, *The Origin of Races*,[433] which became a standard text for students of anthropology beginning in the late 1960s, as an example of how the racial profiling of earlier generations continues to the present. Like others before him, Coon used Darwinian evolution to explain how the races had once been united, but separated over time to create such a wide diversity as seen today.[434]

Wells comments that Coon's conclusions were based on

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[430] Mitochondrial DNA, or mtDNA, is that which can be traced solely in the maternal line of inheritance. Y-chromosomes are one of two sex chromosomes, the other being an X-chromosome. Females have two X-chromosomes, while males have an X- and Y-chromosome. DNA in the Y-chromosome passes from father to son, while mtDNA passes from the mother to both daughters and sons (Wells, *Deep Ancestry*, 155-156).

[431] Ibid., 156.

[432] Ibid. See also an interview with Rebecca Cann, lead researcher at Berkeley on the discovery of mtDNA ("Children of Eve," *Nova* [Boston: WGBH Educational Foundation, 1986], transcript, 1).

[433] Carleton Coon, *The Origin of Races* (New York: Alfred A. Knopf, 1971).

[434] Wells, *Deep Ancestry*, 17. For two other sources of the effects of British and American racial profiling, see Gould, *The Mismeasure of Man*; and Desmond and Moore, *Darwin's Sacred Cause*. While Desmond and Moore may overstate their case as to Darwin's personal sentiments and their relationship to his theory on the descent of humanity, both they and Gould provide a sobering historical look at the extent of racial profiling and its encouragement by Christians, including politicians and men of the cloth.

> very little, it turned out. Anthropologists of his era were largely limited to a method used since the time of the Greeks—*morphology*, or appearance. Although morphologists measured the physical traits they studied very carefully, derived complex formulae to describe their measurements, and inferred processes from the data, they were working at a disadvantage. This is because morphological variation is ultimately produced by genetic variation, and the under-lying [*sic*] genetic changes required to produce a change in morphology were (for the most part) still unknown.[435]

Thus it turns out that Coon, on the basis of morphology alone, was saying that "it would have taken a million years of evolution to create the differences we see in different races."[436] Wells's and others' research into the mysteries of the human genome have revealed "uncontrovertibly" that "only the tiniest sliver of [genetic] variation . . . served to distinguish among the different races."[437] Further,

> as Lewontin explained it, if someone were to drop an atomic bomb tomorrow, and the only group of people left alive were the English—or the Australian Aborigines, or the Pygmies of the Ituri Forest—that single population would still retain 85 percent of the level of genetic variation found in our species as a whole. This incredible result provided clear evidence that Linneaus and Coon were wrong. Rather than belonging to discrete subspecies, humans are part of one big extended family.[438]

Wells's proposals are a reaffirmation of the long-held belief in monogenesis as it pertains to human ancestry. According to biblical theology, the human pair from which humanity sprang was Adam and Eve (Gen 4:1: "Adam lay with his wife Eve, and she became pregnant and gave birth to Cain. She said, 'With the help of the LORD I have brought forth a man.'").[439] However, the question of monogenesis as it pertains to the origin

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[435] Wells, *Deep Ancestry*, 18.

[436] Ibid.

[437] Ibid., 21.

[438] Ibid., 21-22.

[439] It must be clarified that Wells and Cann, among others, do not support the notion that the biblical Adam and Eve were historical entities who brought forth humanity. Rather this couple is merely a symbol, as noted above, of a universalized history of human origins.

of the immortal soul is still debated, as we have seen, by Roman Catholic scholars and others who posit a form of polygenesis in order to accommodate the role of evolutionary science in the origins of the material body and yet allow for the divine role in the originating of the immortal soul.

Monogenism as It Relates to the Origin of the Soul

Due to its obvious sense of dualism in regard to the impartation of the immortal soul in human beings, Roman Catholicism's orthodox views, especially since the appearance of Darwinian evolution, have called for clarification. The first serious papal pronouncement on the topic of monogenesis took place with the publication of *Humani Generis* in 1950. Pius XII seems to have made this statement in response to the growing encounter between theology and science.[440] However, as P. Schoonenberg notes, the discussion had come up in the 1870 Vatican Council, which prepared a canon positing monogenism in response to the direction that biological science was then tending. However, because the issue was not brought up as an agenda item during the council, monogenism never became official dogma.[441]

Darwin had published his *Origin of Species* in 1859, and would, just months after the 1870 Vatican Council, publish his long-awaited treatise, *The Descent of Man* (1871), in which he proposed that no specialness separated human beings from any other living organism. "Man's intelligence, use of language, altruism, and so on, all could be derived from rudimentary traits discernible in lower animals."[442] Darwin thus noted in the conclusion of

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[440] Berkouwer, *Man*, 280.

[441] Schoonenberg, *Het Geloof van ons Doopsel*, 143-144; see Berkouwer, *Man*, 280, n. 3.

[442] James D. Watson, "Commentary: *The Descent of Man*," in *Darwin: The Indelible Stamp: The Evolution of an Idea*, ed. and commentary by James D. Watson (Philadelphia: Running Press, 2005), 604.

his first chapter in *The Descent of Man* that "the time will before long come, when it will be thought wonderful [i.e., incredulous] that naturalists, who were well acquainted with the comparative structure and development of man, and other mammals, should have believed that each was the work of a separate act of creation."[443] However, in *The Descent of Man*, Darwin does not stop with the question of human ancestry, but pushes on to declare that "we have seen that the study of the theory of expression confirms to a certain limited extent the conclusion that man is derived from some lower animal form, and supports the belief of the specific or subspecific unity of the several races. . . . We have also seen that expression in itself, or the language of the emotions, as it has sometimes been called, is certainly of importance for the welfare of mankind."[444]

The response of the Roman Catholic Church to such types of proposals, while not officially dogmatized, is one of concern for maintaining a clear proposal of monogenesis in regard to the unity of humanity. Claudio Basevi states:

> From the perspectives of the biblical doctrine of creation, the results are clearly sterile and exegetically incorrect when one focuses the discussion about Scripture and scientific thought on the fallacious dialectic between "creationism" and "evolutionism," the first understood as the affirmation of the "immediate" appearance of all the species of living beings and the denial of any biological or even geological transformations, the second understood as a philosophical paradigm that interprets the morphogenesis of all reality in terms of a necessary and immanent development, or as the outcome of blind chance. Biblical exegesis can confront and dialogue with the facts, and therefore with evolution, physical or biological, explained in a scientific way and freed from presuppositions of an aprioristic philosophical character. The presence of analogous presuppositions also cannot be excluded in what concerns the theme of "monogenism," i.e., the origin of the whole human race from one sole couple of proto-parents. Supported by various biblical passages and by the teaching of the Catholic Magisterium, this belief is presented at times as something certainly denied by scientific results, without reflecting on the fact

[443] Charles Darwin, *The Descent of Man*, in *Darwin: The Indelible Stamp: The Evolution of an Idea*, by Charles Darwin, ed. and comm. James D. Watson (Philadelphia: Running Press, 2005), 629.

[444] Ibid., 1257.

> that, for obvious reasons, the scientific reconstruction, however accurate it may be, could never attain irrefutable proofs for or against it. To this must be added the consideration that scientific analysis can only deduce *a posteriori* if and when it finds itself in front of remains that are certainly human, but it cannot conclude anything about the appearance of a first couple of proto-parents in as much as the "final cause" of such an appearance—the spiritual animation of a body, a new creative intervention of God, etc.—does not belong to the empirical order, whereas only the consequences traceable back to it are.[445]

Thus from the perspective of Roman Catholic orthodoxy, while there is room for scientific, even evolutionary scientific, discussion about the physical origins of humans, there remains a domain upon which science has little or nothing to add. This domain includes within it the origin of the immortal soul.[446] Basevi notes that the issue of monogenism is so important to orthodoxy because it is connected with the "'normative' consequences of the proto-parents for all of humanity, particularly to the doctrine of original sin, but also to the recapitulation in Christianity of all that was signified in Adam, to the point that the abandonment of monogenism would require a serious re-interpretation by theology of much of the content of Revelation."[447]

Summary

Roman Catholic theologians are thus divided on the issue of monogenesis, with those who see science as dealing primarily with populations rather than individuals calling for polygenesis (which they see having no conflict with the orthodox view of monogenesis in regard to the soul), while those claiming theological orthodoxy proposing that although there are separate creations of soul and body, these elements have a unified co-existence as

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[445] Claudio Basevi, "Sacred Scripture," *Interdisciplinary Encyclopedia of Religion and Science*, ed. Giuseppe Tanze-Nitti, Philip Larrey, and Alberto Strumìa, http://www.disf.org/en/Voci/12.asp (accessed 8 June 2012).

[446] Pius XII, "On Evolution and Monogenism," from *Humani generis*.

[447] Basevi, "Sacred Scripture."

the foundation of human ontology. Both allow for the introduction of evolutionary science because in both the immortal soul, long considered to be the true essence of humanity, remains distinct from its material counterpart. Herein lies the foundation of theistic evolution.

The larger problem of polygenism, however, is found in the intersection between science and theology. The issue of multiple races, with their varying levels of soul, created an environment in which humans could be exterminated or bought and sold as livestock.[448] Science has approached the question of human being similarly to that of theology in regard to dual origins, with Desmond and Moore arguing that at least part of Darwin's original intent behind his theory of evolution was in response to the problem of African slavery. He argued, on the basis of his theory of common descent, that there was only one race of humans and no body-soul dualism.[449] For Darwin, such a position was hopefully a way to preserve his family's belief in the Adamic unity of humanity without needing to refer to God. However, part of the criticism heaped upon Darwin, Desmond and Moore suggest, was that

> by embracing the whole of creation—breaking life's shackles and allowing it too to evolve, as black and white men had done from a joint ancestor—he ironically opened himself to vilification by the Christian world whose belief in racial brotherhood he shared. A major criticism of the *Origin of Species* (particularly during the American Civil War) was that Darwin had now bestialized the *white* man, by contaminating his ancestral

[448] Demond and Moore, *Darwin's Sacred Cause* (2011), 309, emphasis original.

[449] Ibid., xvii.

> blood. Darwin had upturned the racist logic, only to 'brutalize' his own Anglo-Saxon kind (as it was said), uniting them, not only with black people, but with black apes.[450]

Darwin, thus by doing away with a dualistic view of body and soul, "brutalized" his own race by destroying the unique property (the immortal soul, created in the Adamic lineage) that separated the Anglo-Saxon race from all other humanoid species. In view of such a problem, it is important to keep in mind that people make choices about how they understand and draw conclusions about particular issues, and that even Darwinian evolution, and Darwin himself after his reading of Malthus,[451] has been used to support scientific

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[450] Ibid., xviii.

[451] Ibid. (2011), 146. Desmond and Moore note here that before Darwin's reading of Malthus his understanding of species of humans was much more benign, leading him to conclude that the blending of the various human species—e.g., Dutch with Hottentot—would lead to "superior" stock "in both body and intellect. . . . However," they argue "*after* reading Malthus, Darwin's imagery became much bleaker. Malthus's depiction of human competition for scarce resources highlighted how wars and famines act as a 'great check amongst men'. It galvanized Darwin into rationalizing the darker side of tribal contacts. . . . Competition was all in Whig society and across the world; population pressure sifted and sorted the most successful, ensuring progress. So the ideologue who was concerned with ending slavery ironically began naturalizing the competition of white minds with dark bodies." The result was that "Darwin's scenario was becoming a battlefield: 'When two races of men meet, they act precisely like two species of animals—they fight, eat each other, bring diseases to each other &c'. But while animals compete in bodily strength, human warfare is 'more deadly', ensuring that a race with the 'best fitted organization, or [. . .] intellect' will survive. Intellect gave whites the edge in Australia—he assumed—dooming the Aborigines, whereas the Negro's resistance to malaria may benefit him in Africa and the West Indies. For Darwin it also allowed improvements to the breed: as the weak went to the wall, the survivors—those with an adaptational edge, or, among humans, superior intellects—passed on those advantages, to be built on by later generations." They conclude: "He didn't see the incongruity as his science took on a Malthusian life of its own, shaped by the race-judging attitudes of his culture: the civilizational goal, the superior intellects, expansion as a means of progress. His science was becoming emotionally confused and ideologically messy. Malthus's 'grand crush of population' resulted in conflict and conquest, and Darwin began to naturalize the genocide in these terms. He was assuming an inevitability that had to be explained, not a socially sanctioned expansion that had to questioned. . . . Darwin was turning the contingencies of colonial history into a law of natural history," which included all the ranking implicit in racial profiling, in which the white man, who had the best intellect, was sure to win the colonial clashes (ibid., 146-148).

racism. Darwin's abandonment of the image of God in humanity is not a satisfying solution; nevertheless it became and has continued to be a powerful force in regard to the understanding of human being. Now we will turn to Darwin and his contemporaries' engagement with the immortal soul.

Early Scientific Discussion Concerning the Immortality of the Soul

Darwin's Thoughts on the Question of the Immortal Soul

The debate between theology and science on the topic of origins, whether material or immaterial, was interactive and two-way. Darwin was concerned with immaterial issues, such as the emotions and the mind, which had generally fallen beyond the purview of science up to that point. Significantly, behind the scenes his researches were not simply dedicated to physical and psychological phenomena, but he also regularly included books on the topic of the immortal soul to his reading list; for instance, he included in his *"Books to be Read" and "Books Read" Notebook* Francis William Newman's *The Soul, Her Sorrows and Her Aspirations: An Essay Towards the Natural History of the Soul as the True Basis of Theology* (London, 1849); Alexander Copland's *Mortal Life: and the State of the Soul After Death: Conformable to Divine Revelation*; Oersted's *Soul of Nature* (which he describes as "dreadful"); and he noted Toland's 1704 "account of immortality of Soul, amongst Ancients."[452]

Darwin experienced considerable turmoil about the immortal soul. His turmoil lay in part with his reluctance to hurt his closely knit family, especially his betrothed, Emma Wedgwood, who was also his cousin. In a revealing paragraph, Desmond and Moore recount Darwin's struggle, noting that just prior to his engagement his father advised him

[452] Charles Darwin, *"Books to Read" and "Books Read" Notebook*, *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012).

> to conceal his doubts about religion lest Emma fret for his 'salvation'. (The Doctor understood devout Wedgewood women, having married one himself.) But sharing so much of an outlook, Darwin thought candour the better policy, and a week after the engagement he went ahead and told her of his notebook heresies. Such shocking beliefs were a negation of her deeply intuitive faith. He was erasing the line between body and soul. To him, morality and religious feelings were inherited from beasts rather than Breathed into the body. What need, then, for revelation of religious truth in the Bible? If Jesus's resurrection did not reveal the promise of immortality, how could she and Charles belong to each other for ever? Traditional Unitarianism, as espoused by Martineau, saw no necessary conflict here, and Darwin's views might have been squared with it. Not so Emma's Anglicanized Unitarianism, with its belief in an immortal soul. She sought reassurance and 'every word' he sent by return was a comfort. He said that he did not consider his 'opinions as formed' (too late was he heeding the Doctor's advice), which gave her hope.[453]

Perhaps this reluctance to dash family expectations caused Darwin to work out his convictions on the immortal soul in his personal notebooks. For instance, in *Notebook B:* [Transmutation of species (1837-1838)], he notes:

> The soul by consent of all is superadded, animals not got, not look forward. If we choose to let conjecture run wild then ~~our~~ animals our fellow brethren in pain, disease, death & suffering, & famine, our slave in the most laborious works, our companions in our amusements, they may partake from our origin in ~~these~~ one common ancestor; we may be all netted together.[454]

Thus Darwin questioned whether the addition of an immortal human soul was in fact a reality. If all organisms were descended from one stock, then humans must have received the same orientation toward pain and suffering, among other conditions generally regarded as especially human, as did these lesser organisms.

In *Notebook E* [Transmutation of species (1838-1839)], Darwin finds a discontinuity between the pronouncements of Plato and Socrates on the immortality of the soul and his own conception of the "linear descendant" of "mammiferous animal." He also struggles

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[453] Desmond and Moore, *Darwin's Sacred Cause* (2011), 136.

[454] Charles Darwin, *Notebook B*: [Transmutation of species (1837-1838)], *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012), 232. Darwin's notes are brief sketches of thought rather than developed prose.

with the Platonic notion that "our 'necessary ideas' arise from the preexistence of the soul, are not derivable from experience."[455]

In his *Old & Useless Notes about the Moral Sense & Some Metaphysical Points*, Darwin plays with the idea of instinct versus soul in his musings on William Kirby's *Bridgewater Treatise, On the Power, Wisdom, and Goodness of God*.[456] He notes: "As in animal no prejudices about souls, we have particular trains of thoughts as far as man; crows fear of gun.—pointers method standing—method of attacking peccary—retriever—produced as soon as brain developed, and as I have said, no soul superadded."[457] A footnote states:

> "[Lamarck] admits [man] to be the most perfect of animals, but instead of a son of God, the root of his genealogical tree, according to him, is an animalcule, a creature without sense or voluntary motion, or internal or external organs. . . . No wonder therefore that he considers his intellectual powers, not as indicating a spiritual substance derived from heaven though resident in his body, but merely as the result of his organization (*N. Dict. Nat.* xvi. Artic. Intelligence, 344, comp Ibid.. Artic. Idéa, 78, 80.), and ascribes to him in the place of a soul a certain *interior sentiment* . . ."
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> See also *B* 232, "The soul by consent of all is superadded . . ."[458]

Darwin does not take lightly the question of the immortal soul. His behind-the-scene thinking on the subject eventually resulted in the denial of humans as special creations endowed by God with immortal souls, leading him to conclude:

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[455] Charles Darwin, *Notebook E*: [Transmutation of species (1838-1839)], *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012), 76, 128.

[456] William Kirby, *On the Power, Wisdom, and Goodness of God, as Manifested in the Creation of Animals in Their History, Habits, and Instincts*, 2 vols., The Bridgewater Treatises (London: Pickering, 1835), 1:xli, xxviii.

[457] Charles Darwin, *Old & Useless Notes about the Moral Sense & Some Metaphysical Points, 1838-1839*, *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012), 36, ellipses original.

[458] Ibid., brackets original.

> We must acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which extends not only to other men but to the humblest living creation, with his god-like intellect which had penetrated into the movements and constitution of the solar system—with all these exalted powers, man still bears in his bodily frame the indelible stamp of his lowly origin.[459]

Darwin's Contemporaries' Thoughts Regarding the Immortal Soul and Its Relation to Evolutionary Theory

A brief sampling[460] of Darwin's contemporaries demonstrates that they also deeply contemplated the issue of the immortal soul and its relation to their contemporary scientific theory. For instance, John Frederick William Herschel, F.R.S., an English mathematician, astronomer, chemist, experimental photographer/inventor and botanist, whose work in scientific methodology (1840)[461] greatly influenced Darwin, scoffed at those who believed that science "fosters in its cultivators an undue and overweening self-conceit, [that] leads them to doubt the immortality of the soul and to scoff at revealed religion."[462] Rather, science, Herschel proposed,

> by cherishing a vital principle an unbounded spirit of enquiry, and ardency of expectation, . . . unfetters the mind from prejudices of every kind, and leaves it open and free to every impression of a higher nature which it is susceptible of receiving, guarding only against enthusiasm and self-deception by a habit of strict investigation, but encouraging, rather than suppressing, every thing that can offer a prospect or a hope beyond the present obscure and unsatisfactory state.[463]

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[459] Darwin, *The Descent of Man*, 1055.

[460] For a more complete discussion of Darwin's contemporaries on the issue of special creation, see Neal C. Gillespie, *Charles Darwin and the Problem of Creation* (Chicago: University of Chicago Press, 1979).

[461] John Frederick William Herschel, *A Preliminary Discourse on the Study of Natural Philosophy: Part of Dionysius Lardner's Cabinet Cyclopaedia* (London: Longman, Rees, Orme, Brown & Green, 1840).

[462] Ibid., 7.

[463] Ibid., 7-8.

In 1844, Robert Chambers, F.R.S.E., who moved in highly influential scientific and political circles, anonymously published his *Vestiges of the Natural History of Creation*,[464] which claimed in the concluding chapter to be "the first attempt to connect the natural sciences in a history of creation."[465] The book was highly criticized due to Chambers's stance that God might not be actively involved in the sustenance of the natural and social hierarchies. In regard to the immortal soul, he contended that

> a distinction is therefore [often] drawn between our mental manifestations and those of the lower animals, the latter being comprehended under the term instinct, while ours are collectively described as mind, mind being again a received synonyme [*sic*] with soul, the immortal part of man. There is here a strange system of confusion and error, which it is most imprudent to regard as essential to religion, since candid investigations of nature tend to shew its untenableness. There is, in reality, nothing to prevent our regarding man as specially endowed with an immortal spirit, at the same time that his ordinary mental manifestations are looked upon as simple phenomena resulting from organization [i.e., purely physical processes], those of lower animals being phenomena absolutely the same in character, though developed with much narrower limits.[466]

Significant for my concern in this chapter, Chambers's remarks about the immortal soul indicate his concern regarding the possibility of dual origins of immaterial soul and material body. His footnote connected to this passage further strengthens this point, arguing that God, as first cause, was the creator of not only immaterial soul and mind, but also matter itself, through which these immaterial properties flow.[467] However, he asks,

> Can we say that God has not in matter itself laid the seeds of every faculty of mind, rather than that he has made the first principle of mind entirely distinct from that of matter? Cannot the first cause of all we see and know have fraught matter itself, from its very beginning, with all the attributes necessary to develop into mind, as well as he has

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[464] Robert Chambers, *Vestiges of the Natural History of Creation* (London: John Churchill, 1844).

[465] Ibid., 388.

[466] Ibid., 325-326, n. *.

[467] Ibid., 326.

> from the first made the attributes of mind wholly different from those of matter, only in order afterwards, by an imperceptible and incomprehensible link, to join the two together?[468]

This "imperceptible and incomprehensible link" between mind (i.e., immortal soul) and matter seemed to Chambers to be unnecessary. Rather a scientific perspective appeared, to him, to demonstrate the plausibility of an organic unity between the two elements, a unity given by God himself. Pointing to the New Testament, Chambers then concludes that the Scriptures do not present a soul, after death, having no connection with space and time, having no connection with matter. Citing Thomas Hope, *On the Origins and Prospects of Man* (1831), Chambers notes that the New Testament "'promises a mind situated in portions of time and space different from the present; a mind composed of elements of matter more extended, more perfect, and more glorious,"[469] thereby demonstrating his remaining reliance upon older concepts of the immortal soul.

George Combe, a Scottish phrenologist, who, among other things, studied and sought how to reform and punish the criminal classes, distinguished between his understanding of the immortal soul and his view of death, which was similar to that proposed by Darwin. Combe, in 1847, notes that "the true view of death, therefore, as a natural institution is, that it is an essential part of the system of organisation. . . . Besides, organized beings are constituted by the Creator to be the food of other organized beings, so that some must die that others may live."[470] To clarify whence his argument regarding death leads, he proposed that

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[468] Ibid., 326-327, n.*.

[469] T. Hope, *An Essay On the Origin and Prospects of Man* (London: John Murray, 1831), 2:246; cf. R. Chambers, *Vestiges* (London: John Churchill, 1844), 328.

[470] George Combe, *The Constitution of Man and Its Relation to External Objects*

> to prevent, however, all chance of being misapprehended, I repeat, that I do not at all allude to the state of the soul or mind after death, but merely to the dissolution of organized bodies; that, according to the soundest view which I am able to obtain of the natural law, pain and death during youth and middle age, in the human species, are consequences of departure from the Creator's law, while death in old age, by insensible decay, is an essential part of the system of organic existence as now constituted.[471]

Also in 1847, Richard Owen, English botanist, creator of the term "Dinosauria," and a fierce opponent of Darwin's concept of evolution (he was himself an evolutionist, but felt that Darwin's proposal was too simplified), proposed that "this [bodily] frame is a temporary trust, for the uses of which we are responsible to the Maker."[472] A monogenist, Owen proposed that "the supreme work of Creation has been accomplished that you might possess a body—the sole erect—of all animal bodies the most free—and for what? for the service of the soul."[473]

Reactions to Darwin's *The Descent of Man*

When Darwin's *The Descent of Man* was published in 1871, the response was immediate and varied.[474] A review in *The Athenaeum*, no. 2262, 4 March 1871, opined that "an evolutionist of the Darwinian order is bound to be further than the moral sense and the intellectual faculties if he believes in the existence of the human soul. . . . As certainly as we

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(Edinburgh: Maclachlan, Stewart, & Co., 1847), 244.

[471] Ibid., 244-245.

[472] Richard Owen, *On the Classification and Geographical Distribution of the Mammalia, being the Lecture on Sir Robert Reade's Foundation, Delivered before the University of Cambridge, in the Senate-House, May 10, 1859. To which is Added an Appendix "On the Gorilla" and "On the Extinction and Transmutation of Species*" (London: John Parker, 1859), 50.

[473] Ibid.

[474] A collection of reviews of the book, totaling 871 independent responses, may be found in the Cambridge University Library. This collection may also be found at *Darwin Online* (http://darwin-online.org).

evolve sex, so certainly must we evolve soul. If the former be due purely to natural selection, so is the latter."

A review in *The Saturday Analyst and Leader*, dated 10 November 1860, proposed that there was no "contradiction in the endowment of man with an immaterial soul, supposing him to have originated according to the Darwinian theory, than if he had originated in any other way. Put [*sic*] it broadly: was it more easy for Omnipotence, to which all possible things are equally easy, to give man an immaterial soul, if made out of clay; than if he spring from the next resembling animal type?" Further, the Mosaic account "does not conflict with the indefinite modifiability of man, but on the contrary agrees with it." The reviewer affirms this point by noting the great diversity of humanity that has proceeded from Adam and Eve, "in a word, all the different species of men on the face of the earth, must have developed and differentiated out of one primitive type."[475]

The *New York Daily Tribune* of 1 June 1871 noted that "Darwin himself admits that somewhere in the vast line of human development, the soul, by Divine power, was made immortal," while *The Saturday Review*, 24 December 1859, postulated that

> no conceivable amount of evidence derived from the growth and structure of animals and plants would have the slightest bearing upon our convictions in regard to the origin of conscience, or man's belief in a Supreme Being and the immorality of his own soul. . . . We know that there are limits which human reason is unable to overpass, but we believe that those limits will be more surely ascertained and fixed by the right use of reason itself than by the edict of an external authority.

Continuing in the vein of denigrating the "external authority" of Scripture, a review from *The Literary World*, 17 March 1871, remarked condescendingly: "He who believes in the

[475] Here is the way in which one still comes to multiple races or species of humans. While in polygenism one begins with multiple origins and thereby multiple species, in monogenism it was possible to imagine a single point of origin, but separation of the species through some type of population isolation that took place over tens of thousands of years. One could even make such an idea biblical by invoking the Tower of Babel in Gen 11.

advancement of man from some lowly organised form, will naturally ask how does this bear on the belief in the immortality of the soul. The barbarous races of man, as Sir J. Lubbock has shown, possess no clear belief of this kind; but arguments derived from the primeval beliefs of savages are, as we have just seen, of little or no avail."

The Liverpool Leader, 18 March 1871, assured its readers that no danger was to come to natural theology as proposed by Paley by Darwin's concepts of humanity. The author notes that no matter how one might conceive of the origin of things,

> Our minds are so constituted that they cannot rest content with a mere sequence of lifeless and mechanical causes; they must work back until they reach, as the ground and cause of all these secondary causes, an intelligent volitional Being, in some way resembling that which is highest in the soul of man. At this point our curiosity can and does pause, not as comprehending, but as conscious that it has reached the end of its tether. The mind, knowing that it cannot in the least comprehend, or get behind, one of its own acts of free volition—every one of which is, on a smaller scale, a veritable creation—is for that very reason prepared to acknowledge that, when it has reached such a mystery as the will of an intelligent Creator, it has reached a limit which it cannot pass. Till it has reached this point, however, the search for causes cannot stop.

This idea of the restless soul that must search to find its meaning is also reflected in a review from *The Nonconformist*, 4 May 1871, which provides a fitting summation of the deeply ingrained notions regarding the immortal soul and its place within scientific discussion, especially in regard to the question of the essence of humanity. In a direct echo of William Perry's earlier pronouncements of polygenism, the review proposes that Darwin's theory of evolution must necessarily stop at the level of savage life because there Darwin

> leaves humanity fixed, rigid, immoveable. In order to go beyond this, man must rise 'above himself' . . . . From this point the life of man is not simply human; it is Divine, and cannot be completed without Divine intervention, which infantile science ignores, and calls 'a break,' and leaves to be discussed in 'another place.' Yet here, if anywhere, the noblest Biology commences, and science must yet find some way of bringing its theories of evolution up to this better elevation. We do not ask this of Mr. Darwin, and if the sense of deficiency has been forced upon us, he himself and his Psychology must bear the blame.

To be finally and completely human, one must possess that final element of humanness, the immortal soul, or, as this reviewer posits, "Man is not simply human; it is Divine, and cannot be completed without Divine intervention.

Conclusion

Darwin and his colleagues struggled with the question of the immortal soul and its relation to Darwin's evolutionary theory. However, these are not merely the ramblings of an older, less-informed age. The debate over the immortal soul continues in contemporary discussions among theologians and scientists. Some propose that the theological belief of dual creations opens the door to a scientific view of physical origins, which it does. However, as we have seen, this view brings serious problems in regard to the question of human being, leading to views of polygenesis, in which there were multiple origins of humans and thereby multiple species with varying levels of actual humanness. This led to the extermination and mistreatment of so-called "savage" peoples by the "vastly superior" white race. However, monogenism also brings its own problems.

Darwin's initial reaction to such problems was to rethink the origins of human beings as common descent from one stock. However, he also succumbed to the problem of racial profiling on the basis of natural selection, adaptation, and intellectual advantage after reading Malthus. After the freeing of the slaves, the United States, needing to replenish its work force, extended the races of humans to Europeans, basing their views on the intellect and justifying their conclusions on the development of inaccurate, though elaborately designed, intelligence studies. Such studies further justified the cruel and inhumane treatment of immigrant and black workers in the burgeoning sweat shops in places such as New York City.

The excess baggage of the concept of dual creations leaves much to be desired and requires a re-envisioning. In the final chapter, I explore the possibility of the Hebraic-Christian concept of being, which provides an alternative foundation for the theology-and-science dialogue that is respectful of human beings, in all their wonderful diversity and beauty, and of the natural resources that require care and preservation by relational human beings.

CHAPTER 7

THE HEBRAIC-CHRISTIAN CONCEPT OF HUMAN BEING[476]

Introduction

In this dissertation, I have addressed two related issues. I began by examining the problem of methodology between the disciplines of the theology-and-science dialogue, noting that while the dialogue community assumes that there is a methodology or cluster of methodologies that allows for interdisciplinary conversation to take place among them, there is no real consensus as to how to proceed. Therefore, I began by asking if it is possible to surmount the problem of methodological compatibility and to generate mutually beneficial and fruitful dialogue through seeking a point of commonality between all the disciplines of the theology-and-science dialogue.

Answering in the affirmative, I then investigated what this common philosophical ground might be, concluding that a point of commonality between all the disciplines of the theology-and-science dialogue was the question of human being. In order to further orient my methodology, I then restricted the concept of human being to humans as relational beings. This restriction is important, for it allows us to immediately understand the impact of humans on their environment, here understood to mean the totality of the natural (physical), moral (philosophical and social), and spiritual (theological) aspects of reality.

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[476] A part of the present chapter was published by a different title, "Rethinking the Augustinian Foundation of the Theology-and-Science Dialogue," by Karen K. Abrahamson, *AUSS* 49 (2011): 93-123.

Therefore, by restricting my definition to humans as relational beings, a basis is provided for scientific exploration of my hypothesis that there is a correlation between definitions of human being and the way that human beings interact with their environment.

Second, it helps to create not only a common ground from which to investigate this hypothesis, but it also provides an opportunity for developing a language that will be understood across the disciplines so that interdisciplinary communication and exploration may be more efficient.

Third, if it is true that humans have negatively impacted their environment, then understanding the complex relations between them and the Other will be helpful for approaching the current economic and ecological crises.

In this chapter, I will explore, first, the insights that I have gathered from my investigation thus far by summarizing my conversations with my dialogue partners. Next, I will consider my Hebraic-Christian perspective of humans as relational beings. In this task, I will turn to my final dialogue partners in this dissertation, the Hebrew Bible and the Greek New Testament, which are commonly known as the Scriptures. It is proposed here that the Scriptures have a common definition of humans as relational beings that encompasses the physical, moral, and spiritual attributes of human being, meaning that they are concerned with (1) the physical, mental, and spiritual well-being of humans, (2) the interaction between humans and other inanimate living things, including other humans, and (3) the relationship between humans and God. Finally, I will consider the potentially positive implications of a shared concept of humans as relational beings, especially the positive role that Christian theology can bring to the theology-and-science dialogue.

The Insights Gained from Interdisciplinary Dialogue

In this dissertation, I have addressed the question of humans as relational beings. We have seen that it is possible to find a common philosophical ground by which to dialogue. Further, we have seen the value of philosophy as it helps to provide a roundtable that the disciplines of the theology-and-science dialogue can gather around. At this roundtable, I have dialogued with a number of individuals, who have provided important insights in regard to both the possibility of beneficial interdisciplinary dialogue and for the question of human being. I will now briefly reiterate their most significant insights:

Kant proposes that "two things fill the mind with ever new and increasing admiration and awe, the oftener and the more steadily we reflect on them: the starry heavens above and the moral law within."[477] His elegant prose reminds us that humans are complex beings, who can neither be considered purely physical nor purely moral, but some mysterious combination of both. Although he clearly differentiates between the two realms, he nevertheless proposes that there is a moral influence upon the physical realm.

Bhaskar builds upon the insights of Kant, but hopes to escape the potential problem in idealism of making the individual the constructor of reality. He therefore takes Kant's ideas and recasts them from the perspective of the social observer, which is, for him, society, understood here in a universal and irreducible sense and emphasizes that the social observer has the potential for shaping and influencing, rather than creating, her environment. His critical realism makes three significant contributions that may be applied to the theology-and-science dialogue: (1) that the flow of knowledge proceeds from ontology to epistemology, or from "manifest phenomena to the structures that generate them"; (2) that

[477] Kant, *Critique of Practical Reason and Other Works*, 260.

social constructs, due to their ability to influence human behavior, have ontological characteristics; and (3) that because reality is a unified stratification and that because disciplines develop along these stratifications, it is possible to work across them along points of commonality for the purpose of interdisciplinary dialogue. Bhaskar's critical realism, then, allows for the full spectrum of disciplines to participate, each in its own way, in the theology-and-science dialogue.

A further significant contribution that I will discuss in more detail below is the critical-realist proposal of retroduction, which allows for the inferential process to begin with where we are currently in history. Such a proposal allows for immediate preventive action to be taken in the present, while still allowing for rigorous investigations of long-term effects. Such an approach is important for initiating interdisciplinary work on economic and ecological crises and for dealing with crimes against humanity.

Heidegger presents a radical description of human Being/being. In this conception, there is a *nexus* and *connexio* between, on one hand, the physical being of humans and the rest of the physical realm. Humans share in both its bounties and its crises. On the other hand, as Beings, humans have a unique ability to reflect, contemplate, and make judgments about the world that they are a part of. Because of their reflective abilities, they are a powerful and influential force within their environment. Just as Bhaskar would later take inspiration from the possibility of a social application to Kant's ontology, so Heidegger sees the human Being/being as having a powerful ability to shape the world into her own image. *John D. Barrow and Frank J. Tipler* also support the idea that human beings play a powerful role as observers who influence the flow of history. They attempt to demonstrate this proposal from the perspective of the anthropic cosmological principle.

In regard to the relation between human and divine being, Heidegger critiques *Friedrich Neitzsche*'s theology and ontology. Neitzsche's themes—"God is dead" and the human "will to power"—led Heidegger to conclude that Western philosophy in its Platonic form is concluded. Just as we expect Heidegger to turn to his apostolic Christian roots to resolve the problem of human being, he instead embraces the materialistic god of the pre-Socratic philosopher Heraclitus. While Heidegger's proposal of Being/being adequately and helpfully provides a basis for considering the moral and physical elements of human being, his theology is neither theistic nor sufficient for completing the construction of humans as relational beings.

McGrath sees the possibility for theology as a full dialogue partner in the theology-and-science dialogue. He modifies and applies Bhaskar's methodology in his scientific theology of nature as creation, thereby beginning the process by which theological concepts can become sources of scientific knowledge in their own right and within their disciplinary constraints.

He grounds his ontological definition of nature as creation in the *Augustinian* tradition. However, while Augustine provides a good justification for interdisciplinary dialogue, his anthropology is lacking in two ways:

1. His concept of human being proposes a composite of body and immortal soul, which have dual creations and, troublingly, allows for a hierarchy of being to be established. Such dualism has led in the past and in the present to the suggestion that some apparent humans are not completely human beings and thus may be targeted for slavery and other crimes against humanity, such as genocide, gender discrimination, and racial profiling.

2. His understanding of history and predestination leaves humanity without any real responsibility for their behavior. *Anna Case-Winters*, *Rudolf Bultmann, Stephen Jay Gould*, and

Adrian Desmond and James Moore, along with others, help to demonstrate the historical outcomes of such proposals.

These dialogue partners have helped to enlighten us in this investigation of humans as relational beings. They have also helped me to realize that there is a need for something more—a truly spiritual approach that is grounded in a Christian theology, which itself is grounded in the Christian Scriptures. It is to this topic that we now turn.

The Hebraic-Christian Perspective: A Critical-Realist and Canonical Approach

One of the most striking features of Bhaskar's critical realism is that its methodological reflection begins with retroduction. As we saw in chapter 1, retroduction involves beginning the process of inference with where we currently are in history. While this does not in any way denigrate the past or make it inaccessible for the critical realist, it does keep the conversation from becoming mired in debate over whether, for example, there is a long enough history on the safety of a particular chemical to warrant discontinuing its use. If workers who come into contact with the chemical appear to become sick from it, it is sufficient to infer that its use should be suspended or otherwise controlled until rigorous testing of the possible correlation between illness and exposure has been conducted.

But retroduction need not be a mere stopgap; it also tests the validity of whether a conceptual approach may be considered scientific knowledge, which involves defining the concept ontologically and the rigorous testing of it.

In this dissertation, I put forward the hypothesis that there is a correlation between definitions of human being and the way that human beings interact with their environment. Thus far in this dissertation, we have seen that humans are closely tied to their environment as social observers. The fact that we are here, that we live and act in the environment, and

that by doing so we impact nature either negatively or positively through our social concepts seems to indicate that humans are world-formers and, as such, relational beings. If, as my research in this dissertation seems to indicate, humans are indeed a large cause of the economic and ecological crises of today, then perhaps a retroductive approach to the problem would be helpful.

Further, as we have seen, respectful human-to-human interaction has been a struggle to maintain. Having based their definitions of Others on false pretenses, "man's inhumanity to man" has brought about untold horror and the debasing of all humans through actions such as genocide, slavery and human trafficking, and abuses of all kinds.

There is definitely a need to reassess who we are; there is a need to look at our current self-definitions and bring them back into line with a kinder and gentler approach to ourselves and Others. Insightful though my dialogue partners have been in this dissertation, all too often they focus on defining humans by simply looking in the mirror. But if humans become their own referent, then they will only and always reflect themselves. It seems that something else is needed besides a merely moral and scientific approach. It seems that a spiritual, theological approach is needed that causes us to see ourselves as others and God do.

However, as we begin the process of defining human being, we are immediately presented with a problem. In a long and protracted debate, stretching from Darwin's *Origin of the Species* to the present,[478] Christian scholars have argued over the problem of human

[478] The literature for this topic is too numerous to be delineated here, but two examples will help to point to the beginning of the debate and to where it stands today: For the early debate, see Gillespie, *Charles Darwin and the Problem of Creation*. For the current situation, see, e.g., Karl W. Giberson and Francis S. Collins, *The Language of Science and Faith* (Downers Grove: InterVarsity, 2011), which helpfully examines frequently asked questions about how theology is approaching this problem currently.

origins. Such debate is helpful in cosmological dialogue; however, it greatly detracts in this discussion from focusing on the larger problem at hand—human culpability for the economic and ecological crises that are overwhelming the planet and catastrophically impinging upon its inhabitants' qualities of life. E. O. Wilson, a sociobiologist, briefly outlines these problems, which he summarizes with the acronym HIPPO:[479]

H habitat loss, including that caused by human-induced climate change
I invasive species (harmful aliens, including predators, disease organisms, and dominant competitors that displace natives)
P pollution
p human overpopulation, a root cause of the other four factors
O overharvesting (hunting, fishing, gathering)

A close examination of these problems reveals three things: (1) All have human causes; (2) they all deal with problems that, due to their nature and severity, are unprecedented; and (3) they all require immediate responses.

Wilson notes, for example, that pollution and loss of habitat are largely responsible for the decline in the Haitian amphibian fauna, and for the decline and even extinction of amphibians in the western United States, Spain, West Africa, and Indonesia. When combined with climate change, the damage is even more severe, as evidenced in Central America and the Atlantic rainforest of Brazil. And what is behind this decline? Human beings, he proposes, who never set out intentionally to harm frogs, but who somehow ended up doing so.[480]

If only it were the frogs alone who suffered, terrible as that might be, but evidence suggests that when frogs come under severe hardship to the point of extinction, they are not alone in their suffering. While it may appear to be a large leap from frog to human being, at

[479] Wilson, *The Creation*, 75.

[480] Ibid., 80-81.

the very least, Wilson contends, "we are creating a less stable and interesting place for our descendants to inherit."[481]

Another important revelation that comes from examining Wilson's list of catastrophic problems is their unprecedented nature and severity. Bill McKibben, a Christian environmentalist, reminds us, we are losing the grand oasis called Earth. "We're every day less the oasis and more the desert. The world hasn't ended, but the world as we know it has—even if we don't quite know it yet. We imagine we still live back on that old planet, that the disturbances we see around us are the old random and freakish kind. But they're not. It's a different place. A different planet. It needs a new name. Eaarth."[482]

We are junking our only home and making it a toxic waste dump. McKibben points to some of the varied and even seemingly unrelated problems that stem just from the overuse of and overdependence upon fossil fuels:

> So far humans, by burning fossil fuel, have raised the temperature of the planet nearly a degree Celsius (more than a degree and a half Fahrenheit). A NASA study in December 2008 found that warming on that scale was enough to trigger a 45 percent increase in thunderheads over the ocean, breeding the spectacular anvil-headed clouds that can rise five miles above the sea, generating 'super-cells' with torrents of rain and hail. In fact, total global rainfall is now increasing 1.5 percent a decade. Larger storms over land now create more lightning; every degree Celsius brings about 6 percent more lightning, according to climate scientist Amanda Staudt. In just one day in June 2008, lightning sparked 1,700 different fires across California, burning a million acres and setting a new state record. These blazes burned on the new earth, not the old one.[483]

At the time of the writing of this dissertation, a new megafire exploded across New Mexico. Andrew Freedman of *ClimateCentral.org* reports that

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[481] Ibid., 81.

[482] Bill McKibben, *Eaarth: Making a Life on a Tough New Plant* (New York: Times Book, 2010), 2.

[483] Ibid., 3.

> the largest wildfire in New Mexico's history continues to burn, having already charred an area the size of New York City [approximately 496 square miles or 1,214 square km]. Known as the Whitewater-Baldy Fire Complex, the wildfire has become another in a series of "megafires" to torch the American West due to an unprecedented combination of drought conditions, climate change, and alterations in land-management practices. To make matters worse, according to *The Guardian* newspaper, congressional budget cuts may restrict the federal government's firefighting efforts.[484]

A number of elements make this fire unprecedented, including:

1. *The size and scope of the burn*—two fires, which merged in late May 2012 to create this megafire, burned 70,000 acres in just one day. With the fire only 10 percent contained as of 1 June 2012, it had already burned 216,000 acres.

2. *Difference in kind of burn*—Freedman notes that climate studies demonstrate that "long-burning, massive wildfires have become more common in the U.S. in recent years," and that these fires 'burn differently' from fires of the past."

3. *Humans are the cause*—the article cites Christopher I. Roos, an assistant professor of anthropology at Southern Methodist University, who states: "The U.S. would not be experiencing massive large-canopy-killing crown fires today if human activities had not begun to suppress the low-severity surface fires that were so common more than a century ago."[485]

Such disasters point us to Wilson's third revelation. These types of disasters and crises require immediate action. At this point, we return to my hypothesis of the correlation between definitions of human being and their behavior toward the environment. It seems that human beings have forgotten both their Being and being. They have forgotten that they are creatures of this world, whose cognitive abilities give them powerful influence over their

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[484] Andrew Freedman, "New Mexico Wildfire Now a Record-Setting 'Megafire,'" *Climate Central: Why Climate Change Matters*, http://www.climatecentral.org/blogs/new-mexico-wildfire-continues-to-grow (accessed 8 June 2012).

[485] Ibid.

environment. Perhaps it is time to think more simply about the world and our relationship to it and to reconsider that we have been created in the image of God. Then, perhaps, we may be able to begin formulating some profitable solutions to these very immediate crises.

But before we turn to this idea that humans have been created in the image of God, we need to linger a moment longer on the power of humans to impact their environment. It seems to me that human beings set a dangerous precedent by not taking care of the other creatures with whose care they have been entrusted. The real danger is the potential for exhibiting some form of sociopathy.

While in the past sociopathic behavior was considered to be primarily the study of clinical and abnormal psychology, Louis A. Penner and Charles D. Spielberger suggest that in order to understand the phenomenon of sociopathy it is best to approach it from "the theoretical perspective of personality and social psychology."[486] This is because "sociopathy is a general trait, or collection of traits (syndrome), which is manifested to a greater or lesser extent in the behavior of all people. Although sociopathic behaviors are antisocial, and therefore, undesirable from a societal point of view, they do not invariably get the actor into 'trouble,' and may even sometimes produce considerable benefit for him or her."[487] Therefore, "a lack of empathy and a lack of concern with the welfare of others were the best indicators of sociopathy."[488]

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[486] Louis A. Penner and Charles D. Spielberger, "Assessment of Sociopathic Tendencies," in *Advances in Personality Assessment*, ed. Charles D. Spielberger and James M. Butcher (Hillsdale, NJ: Lawrence Erlbaum, 1988), 7:3.

[487] Ibid.

[488] Ibid., 2.

As I have suggested, human beings create concepts that express their own perceptions about themselves as humans. Part of this process of social-concept building is the creation of value systems. Penner and Spielberger note that a value system "is comprised of beliefs about modes of conduct or end-states of existence that are ordered in terms of their relative importance to the person. Values have their origins in and are reflective of a person's self-concept; they directly and indirectly influence a person's attitudes and behavior."[489] The authors' proposal that "sociopathic tendencies may manifest themselves in the social behaviors of people who have never received the clinical diagnosis of sociopathy or been institutionalized because of sociopathic behaviors"[490] is important because it awakens us to the need for understanding such tendencies in the practice of everyday life.

It was found in regard to social behavior that those within the general population who expressed sociopathic tendencies in standardized psychological tests were more likely to engage in antisocial actions such as stealing and lying,[491] were "generally speaking, callous, egocentric, and selfish," and more immune to reacting positively to "distress in other persons."[492] Finally, the authors investigated how individuals with sociopathic tendencies react to inequity. The Equity Theory, they note, "provides one of the most widely accepted social psychological analysis of facts that influence people's behavior during social interactions." They explain that

> greatly simplified, this theory proposes that people desire fair or equitable treatment when they deal with other people. They expect that what they contribute to an exchange

[489] Ibid., 12.

[490] Ibid., 19.

[491] Ibid., 13-14.

[492] Ibid., 14-17.

> will be matched by what they get out of it. If this does not happen, people will experience distress whether they are the victim or the exploiter in the exchange. As a result of this distress, people attempt to restore equity in one of two general ways. First, the person can use physical means, for example, victims could reduce the amount of effort they expend in an interaction. Second, the person can use psychological means to restore equity by rationalizing away the unfair treatment. For example, victims might increase their evaluation of the exploiter and, thus, justify the treatment they received at his or her hands. It should be noted that physical restoration of equity typically benefits the victim; psychological restoration of equity typically benefits the exploiter.[493]

What is significant about these findings is that "consistent with the [official handbook of psychological diagnoses, the] DSM-II description of sociopaths, they were willing to rationalize the wrongs they committed against another person, but were unwilling to do this when they themselves were the victim of the same injustice. Apparently, for sociopathic individuals, it makes a considerable difference whose 'ox is being gored.'"[494]

If we think about the problem of sociopathy, then, from a general character trait that is present in some degree in all human beings, then it speaks to the interaction of humans with their environment. How do we justify our actions with the Other? Could it be that even the act of everyday living is a statement about how antisocial human beings are becoming.

Heidegger's concern about the human ability to make nature a "standing-reserve," which I spoke of in chapter 3, becomes urgent in this regard. Treatment of the Other, especially in regard to the treatment of so-called "lesser" animals, has been found to be related in some cases to criminal antisocial behavior.[495] But if Penner and Spielberger are correct, this problem could be manifest in more socially acceptable ways in the general population.

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[493] Ibid., 17.

[494] Ibid., 19.

[495] Benjamin B. Wolman, *The Sociopathic Personality* (London: Brunner/Mazel, 1987), 95.

If we consider, for example, the problem of meat production for most Americans, it is possible to better understand how humans are potentially creating sociopathic tendencies just by how they choose to eat. In the past, meat production was a family or small community effort. Generally, animals were slaughtered from within one's own herd, in which they were treated quite humanely both in their upbringing and slaughter. Cattle were not kept enclosed or fed waste products, but grazed in open pastures during spring, summer, and fall, and if needed were kept in barns and fed grains and hay during the winter. Today, mass production is something quite different. First, animals from slaughter have been removed from our immediate sight and, second, the overcrowded, unsanitary, and even cruel conditions of their "shelter" and upbringing are often beyond imagination. Michael Pollan, who describes meat production, asks, "when's the last time you saw a pig in person? Meat comes from the grocery store, where it is cut and packaged to look as little like parts of animals as possible. . . . The disappearance of animals from our lives has opened a space in which there's no reality check on the sentiment or the brutality." He, then, points to an essay written by John Berger, "Why Look at Animals?" In this essay, Berger suggests that losing contact with animals—specifically he refers to losing eye contact—

> has left us deeply confused about the terms of our relationship to other species. That eye contact, always slightly uncanny, had brought the vivid daily reminder that animals were both crucially like and unlike us; in their eyes we glimpsed something unmistakably familiar (pain, fear, courage) but also something irretrievably other (?!). Upon this paradox people built a relationship in which they felt they could both honor and eat animals without looking away. But that accommodation has pretty much broken down; nowadays it seems we either look away or become vegetarians.[496]

If we can tolerate the inhumane treatment of animals because they have been removed from our immediate purview, what does this say about who we are as human

[496] Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (New York: Penguin, 2006), 106-107.

beings? What does it say about how we view our relationships with the Other? Does it endanger who we are? So, yes, the history of where we came from does matter, but if we become mired in this discussion, then we lose the possibility of dealing with where we are right now.

My goal, therefore, is not to start somewhere in the distant past to try to uncover where we all came from. I simply accept here that, however God did it, human beings come from his hand and are to be a reflection of his image. As such, they are relational beings. By beginning with the not-so-controversial perspective that humans are relational beings, there is room for all disciplines to make their specific contributions about human relationality and its impact on the environment. As we saw also in chapter 1, all of the disciplines of the theology-and-science dialogue are concerned in some way about how humans relate to the natural environment, to the things of nature (i.e., the flora and fauna), to other humans, and to God. So with these delimitations and with a sense of the impending crises that assail us, we now turn to the Hebrew Bible and the Greek New Testament and allow them to tell us for themselves their view on human being. In this, I will use a canonical approach and I will not, in the spirit of critical realism, be concerned unduly with the history of criticism of the Scriptures.

The Hebrew Bible and Human Being

Serious reflection on Gen 1 and the initial conditions laid out by God, in which humans would participate in protecting the beauty and goodness of the world through their own ethical choices, is helpful as we consider how to respond to nature. Ellen White, reflecting on the events leading to sin as portrayed in Gen 1–3, notes that

> if the [human] race had ceased to fall when Adam was driven from Eden, we should now be in a far more elevated condition physically, mentally, and morally. . . . Men will not

> take warning from Adam's experience. They will indulge appetite and passion in direct violation of the law of God. . . .
>
> From Adam's day to ours there has been a succession of falls, each greater than the last, in every species of crime. God did not create a race of beings so devoid of health, beauty, and moral power as now exists in the world. Disease of every kind has been fearfully increasing upon the race. This has not been God's especial providence, but directly contrary to His will. It has come by man's disregard of the very means which God has ordained to shield him from the terrible evils existing.[497]

There are two important reasons why the creation accounts were included at the beginning of the Torah, which provides an explication of law, demonstrating outcomes through narrative.[498] First, it was to remind its readers that the initial conditions which brought about the world matter and set the tone for what will come, and that human beings as moral, creative creatures have a stake in determining how history flows through time. Bultmann realized this point, freeing himself from the deterministic Augustinian worldview in which the responsibility of human behavior was ultimately removed from the acting human because her fate had already been determined from eternity. While I do not agree with Bultmann's eschatology, which proposes that the heavenly kingdom is realized in this Earth as it is and without a personal, historical advent of Christ that results in the re-creation of a new Earth, I do agree that each decision humans make is eschatological in the sense of creating an initial condition that potentially has far-reaching consequences as it moves history toward a new state of being.

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[497] Ellen White, "Temptation of Christ," *Review and Herald*, 4 March, 1875, paragraphs 8-9.

[498] While it may be argued that the Torah contains many different genres, the Torah as an explication of law is foundational for understanding these other genres. As discussed below in regard to Philo of Alexandria, history itself is not understandable without the underlying context of Torah as divine law.

A second reason for including the creation accounts at the beginning of the Torah is due to the legal nature of God's covenant with humanity. In contrast to the *theologia civilis* of classical Greece, in which the rituals were concerned primarily "with the divine cults, religious institutions, figureheads, and rites, which offered society social change" and the *theologia fabulosa*, with the often immoral actions of the gods,[499] the rituals of ancient Israel were to have lasting personal and communal impact on the behavior of the worshiper both in society and in relationship to God. In the laying-on of hands upon the head of the sacrificial lamb, the one offering the sacrifice would be forced to stop and contemplate the personal impact of his sin upon his relationship with God, with humans, and even the creation as he took part in the lamb's sacrifice (Lev 1:1-4).

As Roy Gane points out, "Ritual consists of rule-governed activity (Staal 1989: 260, 452). That activities are rule-governed means that they exhibit regularities for which rules may be postulated to account for them." As Gane notes, Staal delineates a potential problem with ritual: "The concern of ritualists is with performing activities in a certain manner according to rules rather than with achieving results in any possible manner."[500] Ritual that has become mere activity becomes devoid of meaning; however, a ritual imbued with meaning can provide a hierarchical system that contains meaning throughout.[501] He proposes that God's character of love is demonstrated in the cultic rituals and that humans, by practicing the rituals and laws given in the Torah, demonstrate God's character, or being, in

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[499] McGrath, *A Fine-Tuned Universe*, 24. McGrath notes that this use of civil religion as a mechanism for social cohesion is why the early Christians were considered a threat to the Roman Empire because the Christians refused to do those things that promoted cultural unity, such as worshiping the emperor (ibid., 24-25).

[500] Roy Gane, *Ritual Dynamic Structure* (Piscataway, NJ: Gorgias Press, 2004), 2.

[501] Ibid., 3.

their own lives and thereby place a boundary or limit upon the types of activities that they participate in, the lifestyles they choose to live, the relationships that they have with other humans and with God.[502]

It is not unreasonable, then, to extend this idea of ritual and law to all living and nonliving things that exist in this world. If we apply this ritual construct to the creation event itself as the opening statement of God's character, then it is possible to see that human physicality and morality are intimately related to one another from the very beginning. The creation account comes at the beginning of the Torah because God as the Creator of all things is the source of all law, not just moral and civil. While Genesis does not speak of physical law in scientific terms, it nevertheless points to the metaphysical foundation upon which natural, moral, and civil law is grounded, a point that Philo articulates (see below). As I argue above, there is an intimate relationship between the human behavior and the health and well-being of both the economy and ecosystem.

Thus it is that humans are a system of hierarchical processes and subsystems. As pointed out by Ian Barbour, they are not simply physical beings, but are also moral beings who live together in communities and who are governed by cultural, societal, and religious rules for living together.[503] The Genesis creation accounts endorse this sense of community (1) by creating an appropriate environment for creatures to live in, (2) by placing these creatures together in integrated and dependent relationships, (3) by commanding them to reproduce and fill this environment, (4) by giving humans the ability to make moral decisions that would help to sustain and maintain the environment, and (5) by placing humans within

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[502] Roy Gane, *Cult and Character: Purification Offerings, Day of Atonement, and Theodicy* (Winona Lake: Eisenbrauns, 2005).

[503] Barbour, "Five Models," 29.

stable family groups that would provide a continuing resource for moral growth and development. These initial conditions, even though shattered by the fall of Gen 3, were to be reaffirmed by daily choosing to endorse the initial conditions of the Gen 1 account:

> Hear, Israel, and be careful to obey so that it may go well with you and that you may increase greatly in a land flowing with milk and honey, just as the LORD, the God of your fathers, promised you. Hear, O Israel: The LORD our God, the LORD is one. Love the LORD your God with all your heart and with all your soul and with all your strength. These commandments that I give you today are to be upon your hearts. Impress them on your children. Talk about them when you sit at home and when you walk along the road, when you lie down and when you get up. Tie them as symbols on your hands and bind them on your foreheads. Write them on the doorframes of your houses and on your gates. (Deut 6:3-8, NIV)

This recounting of God's law was not simply the remembering of moral and civil law, but also natural. Humans were meant to look upon nature and see its lessons for life and to enjoy the blessings granted by nature and given to them by God. Thus it is that Hebraic-Christian perspective is strongly grounded in a belief in the Scriptures and the practice of a holistic reading of them. Some Christians are seeking for answers to the economic and ecological crises by turning toward pantheistic perspectives, such as found in Native American and Eastern religions. However, the Scriptures provide lessons on how to live balanced and joyful lives that are in relationship not only with God and others, but also with nature. God is above, rather than a part of, his creation (i.e., God is not in a pantheistic relationship with his creation). His character of love is, ultimately, his law: God's "law is a transcript of His own character, and it is the standard of all character."[504] By following his law in the essence in which it is intended, humans become successful relational beings.

But there is an even deeper lesson to be contemplated here in the first chapters of Genesis. There is a deep relationship between human behavior and nature. In the recounting

[504] Ellen G. White, *Christ's Object Lessons* (Hagerstown, MD: Review and Herald, 2002), 315.

of the great Deluge, the lesson is that as humans fell out of relationship with God, one another, and nature, so nature became degraded. Nature and human degradation mirror one another. Interestingly, science is learning this same lesson.[505]

The climactic point toward which the Preacher of Ecclesiastes drives is that humans may choose to live their lives as they choose, believing that they are islands isolated from the rest of the world. However, in the end, it is revealed, God has been observing their actions all along ("Now all has been heard; here is the conclusion of the matter: Fear God and keep his commandments, for this is the duty of all mankind. For God will bring every deed into judgment, including every hidden thing, whether it is good or evil," Eccl 12:13-14, NIV). In view of this reality, the Preacher urges the young to "remember your Creator in the days of your youth, before the days of trouble come and the years approach when you will say, 'I find no pleasure in them'" (Eccl 12:1, NIV).

As one of the most influential passages of Scripture to both Christians and Jews, Gen 1 proposes that the path to the creation of humans was, first, purposeful—each organism existed not only for its own intrinsic purpose, but also for the sustenance and welfare of the planet (each type of organism comes into being in a hierarchical fashion,[506] each day's creation adding a layer of complexity and structure to the framework of life on

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[505] Ellen G. White, *Patriarchs and Prophets* (Nampa, ID: Pacific Press, 2005), 90ff.; see also *Home: The Movie*, http://www.youtube.com/watch?v-jqxENMKaeCU (accessed 8 June 2012).

[506] Here the term "hierarchical" is referring to the idea that "new properties and capacities *emerge* at higher hierarchical levels and can be explained only in terms of the constituents at those levels. For instance, it would be futile to try to explain the flow of air over the wing of an airplane in terms of elementary particles. Almost any phenomenon studied by a biologist relates to a highly complex system, the components of which are usually several levels above the level studied by physical scientists" (Mayr, *Toward a New Philosophy of Biology: Observations of an Evolutionist*, 11, emphasis original).

Earth) and for the glory of God (revealed in the celebration of the creation [i.e., the action of God in the world] and the worship of God on the Sabbath). The individual and yet harmonious roles that organisms were to play were meant to be lasting ones, with each step of the process being blessed and living organisms being bid to carry out their roles into perpetuity through their multiplying and filling the Earth (each day is called "good" by God after its completion, with the final, seventh affirmation of the Earth being "very good"). Importantly, in the naming of the animals (Gen 2:19) humanity was to recognize the uniqueness and intrinsic role(s) of each creature; in other words, there was to be no excuse for "destroying the earth" through the exploitation of the creation. While the first recorded sin, in Gen 3, is about listening to and heeding the lies of the serpent, it might be suggested that there is also the sin of exploiting nature to obtain knowledge for one's own personal gain; of making nature a "standing-reserve" or inventory[507] by perverting its intrinsic meaning—eating the fruit of the knowledge of good and evil to gain the wisdom of God. Similarly, the appearance of the evil one as a beautiful creature called a serpent was for the purpose of deliberately deceiving humanity (Gen 3).

Genesis 1, then, viewed from a global perspective, shows a world that becomes increasingly complex and ordered throughout the creation account. However, it also points to a moral beginning, which correspondingly becomes increasingly complex and ordered as the layers of physical and biological complexity grow. In this account, there is no separation of the moral and physical elements of the natural realm. Rather the success of one realm is dependent upon the other.

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[507] Heidegger uses this term to describe how humans change the meaning of nature when they exploit it for their own singular purposes (*The Question Concerning Technology and Other Essays*, 17). While he does not compare it to the original sin of humanity, it is, I believe, a fitting metaphor for Gen 3.

By thinking of Gen 1 qualitatively, we are then able to see the potential for viewing it not only globally, for the purpose of understanding how order flows throughout the entire creative process, but also for understanding that the process described there is not simply a demythologized version of Babylonian mythology.[508] There is no struggle between God and the forces of chaos. Nor is the account a mere recitation of quasi-historical events, given only for the purpose of narrating a story of origins for the Israelite people, but is meant to convey a sense of reality. Further, the God of the Scriptures is a personal God, who draws near to humans and without the need of any visual representation of him (Dan 2:11) than a human being who has been restored into his own image.

Philo of Alexandria asserts in the introduction to his work "On the Creation" that other "lawgivers . . . have sought to bewilder the people, by burying the truth under a heap of fabulous invention."[509] Moses, in contrast, "made the beginning of his laws entirely beautiful, and in all respects admirable, neither at once declaring what ought to be done or the contrary, nor (since it was necessary to mould beforehand the dispositions of those who were to use his laws) inventing fables himself or adopting those which had been invented by others."[510] Philo proposes that Moses did not make use of fables or myths because "the law corresponds to the world and the world to the law, and that a man who is obedient to the law, being, by so doing, a citizen of the world, arranges his actions with reference to the

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[508] See William W. Hallo and K. Lawson Younger, eds., *Enuma Elish*, in *The Context of Scripture: Canonical Compositions, Monumental Inscriptions and Archival Documents from the Biblical World*, 3 vols. (Leiden: Brill Academic, 2003), 390-402.

[509] Philo of Alexandria, "On the Creation," in *The Works of Philo: Complete and Unabridged*, new updated ed., trans. C. D. Yonge (Peabody, MA: Hendrickson, 1993), I.1 (p. 3).

[510] Ibid., I.2 (Yonge, 3).

intention of nature, in harmony with which the whole world is regulated."[511] He surmises that neither historian nor poet could surpass the statement of law and creation given by Moses, although we ought to exert ourselves to describe nature. The problem is, however, that

> for some men, admiring the world itself rather than the Creator of the world, have represented it as existing without any maker, and eternal; and as impiously as falsely have represented God as existing in a state of complete inactivity, while it would have been right on the other hand to marvel at the might of God as the creator and father of all and to admire the world in a degree not exceeding the bounds of moderation.[512]

Without the historical nature of God's actions in the creation, which are carried out according to his law, there would be no basis for obedience of the law by the people ("the law corresponds to the world and the world to the law," and as citizens of the world, humanity observes the law).[513]

Law, then, in all its aspects—moral, civil, and natural—becomes the basis for a better life for all living things.

Law and Restoration of the Creation by God and the Human Free Will

The Psalmist, contemplating his own place among the wonders of nature, asks God, "When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, what is mankind that you are mindful of them, human beings that you care for them?" (8:3-4, NIV). His answer echoes the words of God at the creation of humanity in Gen 1:26-28: "You have made them a little lower than the angels and crowned them with glory and honor. You made them rulers over the works of your hands; you put everything

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[511] Ibid. (Yonge, 3).

[512] Ibid., II.7 (Yonge, 3).

[513] Ibid., I.3 (Yonge, 3).

under their feet: all flocks and herds, and the animals of the wild, the birds in the sky, and the fish in the sea, all that swim the paths of the seas" (Ps 8:5-8, NIV). In Ps 89, after affirming God's "rule over the surging sea" (i.e., primordial chaos, vv. 9-10) and his role as Creator of heaven and earth (v. 11), the Psalmist praises God for his law: "Righteousness and justice are the foundation of your throne; love and faithfulness go before you. Blessed are those who have learned to acclaim you, who walk in the light of your presence, LORD" (vv. 14-15). There is a reason why the physical and moral realms are not separated in the Gen 1 creation account. This global approach recognizes that natural law and order, morality, and even chaotic creative changes from one state to another have their roots in God's law.

Proverbs 8 describes the role of wisdom personified, asking:

> Does not wisdom call out? Does not understanding raise her voice? At the highest point along the way, where the paths meet, she takes her stand; beside the gate leading into the city, at the entrance, she cries aloud: . . . "I raise my voice to all mankind. . . . All the words of my mouth are just; none of them is crooked or perverse. . . . Choose my instruction instead of silver, knowledge rather than choice gold, for wisdom is more precious than rubies, and nothing you desire can compare with her. I, wisdom, dwell together with prudence; I possess knowledge and discretion. I hate pride and arrogance, evil behavior and perverse speech. Counsel and sound judgment are mine; I have insight, I have power. By me kings reign and rulers issue decrees that are just; by me princes govern, and nobles—all who rule on earth." (vv. 1-4, 8, 10-16, NIV)

Here wisdom and law may be equated—wisdom is just, having knowledge and discretion, counsel, and sound judgment. It is the foundation of law, both moral (choose prudence and abhor pride, arrogance, and evil behavior) and civil (kings reign and rulers issue decrees by wisdom).

But wisdom is also the foundation of natural law:

> "The LORD brought me forth as the first of his works, before his deeds of old; I was formed long ages ago, at the very beginning, when the world came to be. When there were no watery depths, I was given birth, when there were no springs overflowing with water; before the mountains were settled in place, before the hills, I was given birth, before he made the world or its fields or any of the dust of the earth. I was there when

> he set the heavens in place, when he marked out the horizon on the face of the deep, when he established the clouds above and fixed securely the fountains of the deep, when he gave the sea its boundary so the water would not overstep his command, and when he marked out the foundations of the earth. Then I was constantly at his side. . . . Blessed are those who listen to me, watching daily at my doors, waiting at my doorway, For those who find me find life." (Prov 8:22-30a, 34-35a, NIV)[514]

Without the context of Scripture, the Hebraic-Christian perspectives about reality and human origins would be left only partially answered, for science, as we have seen, limits itself to an examination of the physical causes, knowing even then that human ability falls far short of even a complete physical answer, let alone a moral one. It struggles then to form an idea of morality based upon what it does know about reality. Without Scripture, the divine activities that preceded and accompanied the origin of the physical act of creation would remain forever in the shadows.

The correspondence between moral and physical law within the animal kingdom is demonstrated in the establishment of the new creation following the reign of Messiah. In Isa 11:1-3, the Messiah is presented as one who comes from the "stump of Jesse," having a Branch that bears the fruit of the Spirit of God: "the Spirit of wisdom and of understanding, the Spirit of counsel and of might, the Spirit of the knowledge and fear of the Lord." Further, he will be a wise ruler, who sees beyond the deeds and actions of humanity to their innermost motivations and who will judge according to his righteous law (vv. 3-4, NIV). "Righteousness will be his belt and faithfulness the sash around his waist" (v. 5, NIV).

Messiah's actions in the animal kingdom result in the return of peace to animals once antagonistic to one another in the previous fallen world:

> The wolf will live with the lamb, the leopard will lie down with the goat, the calf and the lion and the yearling together; and a little child will lead them. The cow will feed with the bear, their young will lie down together, and the lion will eat straw like the ox. The infant

[514] See also God's speech to Job 38–41.

> will play near the cobra's den, the child will put its hand into the viper's nest. They will neither harm nor destroy on all my holy mountain, for the earth will be filled with knowledge of the LORD as the waters cover the sea. (Isa 11:6-9, NIV)

Thus even the created organisms other than humans experience the benefits and rewards of a restored divine law.[515] The image of the infant playing among serpents is striking. The adder, symbolizing the tearing down of the moral element of the creation, which results in its physical damage and destruction, is once again restored to its original position as a beautiful creature by its place beside the infant. The curse placed upon the serpent for its role in the deceiving of humanity in Gen 3:14b-15 (NIV) ("Cursed are you above all livestock and all wild animals! You will crawl on your belly and you will eat dust all the days of your life. And I will put enmity between you and the woman and between your offspring and hers; he will crush your head, and you will strike his heel") is now lifted, the relationship restored. This simple illustration points to the fact that each entity within nature has its own intrinsic value and reason for being. Though the unmoral behavior of humans often misappropriates and uses the natural resources and even one another as inventory, each creature retains its original identity and reason for being in the mind of God. Part of the role of God's people is to help uplift these original intents and one of the activities of God in the new Earth will be to fully restore the creation to its original form.

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[515] It is important to note that a canonical approach to the interpretation of Scripture is being employed here. Brevard Childs, who developed this approach, did so in an "attempt to heal the breach between biblical criticism and theology." It belongs to the genre of literary criticism rather than historical criticism (John Barton, *Reading the Old Testament: Method in Biblical Study* [London: Darton, Longman and Todd, 1984], 79, 90). Childs puts forth his canonical approach in *Biblical Theology in Crisis* (Philadelphia: Westminster, 1970) and his application of it in *Introduction to the Old Testament as Scripture* (Minneapolis: Fortress, 1979). The canonical approach is interested in the text of the biblical canon as a "finished product" (*Introduction to the Old Testament as Scripture*, 82-83).

Part of the process of salvation is that God wants to restore enmity between humans and evil and to remove the misconception that nature itself is intrinsically evil. God says: "I will give you a new heart and put a new spirit in you; I will remove from you your heart of stone and give you a heart of flesh. And I will put my Spirit in you and move you to follow my decrees and be careful to keep my laws" (Ezek 36:26-27, NIV). God is depicted in the Hebrew Bible as one who loves the natural realm. Here in Ezekiel, he wants to restore the humanness, that is, the "flesh," to human beings. Further, some of the most beautiful poetry ever written is credited to God's direct speech in celebration of the wonders of his creation in the closing chapters of Job (38–41).[516] Here God stands at the side of Job, pointing out to him the wonders of nature, pointing to the roaring seas, the brilliant flashes of lightning, and the delightful antics of the animal world. In restoring the image of God in human beings through the salvific process, God helps humans to come to love and appreciate the natural world as he does. When this happens, God promises that "I will call for the grain and make it plentiful and will not bring famine upon you. I will increase the fruit of the trees and the crops of the field, so that you will no longer suffer disgrace among the nations because of famine" (Ezek 36:29b-30, NIV). Here is a way for humans to help combat the problem of global warming by restoring their relationship with God; having done so, there is then a desire and ability to restore our relationship with the rest of nature.

Genesis 1 proposes that the creation was orderly and hierarchically structured. But the moment of creation, that is, the biological beginning of life, becomes a chaotic moment of creative activity in which the Earth that was "without form, and void" and a place of darkness (Gen 1:2a) transitions into a new physical, biological, and moral state—a place of

[516] See McKibbin, *The Comforting Whirlwind.*

light and life as God himself provides the motion that creates and sustains life. Even during periods of terrible evil in the present world, following the Fall of humanity (Gen 3), the law remains effective and working, while the perpetrators of evil are held accountable for their actions.[517] The fact that the law remains active, effective, and authoritative in all aspects of life—moral, civil, and natural—makes possible the restoration and transformation to a final state in which there is a new Earth void of death (1 Cor 15), evil (both moral and natural), and tears (Rev 22).

> Since the book of nature and the book of revelation bear the impress of the same master mind, they cannot but speak in harmony. By different methods, and in different languages, they witness to the same great truths. Science is ever discovering new wonders; but she brings from research nothing that, rightly understood, conflicts with divine revelation. The book of nature and the written word shed light upon each other. They make us acquainted with God by teaching us something of the laws through which He works.[518]

By taking our cues for care-taking of the Earth from Scripture, we can help to preserve and protect the creation and, at the same time, learn to read nature as God's creation. Such a view of the relationship of Scripture and nature moves us away from the Augustinian perspective that leads ultimately to an unknown fate. It forces us, as Bultmann desired, to reconsider our own responsibility and accountability not only to God, but to those living and inanimate things that we have been divinely charged to care for. To accomplish this task is to fulfill Case-Winters's desire for a life of relational transcendence.

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[517] While it is outside the scope of this chapter, it is important to note that the cultic law of the Israelite nation demanded accountability for the carrying-out and support of evil. This process was worked out in the purgation rituals of the temple both at an individual and corporate level (see Gane, *Cult and Character*; idem, *Altar Call* [Berrien Springs: Diadem, 1999]; and idem, *Leviticus, Numbers*, NIV Application Commentary [Grand Rapids: Zondervan, 2004]). In the Greek New Testament, Paul reminds the Thessalonians that God will right every wrong done to them at the Second Advent (2 Thess 1:6-7).

[518] Ellen G. White, *Education* (Nampa, ID: Pacific Press, 2002), 128.

Finally, eschatology mirrors the original creation (Gen 1): a massive fall at the beginning of time requires a massive restoration and re-creation at the end (Gen 3; Rev 21–22:7).[519] However, simply because this present world will come to an end does not imply that humans are not to continue in their roles of care-takers of the planet; nor does it mean that in taking care of the Earth that we are helping to perpetuate the Fall or imply that we no longer believe in a personal and historical second advent. Rather, by care-taking we demonstrate to God and others that we cherish our current and only home, prepared with care and forethought at the creation by God. We also demonstrate how we would take care of a fully restored new Earth. In honor of this loving act, we may celebrate the Sabbath weekly, looking both to the past (the Creation week) and to the future (the re-creation and restoration), which ushers in an eternity of harmony (cf. Rev 21).

Between the beginning and the end of all things, there is the present. So that we can better understand how to live between the beginning and the end of life, God sent his only Son to be an example of how this relationality with the Other might take place. It would seem that this is at least partly what attracts McGrath to the idea of a Trinitarian theology, as we saw in chapter 2. How do we, then, bring together the ancient Hebrew cosmology with the exemplar life of Jesus Christ? It is to this task that we now turn.

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[519] John Polkinghorne goes halfway on this same position, proposing instead that protology follows an evolutionary trajectory, while eschatology is creation by divine fiat. He notes that there is an issue of "continuity and discontinuity" in "a credible eschatology hope": "Without an element of continuity there is no real hope being expressed for this creation beyond its death; without an element of discontinuity, the prospect would be that of the non-hope of mere unending repetition. While it is for theology to say what it can about the 'new' that God will bring into being, if that new is to be understood as the eschatological transformation of the old, then science may have some modest role to play in clarifying what will be the necessary degree of continuity required for this to be the case" (*The God of Hope and the End of the World* [New Haven: Yale University Press, 2002], 12-13).

The Roots of the Hebraic-Christian Theology of Human Being in the Greek New Testament

Nancey Murphy criticizes New Testament scholars who turn to extrabiblical texts in order to define what the New Testament means when it speaks of being, asking: "Do Christians really need to work through a long list of non-Canonical books [such as the intertestamental, or Second Jewish Temple writings, the Apocrypha, Pseudopigrapha, or the Greek philosophers] in order to determine what the Bible teaches on this issue?" Her response is: "The New Testament authors are not intending to teach *anything* about humans' metaphysical composition. If they were, surely they could have done so much more clearly!"[520] Rather, she concludes they defined being in terms of

> the whole person thought of from a certain angle. For example, "spirit" stands for the whole person in relation to God. What the New Testament authors are concerned with, then, is human beings in relationship to the natural world, to the community, and to God. Paul's distinction between spirit and flesh is not our later distinction between soul and body.[521]

Murphy's statement provides a baseline for my approach to the Greek New Testament concept of being. Here there are no lightning flashes that impute being into matter. Rather, the Hebrew Bible's understanding of the image of God and of the personal God who stoops down to create human beings that I discussed in the previous section holds sway, as exemplified in two New Testament passages: John 1:1-14 and Acts 17:22-32.

In the first passage, the ground of all beings—Jesus, who is rooted in the Hebrew Bible as the Word who was at the very beginning (Gen 1:1) and who helped to create the world, but who is now in the flesh of human beings—is introduced. In the second passage, once again a deep connection with the Hebrew Bible is demonstrated. God is presented as

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[520] Murphy, *Bodies and Souls, or Spirited Bodies?*, 21.

[521] Ibid., 21-22.

the one "in whom we live and breathe and have our being" (Acts 17:28, NIV). In these two passages, we can observe the intimate relationship between the Hebrew Bible's conception of human being and that of the Greek New Testament, as I continue to build the Hebraic-Christian concept of being.

God as Word

The prologue to the Gospel of John begins: "In the beginning was the Word, and the Word was with God, and the Word was God. He was with God in the beginning. Through him all things were made; without him nothing was made that has been made" (vv. 1-3, NIV). In a manner reflective of the opening words of the Hebrew Bible ("In the beginning God created the heavens and the earth," Gen 1:1, NIV), John connects his Gospel of Jesus Christ with that of the Torah, the explication of the Law given to Israel. This "Word" is neither the materialistic force of nature, nor the anthropomorphism of that force as exemplified by the Greek gods of mythology. He was instead "the true light that gives light to everyone" (John 1:9, NIV), but although "he was in the world, and though the world was made through him, the world did not recognize him" (v. 10, NIV). He is both ancient, having been with God in the beginning before the creation of the world, and he is alive and personal—in the flesh and dwelling among us (1:14).

In a twist to the story of Zeus, who is the anthropomorphism of the powerful bolt of lightning that differentiates eternal matter by investing it with being from the divine λόγος,[522] Jesus plays out a role that is both familiar and foreign to the ear attuned to Greek theology. First, he is personal, both as a real human being and as a divine God. But he is not

[522] I draw here on Martin Heidegger and Eugen Fink's description of Zeus in their Heraclitus lectures (*Heraclitus Seminar*, trans. Charles H. Seibert [Evanston, IL: Northwestern University Press, 1994], 15ff.).

of the nature of the heroic gods of the ancient Greeks.[523] As the divine One, he sends out a messenger (who should be a bolt of lightning as it was in the Greek tradition), whose name is John, who is also a man. But John is not the lightning and does not act as Zeus did—he does not move people in the generative and metaphysical sense of the word; "he came only as a witness to the light" (v. 7) so that people might be prepared when the real Light came (v. 6). Further, the real One of Greek theology would never appear to humans directly, but only in the form of avatars. The mythological Greek gods came down to earth as various manifestations or avatars of some aspect of the divine One; for example, Aphrodite as the goddess of love, Apollo as the god associated with light and truth, Hermes as the god of language and writing, and Zeus as the king of the gods, who is the representation of thunder, lightning, law, order, and fate.[524]

Thus the Word, Jesus, must have seemed a very strange sort of God to the Greeks. The Apostle Paul notes this in his first epistle to the Corinthians (1:18-25, NIV):

> For the message of the cross is foolishness to those who are perishing, but to us who are being saved it is the power of God. For it is written: "I will destroy the wisdom of the wise; the intelligence of the intelligent I will frustrate." Where is the wise person? Where is the teacher of the law? Where is the philosopher of this age? Has not God made

[523] "Persus . . . Heracles . . . Minos, Theseus, Jason . . . it has been common in modern times to regard these and the other heroes of this [Greek Heroic] age . . . as purely mythical creations. The later Greeks, in criticizing the records of their past, had no doubt that they were historical persons who actually ruled in Argos and other kingdoms; and after a period of extreme skepticism many modern critics have begun to revert to the Greek view as that which explains the evidence most satisfactorily. . . . The heroes of the tales, like the geographical scenes in which they moved, are real" (John Bagnell Bury and Stanley Arthur Cook, *The Cambridge History*, 8 vols. [New York: Macmillan, 1924], 2:478). Will Durant, who cites this passage, notes: "We shall assume that the major legends are true in essence, imaginative in detail" (*The Life of Greece*, 38).

[524] The idea of avatars is also found in other ancient religions, such as Hinduism. See Freda Matchett, *Krishna, Lord or Avatara? The Relationship between Krishna and Vishnu* (London: Curzon, 2001). See also Noel Sheth, "Hindu Avatāra and Christian Incarnation: A Comparison," *Philosophy East and West* 52 (January 2002): 98-125.

> foolish the wisdom of the world? [21] For since in the wisdom of God the world through its wisdom did not know him, God was pleased through the foolishness of what was preached to save those who believe. Jews demand signs and Greeks look for wisdom, but we preach Christ crucified: a stumbling block to Jews and foolishness to Gentiles, but to those whom God has called, both Jews and Greeks, Christ the power of God and the wisdom of God. For the foolishness of God is wiser than human wisdom, and the weakness of God is stronger than human strength.

Jesus is the eternal Word, who not only creates alongside the other members of the Trinity, but who offers his life and death for the salvation of all people—even for people who find his story to be foolish. The apparent foolishness of the apostles becomes even more evident in Paul's address to the Areopagus as Paul applies this concept of the Word to the creative, generative process that brings forth human being.

Paul's Speech to the Areopagus

Paul's speech before the Areopagus contains a number of important features: "the most important features in the conception of God; the attack on idolatry; and the aspects of universalism and the Divine plan of salvation."[525] Central to my discussion is his assertion concerning the relationship between God as the Creator and the nature of human being (Acts 17:24-31, NIV):

> [24] The God who made the world and everything in it is the Lord of heaven and earth and does not live in temples built by human hands. [25] And he is not served by human hands, as if he needed anything. Rather, he himself gives everyone life and breath and everything else. [26] From one man he made all the nations, that they should inhabit the whole earth; and he marked out their appointed times in history and the boundaries of their lands. [27] God did this so that they would seek him and perhaps reach out for him and find him, though he is not far from any one of us. [28] "For in him we live and move and have our being." As some of your own poets have said, "We are his offspring."
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> [29] Therefore since we are God's offspring, we should not think that the divine being is like gold or silver or stone—an image made by human design and skill. [30] In the past God overlooked such ignorance, but now he commands all people everywhere to repent.

[525] Bertil Gärtner, *The Areopagus Speech and Natural Revelation* (Uppsala, Sweden: Almquist & Wiksells, 1955), 72.

> [31]For he has set a day when he will judge the world with justice by the man he has appointed. He has given proof of this to everyone by raising him from the dead.

In this passage, Paul lays out the properties of the God of the Hebrew Bible, who remains the God of Christianity and who has been manifested in the person of Jesus Christ. Paul sets a standard for defining God in the New Testament in this passage: All the properties of God in this address reference directly back to the Hebrew Bible. Here I will examine three points from this passage that help to demonstrate the Greek New Testament's dependence upon the Hebrew Bible's conception of human being.

1. *God made the world and all its contents (Genesis 1–2).* Paul begins with establishing that human being is created, along with everything else in the world, by God. He is singular in that he has no avatars who represent his various attributes or carry out his creative acts as demiurges; he is "the Lord of heaven and earth" and there is no other. Both the Hebrew Bible and the Greek New Testament point to God as the Lord and Creator of all things and as the foundation of moral and natural law (see, e.g., Jonah 1:9: "I am a Hebrew and I worship the LORD, *YHWH Elōhīm*, the God of heaven, who made the sea and the dry land," NIV; Rev 14:7: "Fear God and give him glory, because the hour of his judgment has come. Worship him who made the heavens, the earth, the sea and the springs of water," NIV). The use of *YHWH Elōhīm*, used in Jonah and implied in the Greek text of Acts 17:24 and Rev 14:7, acknowledges the moral imperative that goes along with the name. *YHWH Elōhīm* is the personal God of all people. Umberto Cassuto, who examines the use of the names of God in the Torah, proposes that each creation account demonstrates a particular aspect of God. Therefore, Gen 1

> vouchsafed a sublime vision of the totality of creation ["the God of heaven, who made the sea and the dry land"], portrayed with great synthetic power, which unifies into a clear and comprehensible order all the endlessly changing categories of existence. . . . God reveals Himself . . . as a transcendental being dwelling in His supernal abode

> without direct contact with the creatures. On the other hand, the second section [Genesis 2:4ff.] contains a graphic and dramatic narrative that . . . seeks to inculcate religion and ethical teachings under the guise of actual happenings. . . . YHWH appears there . . . in direct touch with His creature man and with the other created beings of His world.[526]

Two important points come to the fore here: (1) Gen 1 is concerned with God-created order (i.e., that which may be studied by the natural sciences or Heidegger's ontic knowledge), and (2) Gen 2:4ff. is concerned with the moral elements of God and his creation (i.e., that studied by theology and metaphysics or Heidegger's ontological knowledge).

If I understand Cassuto correctly, that the cosmological features of the Genesis creation accounts were similar in structure to those of the ancient Near Eastern cultures, then it is possible that Jonah's companions, in Jonah 1, would have understood the moral significance of this use of God's name—the God of all things is also the judge of all things.[527] Similarly, in Rev 14:7 three angels are sent to bring a message to all humanity. Here the people are told to fear God and give him glory. To fear God "conveys the idea of taking God seriously in life by following him and obeying his commandments. Fearing God denotes a relationship with God and full surrender to his will (cf. 1 Sam. 12:14, 24; 2 Chron. 6:31; Neh. 7:2; Job 1:9; Ps. 40:3; Jer. 32:39; 44:10; Hag. 1:12)."[528] To give glory is the result of taking one's relationship with God seriously, but it also implies treating others as we would treat God (Matt 25:31-46). Therefore, "when a person fears God, he lives a life of glorifying

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[526] Umberto Cassuto, *The Documentary Hypothesis and the Composition of the Pentateuch: Eight Lectures*, trans. Israel Abrahams (New York: Shalem Press, 2006), 85-86.

[527] Ibid., 86-87.

[528] Ranko Stefanovic, *Revelation of Jesus Christ: Commentary on the Book of Revelation* (Berrien Springs, MI: Andrews University Press, 2002), 441.

God by keeping his commandments. Jesus made it clear to his disciples: 'By this is My Father glorified, that you bear much fruit, and so prove to be My disciples" (John 15:8). . . . It is in the sense of obeying God and his commandments that the giving of glory to God in Revelation 14:7 must be understood."[529] As in the book of Jonah, the identity of God is given in sweeping terms that encompass all things and once again carries deep moral significance. In echoing the language of the Decalogue, the written foundation of all law in the Scriptures (Exod 20:11), which itself uses the language of creation, the importance of God's law is emphasized. The construction of the Decalogue itself is reflective of the all-encompassing nature of this law, for it extends not only to respect for and obedience to God (Exod 20:2-7), but to the family (vv. 12), others (vv. 13-17) who are "strangers," servants, and even animals (v. 10).

2. *He does not "live in temples built by human hands"* (1 Kgs 8:27-31). He is "not served by human hands, as if he needed anything." Instead, he gives "life and breath and everything else" (1 Sam 5; Isa 46:1-4).

In Heidegger, absolute Being itself is separate from being. It is, as Rudolf Otto describes the One, "'wholly other', something which has no place in our scheme of reality but belongs to an absolutely different one, and which at the same time arouses an irrepressible interest in the mind."[530] But the God of the Hebraic-Christian understanding, though separate and distinct from his creation, is near. As Solomon addresses in his dedicatory prayer of the newly constructed Temple in Jerusalem, there is deep trust and faith that when one prays from the Temple, God will hear from his throne in heaven, thereby

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[529] Ibid.

[530] Rudolf Otto, *The Idea of the Holy: An Inquiry into the Non-Rational Factor in the Idea of the Divine*, trans. John W. Harvey (White Fish, MT: reprint, Kessinger Publishing, 2004), 25.

implying a God who is personally interested in the affairs of human beings (1 Kgs 8:22-54; for a full text of this passage, see the Appendix B at the end of this dissertation).

When 1 Kgs 8:22-54 is contrasted with the text of Nietzsche's madman,[531] there is no similarities between the two descriptions of God. In Nietzsche's depiction, God is dead. Thoroughly mortal and anthropomorphic, he cannot be of any help to his subjects.

In Solomon's prayer, however, God is not only uplifted (sitting on his throne in heaven), but he is bent forward, listening and watching attentively in behalf of humans. Solomon asks, "But will God really dwell on earth? The heavens, even the highest heaven, cannot contain you. How much less this temple I have built!" (1 Kgs 8:27). But there is confidence that God not only will dwell, but will hear and act on behalf of those who pray to God: "Yet give attention to your servant's prayer and his plea for mercy, O LORD my God. Hear the cry and the prayer that your servant is praying in your presence this day" (v. 28). Solomon does not have to go seeking a dead God; he finds God alive and listening in the Temple. As Paul states to the Athenians: "Therefore since we are God's offspring, we should not think that the divine being is like gold or silver or stone—an image made by human design and skill" (Acts 17:29; cf. Isa 46).

As for God's human subjects, there is a moral imperative that they must follow, but the Temple is the place where justice and mercy come together so that when an individual, or even the whole nation, breaks God's moral law, they are able to turn to God in his Temple and ask forgiveness and seek restitution for the wrongs they have committed against God and others. Solomon repeatedly emphasizes this point, extending God's forgiveness even to the "foreigner" who seeks out the God of Israel (1 Kgs 8:41-43).

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[531] The full text of this passage is also in the Appendix A at the end of this dissertation; see discussion in chap. 4.

3. *From one man [one blood, KJV] he created all nations"* (Acts 17:26a; Gen 1–2), "that they should inhabit the whole earth; and he marked out their appointed times in history and the boundaries of their lands" (Acts 17:26b; cf. Deuteronomy and Joshua). "God did this so that they would seek him and perhaps reach out for him and find him, though he is not far from any one of us" (cf. Deut 30). "'For in him we live and move and have our being.' As some of your own poets have said, 'we are his offspring'" (Acts 17:27-28).

In Paul's affirmation that all human beings come from one source, are of one blood, there is an allusion to God's personal creative act of bringing forth humanity in Gen 2:7. There is no magic here; no denial of his use of the laws of nature to accomplish his task. Equally important is that God does not simply allow unbounded forces to create human beings. Instead, there is a personal element involved: "For in him we live and move and have our being," for "We are [all] his offspring."[532]

Paul refers to this child-parent relationship in his letter to the Ephesians, proposing that God "chose us in him before the creation of the world to be holy and blameless in his sight. In love he predestined us to be adopted as his sons through Jesus Christ, in accordance with his pleasure and will" (Eph 1:34-5, NIV). God never had any plan to abandon a single human being. Nor was he selective in eternity, or thereafter in the time after the creation. There are no subhumans or a few elect in God's eyes. All are required to choose their relationship with him. His desire is to save all people ("For God so loved the world that he gave his one and only Son, that *whoever* believes in him shall not perish but have eternal life. For God did not send his Son into the world to condemn the world, but to

[532] It is important to realize here that in God's parent-like role as Creator, there is no denial of God's use of the laws of nature as a part of the creative process. Nor does this give endorsement of a blind evolutionary process.

save the world through him. Whoever believes in him is not condemned, but whoever does not believe stands condemned already because he has not believed in the name of God's one and only Son"; John 3:16-18, NIV). God respects human choice and as Solomon's prayer demonstrates, he provides every opportunity for human beings to come into a good relationship with himself and with others.

What, then, does it mean to be created in the image of God? What are the roots that ground the Hebraic-Christian theology of human being? According to the apostle Paul, the root of being is the Holy Spirit, and the effects of his work in the one in which he has worked are "love, joy, peace, patience, kindness, goodness, faithfulness" (Gal 5:22, NASB). These characteristics or attributes of the human being created in the image of God are related through the physical body.

> In the creation of man was manifest the agency of a personal God. When God had made man in His image, the human form was perfect in all its arrangements, but it was without life. Then a personal, self-existing God breathed into that form the breath of life, and man became a living, breathing, intelligent being. All parts of the human organism were put in action. The heart, the arteries, the veins, the tongue, the hands, the feet, the senses, the perceptions of the mind—all began their work, and all were placed under law. Man became a living soul. Through Jesus a personal God created man and endowed him with intelligence and power.[533]

In the coming together of the physical and moral attributes of human being there is a moral imperative, and the salvific relationship with God is for the express purpose of restoring the image of God that has become tarnished from living in this world where humans often make the wrong decisions that harm their relationship with God and others. To be created in God's image is to live and act in the way that God would if he were present. It is to celebrate both the moral goodness of God and the goodness of his creation—to embrace both the physical and the spiritual elements of our human being (Ezek 36:27).

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[533] Ellen G. White, *Counsels for the Church* (Nampa, ID: Pacific Press, 1971), 74.

A human being in the Hebraic-Christian sense lives respectfully in the world, taking care of it and its many and varied life forms and natural resources. In doing so, through God's power, she becomes a force for good in this world. Though she lives in expectation of a better, recreated universe,[534] she never forgets that this is her only home for the present. She thus "brings . . . good, not harm, all the days of her life. . . . She speaks with wisdom and faithful instruction is on her tongue. . . . Charm is deceptive, and beauty is fleeting; but a woman [or a man] who fears the Lord is to be praised" (Prov 31:12, 26, 30, NIV).

The Possibilities of Applying a Hebraic-Christian Perspective of Human Being

The problem this dissertation has examined is the need for grounding theology-and-science dialogue on the hermeneutical foundation of human being for the purpose of understanding the correlation between human being as a relational being and, as human beings created in the image of God, their interaction with their environment, including the moral, spiritual, and physical aspects of reality. As we come to the conclusion of this dissertation, it is appropriate to ask whether this Hebraic-Christian concept of human being can be of any help to the larger theology-and-science dialogue.

It is, undoubtedly, not the most common choice to take the Hebrew cosmology seriously in its depiction of human being in a nondualistic sense. However, as we have seen in this dissertation, the disciplines, whether theological, natural, human, or philosophical, are concerned with the economic and ecological crises that currently assail the planet on every side. It is increasingly acknowledged that many (if not all, at least indirectly) of these crises

[534] See Polkinghorne, *The God of Hope and the End of the World*. He proposes that God will begin all over in the new Earth, without the need for the long and tragic evolutionary process.

are the result of human behavior gone awry. How, then, might we embrace this common ground of human being so as to address these types of problems?

I suggest in this dissertation that a nondualistic concept of human being is helpful in four ways: (1) it is relational, (2) it is purposeful, (3) it is holistic, (4) it is stable and unifying.

1. *Relational*. To say that the Hebraic-Christian concept of being is relational means that human beings do not live for themselves alone. Rather there is a vertical relationship between human beings and God and a horizontal relationship with other living creatures. I intentionally extend this horizontal relationship to creatures other than humans, for they have been given to us as gifts, to care for and tend to their needs. They are not gifts in the sense of using them in any manner in which we choose. Rather they are gifts, as the anthropic cosmological principle teaches, because they are a part of those necessary elements needed for life to exist. God, in his abundant goodness, has endowed this universe with profound wealth and on this Earth human beings are to be the trustees of this vast treasure.

2. *Purposeful*. One may quibble over whether purpose exists in this world. However, if human beings are to be good trustees, they must find purpose for carrying out this task, for it will greatly impact the way in which we approach nature and other human beings. As was discussed in chapter 3, there are three possible suggestions for acting purposefully in our relationships with other creatures: (a) the *telos* supports the notion that Earth's resources are limited and proposes seeking more than a simply instrumental, economic approach toward natural resources, of which humans are a part; (b) because the ontological being of each object of nature is acknowledged within the concept of *telos*, there is a moral imperative to care for all natural resources with respect and not simply as a means to an end; and (c) the extreme anthropocentrism of a purely instrumentalist technology may be called into a

responsible relationship with nature, including humanity itself, through a cooperative effort on the part of all disciplines.

3. *Holistic*. Even though the human sciences, particularly the neurosciences, are discovering the wholeness of human being, we struggle to understand how two seemingly different aspects of humanity—the mind or immortal soul and the body—can simultaneously be one whole unit rather than a composite of parts. Yet an abundance of historical documentation, as we saw in chapters 5 and 6, demonstrates how destructive a dualistic concept can be. As chapter 3 also helps to demonstrate, a view of humans as mere machines also leaves much to be desired.

However, if humans are complete beings from the very beginning of their existence, then one can never say that another humanoid life-form is subhuman on the basis of lacking some aspect of being or on the basis of some inherited morphological characteristic such as skin color. We did not need the Radical Enlightenment to tell us that all human beings were created equal, or genetics to tell us that we all come from the same proto-parents. Science confirms and clarifies what the ancient Hebrew cosmology already knew.

4. *Stable and unifying*. As Umberto Cassuto points out (chap. 7), the God of Hebrew cosmology celebrates, and wishes human beings to celebrate, the goodness of his creation. While there is certainly a moral and spiritual element that calls for ethical living and worshipful praise to God in Gen 2, there is a celebration of the physical creation as well in Gen 1. This universe has been designed in such a way that the human observer may find endless possibilities for discovery and delight. Even though there is evil in the world, it does not change the goodness of God's creation or our ability to view God's signature there. Importantly, it demonstrates that there are not two separate realms—the moral, spiritual, and physical, the good and evil—but rather there is, as Bhaskar argues in chapter 1, a single

stratified reality that invites interdisciplinary dialogue. As such, the Hebraic-Christian perspective calls for deeper collaborative reflection across the disciplines.

Conclusion

In this chapter, we have explored how Heidegger's concept of Being/being, while instructive, must be rethought to include the personal God of the Hebrew Bible and the Greek New Testament. To be created in the image of God brings with it an imperative to celebrate the spiritual, moral, and physical aspects of human being. It also means recognizing the importance of the relational attributes of human being both in terms of our relationship with God and with the rest of the creation. God, as a personal being, is interested in the actions and behavior of all people. There are no so-called humanoid life-forms; there are only human beings who have come from his hand complete. Beautiful and varied, they each in their own way may choose to reflect back God's moral being by following his law, an expression that is revealed in their phenomenal acts.

Finally, a Hebraic-Christian concept of being works well as a common philosophical ground for theology-and-science dialogue. Although the moral and physical attributes have been damaged and obscured, in the words of Betsie ten Boom, with which I began this dissertation, "there is no pit so deep that He is not deeper still."[535]

The concept "humans as relational beings," then, addresses the totality of what it means to be human. No one discipline can adequately address all three basic attributes—physical, moral, and spiritual. Therefore, in order to address (1) the question of human being, and (2) the question of human behavior on the environment, there is need for the collaboration and insights from all the disciplines of the theology-and-science dialogue.

[535] Ten Boom, *The Hiding Place*, 217.

CONCLUSION

In this dissertation, I have discovered and constructed a Hebraic-Christian ontological definition of human being to serve as a common philosophical ground for fruitful interdisciplinary conversation within the theology-and-science dialogue. In doing so, I suggest that the definition should be restricted to humans as relational beings for the purpose of allowing all disciplines within the dialogue to (1) participate from within their own approaches, and (2) for helping to develop a common language by which to enter more efficiently into mutually beneficial communication.

The underlying purpose behind this exercise is to provide a basis for testing my hypothesis that there is a correlation between the way in which human being is defined and how humans interact with their environment. My definition of human being attends to the physical (natural sciences), moral (philosophy and social sciences), and spiritual (theology) attributes of human being, indicating that an interdisciplinary approach to the study of human being would be profitable, especially when considering the ways in which the definition of human being may affect how humans interact with their environment. Central to this process of defining human beings is the addition of a spiritual element because it is only in having a referent beyond themselves that is both exemplar and a source of transformative power can humans ever truly come into a care-taking relationship with nature.

In order to move conceptual ideas toward scientific knowledge, we must consider our concept along three broad lines: epistemology, logic, and metaphysics. Foundational to

them all is ontology. In this dissertation, I have sought to ontologically define humans as relational beings. I have allowed each discipline to bring its own aspect and context to this question: The natural sciences point out the complex nature of human physicality and point toward its mysterious ability to produce cognitive, relational beings. The philosophical and social sciences point toward the relationship between humans and their environment. Theology points toward the relationship between humans and God.

Having thus accomplished this first step for the movement of conceptual ideas to scientific knowledge by ontologically defining them and having demonstrated this definition's usefulness across the disciplines of the theology-and-science dialogue, I have now laid the ground for the second part of the movement toward scientific knowledge, which requires comparing and contrasting my hypothesis with other approaches and for submitting it to rigorous testing. These will be the tasks of later work beyond this dissertation.

APPENDIX A

NIETZSCHE'S MADMAN

The Madman. Have you not heard of that madman who lit a lantern in the bright morning hours, ran to the market place and cried incessantly, "I seek God! I seek God!" As many of those who not believe in God were standing around just then, he provoked much laughter. Why, did he get lost? said one. Did he lose his way like a child? said another, Or is he hiding? Is he afraid of us? Has he gone on a voyage? or emigrated? Thus they yelled and laughed. The madman jumped into their midst and pierced them with his glances.

"Whither is God" he cried. "I shall tell you. We *have killed* him—you and I. All of us are his murderers. But how have we done this? How were we able to drink up the sea? Who gave us the sponge to wipe away the entire horizon? What did we do when we unchained the earth from its sun? Whither is it moving now? Whither are we moving now? Away from all sun? Are we not plunging continually? Backward, sideward, forward, in all directions? Is there any up or down left? Are we not straying as through an infinite nothing? Do we not hear anything yet of the noise of the gravediggers who are burying God? Do we not smell anything yet of God's decomposition? God too decomposes. God is dead. God remains dead. And we have killed him. How shall we, the murderers of all murderers, comfort ourselves? What was holiest and most powerful of all that the world has yet owned has bled to death under our knives. Who will wipe this blood off us? What water is there for us to clean ourselves? What festivals of atonement, what sacred games shall we have to invent? Is not the greatness of this deed too great for us? Must not we ourselves become gods simply

to seem worthy of it? There has never been a greater deed; and whoever will be born after us—for the sake of this deed he will be part of a higher history than all history hitherto."

Here the madman fell silent and looked again at his listeners; and they too were silent and stared at him in astonishment. At last he threw his lantern on the ground, and it broke and went out. "I come too early," he said then; "my time has not come yet. This tremendous event is still on its way, still wandering—it has not yet reached the ears of man. Lightning and thunder require time, the light of the stars requires time, deeds require time even after they are done, before they can be seen and heard. This deed is still more distant from them than the most distant stars—*and yet they have done it themselves*."

It has been related further that on that same day the madman entered divers churches and there sang his *requiem aeternam deo*. Led out and called to account, he is said to have replied each time, "What are these churches now if they are not the tombs and sepulchers of God?"[536]

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[536] Friedrich Nietzsche, *The Portable Nietzsche*, ed. and trans. Walter Kaufmann (New York: Viking, 1968), 95-96, emphasis original. I have deliberately used the passage by Heidegger and his translator, William Lovitt, in "The Word of Nietzsche" due to Heidegger's careful attendance to the etymology and translation of key words. Lovitt, 60, n. 7, notes that "In some instances quotations have been revised, usually only slightly, where the context of Heidegger's thinking makes changes necessary so as to bring out the meaning that Heidegger sees in Nietzsche's words."

APPENDIX B

SOLOMON'S PRAYER OF DEDICATION:

1 KINGS 8:22-54 (NIV)

22 Then Solomon stood before the altar of the LORD in front of the whole assembly
of Israel, spread out his hands toward heaven 23 and said: "O LORD, God of Israel, there is
no God like you in heaven above or on earth below—you who keep your covenant of love
with your servants who continue wholeheartedly in your way. 24 You have kept your promise
to your servant David my father; with your mouth you have promised and with your hand
you have fulfilled it—as it is today.

25 "Now LORD, God of Israel, keep for your servant David my father the promises
you made to him when you said, 'You shall never fail to have a man to sit before me on the
throne of Israel, if only your sons are careful in all they do to walk before me as you have
done.' 26 And now, O God of Israel, let your word that you promised your servant David
my father come true.

27 "But will God really dwell on earth? The heavens, even the highest heaven, cannot
contain you. How much less this temple I have built! 28 Yet give attention to your servant's
prayer and his plea for mercy, O LORD my God. Hear the cry and the prayer that your
servant is praying in your presence this day.

29 "May your eyes be open toward this temple night and day, this place of which you
said, 'My Name shall be there,' so that you will hear the prayer your servant prays toward this

place. [30] Hear the supplication of your servant and of your people Israel when they pray toward this place. Hear from heaven, your dwelling place, and when you hear, forgive.

[31] "When a man wrongs his neighbor and is required to take an oath and he comes and swears the oath before your altar in this temple, [32] then hear from heaven and act. Judge between your servants, condemning the guilty and bringing down on his own head what he has done. Declare the innocent not guilty, and so establish his innocence.

[33] "When your people Israel have been defeated by an enemy because they have sinned against you, and when they turn back to you and confess your name, praying and making supplication to you in this temple, [34] then hear from heaven and forgive the sin of your people Israel and bring them back to the land you gave to their fathers.

[35] "When the heavens are shut up and there is no rain because your people have sinned against you, and when they pray toward this place and confess your name and turn from their sin because you have afflicted them, [36] then hear from heaven and forgive the sin of your servants, your people Israel. Teach them the right way to live, and send rain on the land you gave your people for an inheritance.

[37] "When famine or plague comes to the land, or blight or mildew, locusts or grasshoppers, or when an enemy besieges them in any of their cities, whatever disaster or disease may come, [38] and when a prayer or plea is made by any of your people Israel—each one aware of the afflictions of his own heart, and spreading out his hands toward this temple—[39] then hear from heaven, your dwelling place. Forgive and act; deal with each man according to all he does, since you know his heart (for you alone know the hearts of all men), [40] so that they will fear you all the time they live in the land you gave our fathers.

[41] "As for the foreigner who does not belong to your people Israel but has come from a distant land because of your name—[42] for men will hear of your great name and your

mighty hand and your outstretched arm—when he comes and prays toward this temple, [43] then hear from heaven, your dwelling place, and do whatever the foreigner asks of you, so that all the peoples of the earth may know your name and fear you, as do your own people Israel, and may know that this house I have built bears your Name.

[44] "When your people go to war against their enemies, wherever you send them, and when they pray to the LORD toward the city you have chosen and the temple I have built for your Name, [45] then hear from heaven their prayer and their plea, and uphold their cause.

[46] "When they sin against you—for there is no one who does not sin—and you become angry with them and give them over to the enemy, who takes them captive to his own land, far away or near; [47] and if they have a change of heart in the land where they are held captive, and repent and plead with you in the land of their conquerors and say, 'We have sinned, we have done wrong, we have acted wickedly'; [48] and if they turn back to you with all their heart and soul in the land of their enemies who took them captive, and pray to you toward the land you gave their fathers, toward the city you have chosen and the temple I have built for your Name; [49] then from heaven, your dwelling place, hear their prayer and their plea, and uphold their cause. [50] And forgive your people, who have sinned against you; forgive all the offenses they have committed against you, and cause their conquerors to show them mercy; [51] for they are your people and your inheritance, whom you brought out of Egypt, out of that iron-smelting furnace.

[52] "May your eyes be open to your servant's plea and to the plea of your people Israel, and may you listen to them whenever they cry out to you. [53] For you singled them out from all the nations of the world to be your own inheritance, just as you declared through your servant Moses when you, O Sovereign LORD, brought our fathers out of Egypt."

[54] When Solomon had finished all these prayers and supplications to the LORD, he rose from before the altar of the LORD, where he had been kneeling with his hands spread out toward heaven.

BIBLIOGRAPHY

Abrahamson, Karen K. "More Than Purpose: Rethinking *Telos* for a Responsible Approach to the Environment." Paper presented at "Linnaeus and *Homo Religiousus*," Uppsala University, Sweden, May 30- June 2, 2007).

_____. "Rethinking the Augustinian Foundation of the Theology-and-Science Dialogue." *Andrews University Seminary Studies* 49 (2011): 93-123.

_____. "Review Article: Alister E. McGrath's *A Scientific Theology*." *Andrews University Seminary Studies* 44 (2006): 341-355.

_____. "The Creation of the Soul, the Creation of the Body: Dual Creations in Christian Tradition." *Andrews University Seminary Studies* 49 (2011): 67-91.

Acker, Joan. "Creation and Catholicism." *America*, 16 December 2000, 6-8.

Agamben, Giorgio. *The Time That Remains: A Commentary on the Letter to the Romans*. Translated by Patricia Dailey. Meridian: Crossing Aesthetics. Palo Alto, CA: Stanford University Press, 2005.

Alters, Sandra. *Biology: Understanding Life*. 3d ed. Sudbury, MA: Jones and Bartlett, 2000.

Aquinas, Thomas. *Summa contra Gentiles*. Book 2, *Creation*. Translated by J. F. Anderson. Notre Dame: Notre Dame Press, 1975.

_____. *The Soul*. Translated by J. P. Rowan. London: Herder, 1949.

_____. *The Summa Theologica of St. Thomas Aquinas*. 5 vols. Translated by Fathers of the Dominican Province. New York: Christian Classics, 1948.

Aristotle. *Aristotle's 'De Anima' in the version of William of Moerbeke and the Commentary of St. Thomas Aquinas*. Translated by K. Foster and S. Humphries. New Haven: Yale University Press, 1951.

_____. *The Complete Works of Aristotle*. 2 vols. Edited by Jonathan Barnes. Princeton: Princeton University Press, 1984.

Arnold, D.W.H., and P. Bright, eds. *De Doctrina Christiana: A Classic of Western Culture*. Notre Dame: University of Notre Dame Press, 1995.

Auerbach, Erick. *Mimesis: The Representation of Reality in Western Literature*. Translated by Willard R. Trask. Introduction by Edward W. Said. Princeton: Princeton University Press, 2003.

Augustine. *Augustine: De doctrine christiana*. Edited by R.P.H. Green. Oxford Early Christian Texts. Oxford: Oxford University Press, 1995.

_____. *Confessions (Conf.*). Basic Writings of Saint Augustine. New York: Random House, 1948.

_____. *Immortality of the Soul (Immort.)*. Basic Writings of Saint Augustine. New York: Random House, 1948.

_____. *The Literal Meaning of Genesis (Gen. litt.)*. Ancient Christian Writers. Edited by John Hammond Taylor. Mahwah, NJ: Paulist Press, 1982.

_____. *On Christian Doctrine (Doct. chr.*). Translated by D. W. Robertson Jr. Upper Saddle River, NJ: Library of Liberal Arts, Prentice Hall, 1958.

_____. *On the Holy Trinity (Trin.*). Nicene and Post-Nicene Fathers: First Series (NPNF[1]). Edited by Philip Schaff. New York: Cosimo, 2007.

_____. *On the Merits and Forgiveness of Sins (Pecc. merit.)*. Nicene and Post-Nicene Fathers: First Series (NPNF[1]). Edited by Philip Schaff. New York: Cosimo, 2007.

_____. *On the Predestination of the Saints (De praed. sanct.)*. Nicene and Post-Nicene Fathers: First Series (NPNF[1]). Edited by Philip Schaff. New York: Cosimo, 2007.

_____. *Soliloquies (Solil.*). Basic Writings of Saint Augustine. New York: Random House, 1948.

Bagnell Bury, John, and Stanley Arthur Cook. *The Cambridge History*. 8 vols. New York: Macmillan, 1924.

Baldwin, John T. "The Argument to Design in British Religious Thought: An Investigation of the Status and Cogency of Post-Humean Forms of Teleological Argumentation with Reference to Hume and Paley." Ph.D. dissertation, University of Chicago, Divinity School, 1990.

Banniester, Roger. *Brain and Banniester's Clinical Neurology*. Oxford Medical Publications. Oxford: Oxford University Press, 1992.

Barbour, Ian G. "Five Models of God and Evolution."In *Philosophy, Science and Divine Action*, edited by F. LeRon Shults, Nancey Murphy, and Robert John Russell. Leiden: Brill, 2009.

Barrow, John D., and Frank J. Tipler. *The Anthropic Cosmological Principle*. Foreword by John A. Wheeler. Oxford: Oxford University Press, 1988.

Barth, Karl. *Church Dogmatics*. 14 vols. Edited by G. W. Bromiley and T. F. Torrance. Translated by A. T. Mackay and T.H.L. Parker. Peabody, MA: Hendrickson, 2010.

_____. *The Epistle to the Romans*. Translated by Edwyn C. Hoskyns. Oxford: Oxford University Press, 1933.

Barton, John. *Reading the Old Testament: Method in Biblical Study*. London: Darton, Longman and Todd, 1984.

Basevi, Claudio. "Sacred Scripture." *Interdisciplinary Encyclopedia of Religion and Science*. Edited by Giuseppe Tanze-Nitti, Philip Larrey, and Alberto Strumìa. http://www.disf.org/en/ Voci/12.asp (accessed 8 June 2012).

Beatrice, Pier Franco. "The Treasures of the Egyptians: A Chapter in the History of Patristic Exegesis and Late Antique Culture." In *Historica, Biblical, Aecetica et Hagiographica*. Studia Patristica, edited by M. Edwards, P. Parvis, and F. Young. Leuven: Peeters, 2006.

Begley, Sharon. *Train Your Mind, Change Your Brain: How a New Science Reveals Our Extraordinary Potential to Transform Ourselves*. Foreword by Dalai Lama. Preface by Daniel Goleman. New York: Ballantine, 2007.

Beretta, Marco. *A History of Non-Printed Science: A Select Catalogue of the Waller Collection*. Acta Bibliothecae R. Universitatis Upsaliensis, vol. 31. Philadelphia: Coronet Books, 1993.

Berkouwer, G. C. *Man: The Image of God*. Studies in Dogmatics. Grand Rapids: Eerdmans, 1962.

Berlin, Isaiah. *Against the Current: Essays in the History of Ideas*. Edited by Henry Hardy. Introduction by Roger Hausheer. Princeton: Princeton University Press, 2001.

Bhaskar, Roy. *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*. 3d ed. London: Routledge, 1998.

_____. *A Realist Theory of Science*. London: Routledge, 2008.

Biller, Peter. *Heresy and Literacy, 1000-1530*. Edited by Anne Hudson. Cambridge Studies in Medieval Literature. Cambridge: Cambridge University Press, 1995.

Bohm, David, and Basil J. Hiley. *The Undivided Universe: An Ontological Interpretation of Quantum Theory*. New York: Routledge, 1993.

Broadie, S. "Nature and Craft in Aristotelian Teleology." In *Biologie, Logique et Métaphysique chez Aristotle*, edited by D. Devereux and P. Pellegrin. Paris: Editions du CNRS, 1990.

Brunner, Emil. *Revelation and Reason: The Christian Doctrine of Faith and Knowledge*. Translated by Olive Wyon. London: Westminster Press, 1946.

Brunner, Emil, and Karl Barth. *Natural Theology: Comprising "Nature and Grace" by Professor Dr. Emil Brunner and the Reply "No!"* Eugene, OR: Wipf & Stock, 2002.

Bultmann, Rudolf. *Geschichte und Eschatologie*. Tübingen: Mohr Siebeck, 1979.

_____. *The Presence of Eternity: History and Eschatology*. The 1955 Gifford Lectures. New York: Harper Torchbooks, 1957, 1962.

Burnet, John. *Early Greek Philosophy, with Burnet's Notes*. 3d ed. London: A & C Black, 1920.

Campbell, Antony F., and Mark A. O'Brien. *Sources of the Pentateuch: Texts, Introductions, Annotations*. Minneapolis: Augsburg Fortress, 1993.

Canale, Fernando. *Understanding Revelation-Inspiration in a Postmodern World*. Berrien Springs, MI: Fernando L. Canale, 2001.

Cann, Rebecca. "Children of Eve." *Nova*. Boston: WGBH Educational Foundation, 1986. Transcript.

Carnap, Rudolf. "Empiricism, Semantics, and Ontology." *Revue Internationale de Philosophie* 4 (1950): 24-40. Reprinted in the *Supplement to Meaning and Necessity: A Study in Semantics and Modal Logic*. Enlarged ed. Chicago: University of Chicago Press, 1956.

Carter, Brandon. "Large Number Coincidences and the Anthropic Principle." In *Confrontation of Cosmological Theories with Observational Data*, edited by M. S. Longair. Boston: D. Reidel, 1974.

Carter, Brandon, and W. H. McCrea. "The Anthropic Principle and Its Implications for Biological Evolution [and Discussion]. *Philosophical Transactions of the Royal Society A* 310/1512, 20 December 1983, 347-363.

Case-Winters, Anna. *Reconstructing a Christian Theology of Nature*. Aldershot, England: Ashgate, 2007.

Cassirer, Ernst. *Das Erkenntnisproblem*. 2 Bände. Berlin: Verlag Bruno Cassirer, 1911.

_____. *Kant's Life and Thought*. Translated by James Haden. Introduction by Stephan Körner. New Haven: Yale University Press, 1981.

Cassuto, Umberto. *The Documentary Hypothesis and the Composition of the Pentateuch: Eight Lectures*. Translated by Israel Abrahams. Introduction by Joshua A. Berman. New York: Shalem Press, 2006.

Catholic Encyclopedia. http://www.newadvent.org/cathen/15014a.htm. s.v. "Creationism," "Generationism," and "Traduciationism," (accessed 8 June 2012).

Certeau, Michel de. *The Practice of Everyday Life*. 2d ed. Translated by Steven F. Rendall. Berkeley: University of California, 2002.

Chambers, Robert. *Vestiges of the Natural History of Creation*. London: John Churchill, 1844.

Childs, Brevard. *Biblical Theology in Crisis*. Philadelphia: Westminster, 1970.

_____. *Introduction to the Old Testament as Scripture*. Minneapolis: Fortress, 1979.

Combe, George. *The Constitution of Man and Its Relation to External Objects*. Edinburgh: Maclachlan, Stewart, & Co., 1847.

Comte, Auguste. *The Positive Philosophy of Auguste Comte*. Translated by Harriet Martineau. New York: Calvin Blanchard, 1858.

Conway Morris, Simon. *The Crucible of Creation: The Burgess Shale and the Rise of Animals*. Oxford: Oxford University Press, 2000.

_____, ed. *The Deep Structures of Biology: Is Convergence Sufficiently Ubiquitous to Give a Directional Signal?* West Conshohocken, PA: Templeton Foundation Press, 2008.

_____. *Life's Solution: Inevitable Humans in a Lonely Universe*. Cambridge: Cambridge University Press, 2003.

Coon, Carleton. *The Origin of Races*. New York: Alfred A. Knopf, 1971.

Copelston, Fredrick, S.J. *A History of Philosophy*. 13 vols. New York: Doubleday, 1993.

Darwin, Charles. *"Books to Read" and "Books Read" Notebook*. *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012).

_____. *Darwin: The Indelible Stamp: The Evolution of an Idea*. Edited and commentary by James D. Watson. Philadelphia: Running Press, 2005.

_____. *Notebook B: [Transmutation of species (1837-1838)]*. *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012).

_____. *Notebook E: [Transmutation of species (1838-1839)]*. *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012).

_____. *"Old & Useless Notes about the Moral Sense & Some Metaphysical Points," 1838-1839*. *Darwin Online*, http://darwin-online.org.uk (accessed 8 June 2012).

Dawkins, Richard. *The Selfish Gene: 30th Anniversary Edition*. 3d ed. Oxford: Oxford University Press, 2006.

Dean-Drummond, Ceila. *The Ethics of Nature*. Malden, MA: Blackwell, 2004.

Dembski, William A. *Darwin's Nemesis: Phillip Johnson and the Intelligent Design Movement*. Foreword by Rick Santorum. Downers Grove: InterVarsity Academic, 2006.

Denis, Lara. "Introduction." In *Groundwork for the Metaphysics of Morals*, by Immanuel Kant. Translated by Thomas Kingsmill Abbott. Edited by Lara Denis. New York: Broadview Editions, 2005.

Descartes, René. *Meditations on First Philosophy in which the Existence of God and the Distinction of the Human Soul from the Body Are Demonstrated*. Translated by George Hefferman. Notre Dame: University of Notre Dame Press, 1992.

Desmond, Adrian, and James Moore. *Darwin's Sacred Cause: How a Hatred of Slavery Shaped Darwin's Views of Human Evolution*. New York: Houghton Mifflin Harcourt, 2009.

_____. *Darwin's Sacred Cause: Race, Slavery, and the Quest for Human Origins*. Chicago: University of Chicago Press, 2011.

Doidge, Norman. *The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science*. New York: Penguin, 2007.

Domning, Daryl P. "Evolution, Evil and Original Sin." *America*. 12 November 2001, 17-20.

Doukhan, Jacques. *Israel and the Church: Two Voices for the Same God*. Peabody, MA: Hendrickson, 2002.

Durant, Will. *The Story of Civilization*. 11 vols. New York: Simon & Schuster, 1939.

_____. *The Story of Philosophy: The Lives and Opinions of the World's Greatest Philosophers*. New York: Pocket Books, 1953.

Dyson, Freeman J. *Disturbing the Universe*. Sloan Foundation Science Series. New York: Basic Books, 1981.

Eden, Kathy. *Friends Hold All Things in Common: Tradition, Intellectual Property, and the Adages of Erasmus*. New Haven: Yale University Press, 2001.

Edwards, M., P. Parvis, and F. Young, eds. *Historica, Biblical, Aecetica et Hagiographica*. Studia Patristica. Leuven, Belgium: Peeters, 2006.

Einsten, Albert. *Relativity, the Special and the General Theory*. Volume 1, *A Popular Exposition*. 3d ed. Translated by Robert W. Lawson. Toronto: Ryerston Press, 1920.

Elden, Stuart Elden. *Mapping the Present: Heidegger, Foucault and the Project of a Spatial History*. New York: Continuum, 2001.

Euclid. *The Thirteen Books of Euclid's Elements*. London: Encyclopaedia Britannica, 1952.

Everett, H. "Relative State Formulation of Quantum Mechanics." *Review of Modern Physics* 29 (1957): 454-462.

_____. "The Theory of the Universal Wave Function." In *The Many-Worlds Interpretation of Quantum Mechanics*, edited by B. S. DeWitt and N. Graham, 1-40. Princeton: Princeton University Press, 1973.

Eze, Emmanuel Chukwudi. *Race and the Enlightenment*. Oxford: Blackwell, 1997.

Falcon, Andrea Falcon. "Aristotle on Causality." *Standard Encyclopedia of Philosophy*. setis.library.usyd.edu.au/Stanford/entries/Aristotle-causality.

Faricy, Robert Faricy. *Teilhard de Chardin's Theology of the Christian in the World*. New York: Sheed and Ward, 1967.

Faye, Jan Faye, "Copenhagan Interpretation of Quantum Mechanics." *Stanford Encyclopedia of Philosophy*. plato.stanford.edu/entries/qm-copenhagen (accessed 8 June 2012).

Feynman, Richard P. *The Meaning of It All: Thoughts of a Citizen-Scientist*. New York: Basic Books, 1998.

Franzén, Torkel. *Gödel's Theorem: An Incomplete Guide to Its Use and Abuse*. Wellesley, MA: A. K. Peters, 2005.

Fredrickson, George M. *White Supremacy: A Comparative Study in American and South African History*. Oxford: Oxford University Press, 1981.

Freeman, Kathleen. *Ancilla to the Pre-Socratic Philosophers: A Complete Translation of the Frements in Diels, Fragmente der Vorsokratiker*. Cambridge: Harvard University Press, 1966.

Freedman, Andrew. "New Mexico Wildfire Now a Record-Setting 'Megafire.'" *Climate Central: Why Climate Change Matters*. http://www.climatecentral.org/blogs/new-mexico-wildfire-continues-to-grow (accessed 8 June 2012).

Gadamer, Hans-Georg. *Truth and Method*. 2d ed. Translated by Joel C. Weinsheimer and Donald G. Marshall. New York: Continuum, 1997.

_____. *Philosophical Hermeneutics: 30th Anniversary Edition*. Edited by David E. Linge. Berkeley: University of California Press, 2008.

Gane, Roy. *Altar Call*. Berrien Springs: Diadem, 1999.

_____. *Cult and Character: Purification Offerings, Day of Atonement, and Theodicy*. Winona Lake: Eisenbrauns, 2005.

_____. *Leviticus, Numbers*. NIV Application Commentary. Grand Rapids: Zondervan, 2004.

_____. *Ritual Dynamic Structure*. Piscataway, NJ: Gorgias Press, 2004.

Gánti, Tibor. *The Principles of Life*. Commentary by James Griesemer and Eörs Szathmáry. New York: Oxford University Press, 2003.

Gärtner, Bertil. *The Areopagus Speech and Natural Revelation*. Uppsala, Sweden: Almquist & Wiksells, 1955.

Gaukroger, Stephen. *Francis Bacon; and the Transformation of Early-Modern Philosophy*. Cambridge: Cambridge University Press, 2001.

Giberson, Karl W., and Francis S. Collins. *The Language of Science and Faith*. Downers Grove: InterVarsity, 2011.

Gilder, Louisa. *The Age of Entanglement: When Quantum Physics Was Reborn*. New York: Knopf, 2008.

Gilkey, Langdon. *Religion and the Scientific Future*. Macon, GA: Mercer University Press, 1970.

Gillespie, Neal C. *Charles Darwin and the Problem of Creation*. Chicago: University of Chicago Press, 1979.

Gleick, James. *Chaos: Making a New Science*. New York: Viking, 1987.

Gödel, Kurt. *On Formally Undeciable Propositions of Principia Mathematica and Related Systems*. Mineola, NY: Dover Publications, 1992.

Gordon, Peter E. *Continental Divide: Heidegger, Cassirer, Davos*. Cambridge: Harvard University Press, 2010.

Gould, Stephen Jay. *Full House: The Spread of Excellence from Plato to Darwin*. New York: Three Rivers Press, 1996.

_____. *Rocks of Ages: Science and Religion in the Fullness of Life*. New York: Ballantine, 1999.

_____. *The Mismeasure of Man*. New York: W. W. Norton, 1981.

_____. *The Mismeasure of Man*. Rev. and exp. New York: W. W. Norton, 1996.

_____. *Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time*. Jerusalem-Harvard Lectures. Cambridge: Harvard University Press, 1987.

_____. *Wonderful Life: The Burgess Shale and the Nature of History*. New York: W. W. Norton and Co., 1990.

Gowers, Timothy, June Barrow-Green, and Imre Leader, eds. *The Princeton Companion to Mathematics*. Princeton: Princeton University Press, 2008.

Grafton, Anthony, Glenn W. Most, and Salvatore Settis, eds. *The Classical Tradition*. Harvard University Press Reference Library. Cambridge: Harvard University Press, 2010.

Grafton, Anthony, with April Shelford and Nancy Siraisi. *New Worlds, Ancient Texts: The Power of Tradition and the Shock of Discovery*. Cambridge: Belknap Press, 1995.

Green, Marjorie. *The Knower and the Known*. Berkeley: University of California Press, 1974.

Greene, Brian. *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory*. New York: Vintage, 2000.

_____. *The Fabric of the Cosmos: Space, Time, and the Texture of Reality*. New York: Vintage, 2004.

Gribbin, John. *In Search of Schrödinger's Cat: Quantum Physics and Reality*. New York: Bantam Books, 1984.

Hallo, William W., and K. Lawson Younger, eds. *Enuma Elish*, in *The Context of Scripture: Canonical Compositions, Monumental Inscriptions and Archival Documents from the Biblical World*. 3 vols. Leiden: Brill Academic, 2003.

Hawking, Stephen, and Leonard Mlodinow. *The Grand Design*. New York: Bantam Books, 2010.

Heidegger, Martin. *Being and Time*. Translated by John Macquarrie and Edward Robinson. San Francisco: HarperSanFrancisco, 1962.

_____. *Erläuterungen zu Hölderlin und das Wesen der Dichtung* [Explanation of Hölderlin and the essence of poetry]. Frankfurt am Main: Klostermann, 1944.

_____. *Identity and Difference*. Translation and introduction by Joan Stambaugh. Chicago: University of Chicago Press, 1969.

_____. *Nietzsche:Volumes 1 and 2*. Translated by David Farrell Krell. New York: HarperCollins, 1991.

_____. *Nietzsche: Volumes 3 and 4*. Translated by David Farrell Krell. New York: HarperCollins, 1991.

_____. *The Principle of Reason*. Translated by Reginald Lilly. Bloomington: Indiana University Press, 1996.

_____. *The Question Concerning Technology and Other Essays*. Translated and introduction by William Lovitt. New York: Harper Torchbooks, 1977.

Heidegger, Martin, and Eugen Fink. *Heraclitus Seminar*. Translated by Charles H. Seibert. Evanston, IL: Northwestern University Press, 1970, 1994.

Helrich, Carl S. *Modern Thermodynamics with Statistical Mechanics*. Heidelberg: Springer-Verlag, 2009.

Henderson, Lawrence J. *The Fitness of the Environment*. Cambridge: Harvard University Press 1970.

_____. *The Order of Nature*. Cambridge: Harvard University Press, 1917.

Heraclitus. *Ancilla to the Pre-Socratic Philosophers: A Complete Translation of the Frament in Diels, Fragmente der Vorsokratiker*. Edited by Kathleen Freeman. Cambridge: Harvard University Press, 1966.

Herder, Johann Gottfried. *Reflections on the Philosophy of the History of Mankind*. Chicago: University of Chicago Press, 1968.

Herschel, John Frederick William. *A Preliminary Discourse on the Study of Natural Philosophy: Part of Dionysius Lardner's Cabinet Cyclopaedia*. London: Longman, Rees, Orme, Brown & Green, 1840.

Hicks, Louis Ezra. *A Critique of Design-Arguments: A Historical Review and Free Examination of the Methods of Reasoning in Natural Theology*. New York: Charles Scribner's Sons, 1883.

Holder, Rodney D. *God, the Multiverse and Everything: Modern Cosmology and the Argument from Design*. Aldershot, England: Ashgate, 2004.

Home: The Movie. http://www.youtube.com/watch?v-jqxENMKaeCU (accessed 8 June 2012).

Hope, T. *An Essay on the Origin and Prospects of Man*. 3 vols. London: John Murray, 1831.

Hoyle, F. "F. Hoyle." In *Religion and the Scientists: Addresses Delivered in the University Church, Cambridge, N. F. Mott, M. L. Cartwright, F. G. Young, Sir G. P. Thomson, F. Hoyle, C.F.A. Pantin, and R. H. Thouless*. Edited and preface by Mervyn Stockwood. London: SCM Press, 1959.

Irwin, Louis. "Transitive and Intransitive Dimensions." www.criticalrealism.com/index.php?sitesig=WSCR&page=WSCR_060_WSCR_Glossary&subpage=WSCR_240_Transitive_and_Intransitive_Dimensions (accessed 8 June 2012).

Isham, Chris J. *Lectures on Quantum Theory: Mathematical and Structural Foundations*. Singapore: Imperial College Press, 1995.

Israel, Jonathan I. *Radical Enlightenment in Philosophy and the Making of Modernity 1650-1750*. Oxford: Oxford University Press, 2001.

Johnson, Monte Ransome. *Aristotle on Teleology*. Oxford: Oxford University Press, 2008.

Johnson, Steven. *Emergence: The Connected Lives of Ants, Brains, Cities, and Software*. New York: Touchstone, 2001.

Jüngel, Eberhard, *God's Being is in Becoming: The Trinitarian Being of God in the Theology of Karl Barth*. Translated and introduction by John Webster. Grand Rapids: Eerdmans, 2001.

Kandel, Eric R. "The Brain and Behavior." In *Principles of Neural Science*, edited by Eric R. Kandel, Eric R., James H. Schwartz, and Thomas M. Jessell. 4th ed. New York: McGraw-Hill Health Professions Division, 2000.

Kandel, Eric R., James H. Schwartz, and Thomas M. Jessell, eds. *Principles of Neural Science*. 4th ed. New York: McGraw-Hill Health Professions Division, 2000.

Kant, Immanuel. *Critique of Judgement*. Translated by James Creed Meredith. Oxford: Oxford University Press, 1978.

_____. *Critique of Practical Reason and Other Works*. Translated by Thomas Kingsmill Abbott. New York: Longmans, Green, and Co. Ltd., 1927.

_____. *Critique of Pure Reason*. Translated by J.M.D. Meiklejohn. New York: Cosimo, 2008.

_____. *Critique of Pure Reason*. Translated by Werner S. Pluhar. Introduction by Patricia W. Kitcher. Indianapolis: Hackett, 1996.

_____. *Die Religion innerhalb der Grenzen der bloßen Vernunft*. Königsberg: Friedrich Nicolovius, 1794.

_____. *Groundwork for the Metaphysics of Morals*. Translated by Thomas Kingsmill. Edited by Lara Denis. New York: Broadview Editions, 2005.

Kellert, Stephen H. *In the Wake of Chaos: Unpredictable Order in Dynamical Systems of God and Evolution*. Chicago: University of Chicago Press, 1993.

Kirby, William. *On the Power, Wisdom, and Goodness of God, as Manifested in the Creation of Animals in Their History, Habits, and Instincts*. 2 vols. The Bridgewater Treatises. London: Pickering, 1835.

Kitcher, Patricia W. "Introduction." In *Critique of Pure Reason*, by Immanuel Kant. Translated by Werner S. Pluhar. Introduction by Patricia W. Kitcher. Indianapolis: Hackett, 1996.

Korab-Karpowicz, W. J. "Martin Heidegger (1889-1976)." *Internet Encyclopedia of Philosophy: A Peer-Reviewed Academic Resource*. http://www.iep.utm.edu/heidegge/#H4 (accessed 8 June 2012).

Kuper, A., and J. Kuper. *The Social Science Encyclopedia*. London: Routledge & Kegan Paul, 1996.

Lefebvre, Henri. *The Production of Space*. Translated by Donald Nicholson-Smith. Oxford: Wiley-Blackwell, 1992.

Leibniz, G. W. *The Monadology and Other Philosophical Writings*. Translated by Introduction, and Notes by Robert Latta. Oxford: Clarendon, 1898.

_____. *Theodicy: Essays on the Goodness of God, the Freedom of Man, and the Origin of Evil*. Translated by E. M. Huggard. La Salle, IL: Open Court, 1985.

Lenoir, T. *The Strategy of Life: Teleology and Mechanics in Nineteenth Century German Biology*. Studies in the History of Medicine. New York: Springer, 1982.

Lerner, Daniel, ed. *Cause and Effect: The Hayden Colloquium on Scientific Method and Concept*. New York: Free Press, 1965.

Leunissen, Mariska. *Explanation and Teleology in Aristotle's Science of Nature*. Cambridge: Cambridge University Press, 2010.

Lewis, C. S. "Is Theology Poetry?" In *C. S. Lewis: Essay Collection*. London: Collins, 2000.

Lewis, John, ed. *Beyond Chance and Necessity: A Critical Inquiry into Jacques Monod's Chance and Necessity*. Teilhard Study Library. Leiden: Brill Academic Publishers, 1974.

Linehan, Peter, and Janet L. Nelson, eds. *The Medieval World*. London: Routledge, 2001.

Linnaei, Caroli. *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis*. Tomus I., edition Decima, Reformata. Holmiae, Impensis Direct. Laurentii Salvii, 1758.

Lipton, Peter. *Inference to the Best Explanation*. 2d ed. International Library of Philosophy. London: Routledge, 2004.

Llinás, Rodolfo R., and Patricia Smith Churchland. *Mind-Brain Continuum: Sensory Processes*. Cambridge: Massachusetts Institute of Technology Press, 1996.

Logan, James Samuel. *Good Punishment? Christian Moral Practice and U.S. Imprisonment*. Grand Rapids: Eerdmans, 2008.

Longman, Tremper, III. *How to Read Genesis*. Downers Grove: InterVarsity Academic, 2005.

Lovitt, William. "Introduction." In *The Question Concerning Technology and Other Essays*. Translated and introduction by William Lovitt. New York: Harper Torchbooks, 1977.

Löwith, Karl. *Meaning in History: The Theological Implications of the Philosophy of History*. Chicago: University of Chicago Press, 1957.

Macionis, John J. Macionis. *Sociology*. 14th ed. Boston: Prentice Hall, 2011.

Mandelbrot, Benoit B. *The Fractal Geometry of Nature*. New York: W. H. Freeman, 1982.

Manning, Patrick. *Navigating World History: Historians Create a Global Past*. New York: Palgrave Macmillan, 2003.

Maor, Eli. *e: The Story of a Number*. Princeton: Princeton University Press, 1998.

Matchett, Freda. *Krishna, Lord or Avatara? The Relationship between Krishna and Vishnu*. London: Curzon, 2001.

Mayr, Ernst. *Evolution and the Diversity of Life: Selected Essays*. Cambridge: Belknap Press, 1997.

_____. *One Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought*. Questions of Science. Cambridge: Harvard University Press, 1993.

_____. *Toward a New Philosophy of Biology: Observations of an Evolutionist*. Cambridge: Harvard University Press, 1989.

_____. *What Evolution Is*. New York: Basic Books, 2001.

McDaniel, Jay B. *Of God and Pelicans: A Theology of Reverence for Life*. Louisville: Westminster John Knox, 1989.

McGhee, George R., Jr. *Theoretical Morphology: The Concept and Its Applications*. The Critical Moments and Perspectives in Earth History and Paelobiology. New York: Columbia University Press, 1999.

McGrath, Alister E. "Augustine's Origin of Species." *Christianity Today*, May 2009, 39-41.

_____. *Christian Theology: An Introduction*. 4th ed. Oxford: Wiley-Blackwell, 2006.

_____, ed. *The Christian Theology Reader*. 3d ed. Oxford: Blackwell, 2007.

_____. *Darwinism and the Divine: Evolutionary Thought and Natural Theology*. Oxford: Wiley-Blackwell, 2011.

_____. *Dawkin's God: Genes, Memes, and the Meaning of Life*. Oxford: Wiley-Blackwell, 2004.

_____. *A Fine-Tuned Universe: The Quest for God in Science and Theology*. The 2009 Gifford Lectures. Louisville: Westminster John Knox, 2009.

_____. *The Order of Things: Explorations in Scientific Theology*. Oxford: Wiley-Blackwell, 2006.

_____. *A Scientific Theology*: *Nature*. Grand Rapids: Eerdmans, 2001.

_____. *A Scientific Theology*: *Reality*. Grand Rapids: Eerdmans, 2002.

_____. *A Scientific Theology*: *Theory*. Grand Rapids: Eerdmans, 2003.

McKibben, Bill. *The Comforting Whirlwind: God, Job and the Scale of Creation*. Cambridge, MA: Cowley Press, 2005.

_____. *Deep Economy: The Wealth of Communities and the Durable Future*. Oxford: Oneworld Publications, 2007.

_____. *Eaarth: Making a Life on a Tough New Plant*. New York: Times Book, 2010.

_____. *The End of Nature*. New York: Random House, 1989.

Mendelson, Michael. "Saint Augustine." *Stanford Encyclopedia of Philosophy*. http://plato.stanford.edu/entries/augustine/ (accessed 8 June 2012).

Mettinger, Tryggve N. D. *Eden Narrative: A Literary and Religio-Historical Study of Genesis 2-3*. Winona Lake, IN: Eisenbrauns, 2007.

Monod, Jacques. *Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology*. Translated by Austryn Wainhouse. New York: Knopf, 1971.

Murdoch, John E. "The Analytic Character of Late Medieval Learning: Natural Philosophy without Nature." In *Approaches to Nature in the Middle Ages*. edited by Lawrence D. Roberts. Binghamton, NY: Center for Medieval and Early Renaissance Studies, 1982.

Murphy, Nancey. *Bodies and Souls, or Spirited Bodies?* Cambridge: Cambridge University Press, 2006.

Nagel, Ernest. *Teleology Revisited and Other Essays in the Philosophy and History of Science*. New York: Columbia University Press, 1982.

Nagel, Ernst, James R. Newman, Douglas R. Hofstadter. *Godel's Proof*. Rev. ed. New York: New York University Press, 2001.

Nahin, Paul J. *An Imaginary Tale: The Story of "i" [the square root of minus one]*. Princeton: Princeton University Press, 2007.

Neill, Stephen, and Tom Wright. *The Interpretation of the New Testament, 1861-1986*. New ed. Oxford: Oxford University Press, 1988.

Nemesius, Bishop of Emesa, quoted in *Later Greek Religion*. By E. Bevan. London: Dent, 1927.

Newton, Isaac. *The Principia: Mathematical Principles of Natural Philosophy*. Translated by I. Bernard Cohen, Anne Whitman, and Julia Budenz. Berkeley: University of California Press, 1999.

Nietzsche, Friedrich. *The Portable Nietzsche*. New York: Viking, 1968.

Nissen, Lowell. *Teleological Language in the Life Sciences*. Lanham, MD: Rowman & Littlefield, 1997.

Nitecki, Matthew H., and Doris V. Nitecki, eds. *Evolutionary Ethis*. SUNY Series in Philosophy and Biology. Albany: State University of New York Press, 1993.

Numbers, Ronald L. *The Creationists: The Evolution of Scientific Creationism*. New York: Knopf, 1992.

O'Connell, Patrick. *Original Sin in the Light of Modern Science*. Houston: Lumen Christi Press, 1973.

Origen. *Origen on First Principles: Being Koetschau's Text of De Principiis*. Translated, introduction, and notes by G. W. Butterworth. Rock Port, MA: Peter Smith Publishing, 1973.

Otto, Rudolf. *The Idea of the Holy: An Inquiry into the Non Rational Factor in the Idea of the Divine*. Translated by John W. Harvey. White Fish, MT: reprint, Kessinger Publishing, 2004.

Owen, Richard. *On the Classification and Geographical Distribution of the Mammalia, being the Lecture on Sir Robert Reade's Foundation, Delivered before the University Of Cambridge, in the Senate-House, May 10, 1859. To which is Added an Appendix "On the Gorilla" and "On the Extinction and Transmutation of Species."* London: John Parker, 1859.

Oxford Dictionaries Online. http://oxforddictionaries.com (accessed 8 June 2012).

Pegis, A. C. *St. Thomas and the Problem of the Soul*. Toronto: St. Michael's College Press, 1934.

Pelikan, Jaroslav. *The Christian Tradition: A History of the Development of Doctrine*. 5 vols. Chicago: University of Chicago Press, 1975-1991.

_____. *Christianity and Classical Culture: The Metamorphosis of Natural Theology in the Christian Encounter with Hellenism*. 1992-1993 Gifford Lecture Series. New Haven: Yale University Press, 1993.

_____. *Credo: Historical and Theological Guide to Creeds and Confessions of Faith in the Christian Tradition*. New Haven: Yale University Press, 2003.

_____. *Interpreting the Bible and the Constitution*. John W. Kluge Center Books. New Haven: Yale University Press, 2004.

Penner, Louis A., and Charles D. Spielberger, "Assessment of Sociopathic Tendencies." In *Advances in Personality Assessment*, vol. 7, edited by Charles D. Spielberger and James M. Butcher. Hillsdale, NJ: Lawrence Erlbaum, 1988.

Pennock, Robert T. *Intelligent Design Creationism and Its Critics: Philosophical, Theological, and Scientific Perspectives*. Cambridge: Massachusetts Institute of Technology Press, 2001.

Penrose, Roger. *The Large, the Small and the Human Mind*. Edited by Malcolm Longair, Abner Shimony, Nancy Cartwright, and Stephen Hawking. Cambridge: Cambridge University Press, 2000.

_____. *The Road to Reality: A Complete Guide to the Laws of the Universe*. New York: Knopf, 2005.

_____. *Shadows of the Mind: A Search for the Missing Science of Consciousness*. Oxford: Oxford University Press, 1996.

"Peopling the Planet." *Nature* 485 (3 May 2012).

Philo of Alexandria. *The Works of Philo: Complete and Unabridged*. New updated ed. Translated by C. D. Yonge. Peabody, MA: Hendrickson, 1993.

Physiologus: A Medieval Book of Nature Lore. Translated by Michael J. Curley. Austin: University of Texas Press, 1979.

Piaget, Jean, and Barbel Inhelder. *The Psychology of the Child*. New York: Basic Books, 1972.

Pietgen, Heinz-Otto, Hartmut Jürgens, and Dietmar Saupe. *Chaos and Fractals: New Frontiers of Science*. New York: Springer-Verlag, 2004.

Pinkard, Terry. *German Philosophy, 1760-1860: The Legacy of Idealism*. Cambridge: Cambridge University Press, 2002.

Plantinga, Alvin. *Where the Conflict Really Lies: Science, Religion, and Naturalism*. Oxford: Oxford University Press, 2011.

Plato. *Plato: Complete Works*. Edited, introduction, and notes by John M. Cooper. Indianapolis: Hackett, 1997.

Polanyi, Michael. *Personal Knowledge: Towards a Post-Critical Philosophy*. Corrected ed. Chicago: University of Chicago Press, 1974.

Polkinghorne, John. *The God of Hope and the End of the World*. New Haven: Yale University Press, 2002.

_____. *Science and Creation: The Search for Understanding*. West Conshohocken, PA: Templeton Foundation Press, 2006.

_____. *Science and Theology: An Introduction*. Minneapolis: Fortress, 1998.

Pollan, Michael. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin, 2006.

Pope Paul VI. *L'Osservatore Romano*, 15 July 1966.

Pope Pius XII. *Humani Generis*. Weston, MA: Weston College Press, 1951.

Popkin, R. H., and Avrum Stroll. *Philosophy Made Simple*. 3d ed. Jordan Hill, England: Made Simple, Elsevier, 1993.

Rahner, Karl. "Evolution and Original Sin." In *The Evolving World and Theology*. Concilium, 26. Glen Rock: Paulist Press, 1967.

_____. "Theologisches zum Monogenismus." *Schriften zur Theologie* 1 (1954): 271-275.

Ramachandran, V. S., and Sandra Blakeslee. *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. Foreword Oliver Sacks. New York: Quill, 1999.

Roberts, Lawrence D., ed. *Approaches to Nature in the Middle Ages*. Binghamton, NY: Center for Medieval and Early Renaissance Studies, 1982.

Roe, Anne, and George Gaylord Simpson. *Behavior and Evolution*. 2d ed. New Haven: Yale University Press, 1961.

Ruse, Michael. *The Philosophy of Human Evolution*. Cambridge Introductions to Philosophy and Biology. Cambridge: Cambridge University Press, 2012.

Ruse, Michael, and Joseph Travis, eds. *Evolution: The First Four Billion Years*. Foreword by E. O. Wilson. Cambridge: Harvard University Press, 2009.

Russell, Robert J., Nancey Murphy, and Arthur R. Peacocke. *Chaos and Complexity: Scientific Perspectives on Divine Action*. Notre Dame: Notre Dame University, 1996.

Safranski, Rüdiger. *Martin Heidegger: Between Good and Evil*. Translated by Ewald Osers. Cambridge: Harvard University Press, 2002.

Sayer, Andrew. *Method in Social Science: A Realist Approach*. 2d ed. London: Routledge, 1992.

Schleiermach, Friedrich. *The Christian Faith*. Edited by H. R. Mackintosh and J. S. Stewart. Foreword by B. A. Gerrish. Edinburgh: T. &. T. Clark, 1999.

_____. *On the Glaubenslehre: Two Letters to Dr. Lücke*. Translated by James Duke and Francis Fiorenza. Oxford: Oxford University Press, 1981.

Schoonenberg, P. *Het Geloof van ons Doopsel: gesprekken over de Apostolische geloofsbelijdenis* [The faith of our baptism: Talks on the Apostles' Creed]. Hertogenbosch, The Netherlands: L.C.G. Malmberg, 1955.

Schreiner, Thomas R., and Bruce A. Ware, eds. *Still Sovereign: Contemporary Perspectives on Election, Foreknowledge, and Grace*. Grand Rapids: Baker Academic, 2000.

Schrödinger, Erwin, *What Is Life?* with *Mind and Matter* and *Autobiographical Sketches*. Foreword by Roger Penrose. Cambridge: Cambridge University Press, 1992.

Schwarz, Hans. *Eschatology*. Grand Rapids: Eerdmans, 2000.

Schweitz, Lea F. "The Difference between the Mirror and One Who Sees: The Theological Anthropology of G. W. Leibniz." Ph.D. dissertation, University of Chicago Divinity School, 2007.

Shapiro, James A. *Evolution: A View from the 21st Century*. Upper Saddle River, NJ: FT Press Science, 2011.

Shea, John J. "Neadertals, Competition, and the Origin of Modern Human Behavior in the Levant." *Evolutionary Anthropology: Issues, News, and Reviews* 12/4 (5 August 2003): 173-187.

Sheth, Noel. "Hindu Avatāra and Christian Incarnation: A Comparison." *Philosophy East and West* 52 (January 2002): 98-125.

Shimony, Abner. *Search for a Naturalistic World View*. Vol. 1, *Scientific Method and Epistemology*. Cambridge: Cambridge University Press, 1993.

_____. *Search for a Naturalistic World View*. Vol. 2, *Natural Science and Metaphysics*. Cambridge: Cambridge University Press, 1993.

Shults, LeRon, Nancey Murphy, and Robert John Russell, eds. *Philosophy, Science, and Divine Action*. Leiden: Brill, 2009.

Siefert, Chris. "Augustine of Hippo and Thomas Aquinas on Original Sin." Unpublished paper, College of William and Mary, May 2000. http://www.memoryhole.net/~chris/research/ original_sin.html (accessed 8 June 2012).

Skinner, E. Benjamin. *A Crime So Monstrous: Face-to-Face with Modern-Day Slavery*. New York: Free Press, 2008.

Smolinski, Reiner, and Jan Stievermann, eds. *Cotton Mather and Biblia Americana—America's First Bible Commentary: Essays in Reappraisal*. Grand Rapids: Baker Academic, 2011.

Smullyan, Raymond M. *Godel's Incompleteness Theorems*. Oxford Logic Guides. Oxford: Oxford University Press, 1992.

Spielberger, Charles D., and James M. Butcher. *Advances in Personality Assessment*. Vol. 7. Hillsdale, NJ: Lawrence Erlbaum, 1988.

Stefanovic, Ranko. *Revelation of Jesus Christ: Commentary on the Book of Revelation*. Berrien Springs, MI: Andrews University Press, 2002.

Sullivan, Roger J. *The Metaphysics of Morals*. Edited by Mary Gregor. Introduction by Roger J. Sullivan. Cambridge: Cambridge University Press, 2003.

Taubes, Jacob. *Occidental Eschatology*. Translated by David Ratmoko. Cultural Memory in the Present. Palo Alto, CA: Stanford University Press, 2009.

Teilhard, Pierre de Chardin. *Monogenisme et Monophyletisme*, 1950: 1-2. Woodstock Theological Center Library, Special Collections Division, Washington, DC, Box 7, Folder 38.

_____. *The Phenomenon of Man*. New York: Harper and Row, 1959.

Ten Boom, Corrie, with John Sherrill and Elizabeth Sherrill. *The Hiding Place*. New York: Bantam Books, 1974.

Thayer, Joseph Henry. *Thayer's Greek Lexicon of the New Testament*. Rev. and enl. ed. International Bible Translators, 1998-2000.

Torrance, Thomas F. *Biblical Faith and Natural Theology*. The 1991 Gifford Lectures. Oxford: Oxford University Press, 1995.

_____. *Ground and Grammar of Theology: Consonance between Theology and Science*. London: T. & T. Clark International, 2005.

_____. *Trinitarian Faith: The Evangelical Theology of the Ancient Catholic Faith*. London: T. & T. Clark International, 2000.

Van Fleteren, F. "St. Augustine, Neoplatonism, and the Liberal Arts: The Background to 'De doctrine christiana.'" In *De Doctrina Christiana: A Classic of Western Culture*, edited by D.W.H. Arnold and P. Bright, Christianity and Judaism in Antiquity, 9. Notre Dame: University of Notre Dame Press, 1995.

Vico, Giambattista. *First New Science*. Edited and translated by Leon Pompa. Cambridge: Cambridge University Press, 2002.

_____. *On the Study Methods of Our Time*. Translated by Introduction, and Notes, Elio Gianturco. With a translation of *The Academis and the Relation between Philosophy and Eloquence*. Translated by Donald Phillip Verene. New York: Cornell University Press, 1990.

Von Weizsäcker, Carl Friedrich, and Helmut Rechenberg. *Große Physiker. Von Aristoteles bis Werner Heisenberg*. Munich: Hanser Verlag, 1999.

Walls, Jerry. *The Oxford Handbook of Eschatology*. Oxford Handbooks. Oxford: Oxford University Press, 2010.

Walton, John H. *The Lost World of Genesis One: Ancient Cosmology and the Origins Debate*. Downers Grove: InterVarsity Press, 2009.

Watson, James. "Commentary." In *Darwin: The Indelible Stamp: The Evolution of an Idea*, by Charles Darwin, by Charles Darwin, edited and commentary by James D. Watson. Philadelphia: Running Press, 2005.

Watson, Peter. *The German Genius: Europe's Third Renaissance, the Second Scientific Revolution, and the Twentieth Century*. New York: HarperCollins, 2010.

Wells, Spencer. *Deep Ancestry: Inside the Genographic Project*. Washington, DC: National Geographic, 2006.

Wheeler, John Archibald. "Genesis and Observation." In *Foundational Problems in the Special Sciences: Part Two of the Proceedings of the Fifth International Congress of Logic, Methodology and Philosophy of Science, London, Ontario, Canada, 1975*, edited by R. E. Butts and J. Hintikka. Dordrecht, Holland: D. Reidel, 1977.

White, Ellen G. *Christ's Object Lessons*. Hagerstown, MD: Review and Herald, 2002.

_____. *Counsels for the Church*. Nampa, ID: Pacific Press, 1971.

_____. *Education*. Nampa, ID: Pacific Press, 2002.

_____. *In Heavenly Places*. Washington, DC: Review and Herald, 1967.

_____. *Patriarchs and Prophets*. Nampa, ID: Pacific Press, 2005.

_____. "Temptation of Christ." *Review and Herald*, 4 March 1875, paragraphs 8-9.

Whitrow, G. J. *Time in History: Views of Time from Prehistory to the Present Day*. Oxford: Oxford University Press, 1988.

Wilder-Smith, A. E. *The Scientific Alternative to Neo-Darwinian Evolutionary Theory*. Costa Mesa, CA: Word for Today, 1987.

Williams, George C. *Adaptation and Natural Selection*. Princeton: Princeton University Press, 1996.

_____. *The Pony Fish's Glow: And Other Clues to Plan and Purpose in Nature*. New York: Basic Books, 1997.

Williams, Rowan, Richard Dawkins, and Anthony Kenney. "Archbishop of Canterbury, Richard Dawkins and Anthony Kenny Discuss Origin of Human Beings." www.archbishopofcanterbury.org (accessed 8 June 2012).

Wilson, E. O. *The Creation: An Appeal to Save Life on Earth*. New York: W. W. Norton, 2006.

_____. "Introduction." In *Evolution: The First Four Billion Years*, edited by Michael Ruse and Joseph Travis. Foreword by E. O. Wilson. Cambridge: Harvard University Press, 2009.

Wolfram, Stephen. *A New Kind of Science*. Champaign, IL: Wolfram Media, 2002.

Wolman, Benjamin B. *The Sociopathic Personality*. London: Brunner/Mazel, 1987.