THEOLOGY AND TECHNOLOGY: HUMANITY IN PROCESS

A THESIS PRESENTED TO THE FACULTY

OF NORTHERN BAPTIST THEOLOGICAL SEMINARY

LOMBARD, ILLINOIS

IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF ARTS

BY

CHRIS WALTERS

MAY 20, 2008

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ACKNOWLEDGEMENTS

I offer my most heartfelt thanks to my wife Eun-Hye for supporting me through the process of researching and writing this thesis. She patiently listened to me many times as I verbally processed my ideas out loud, often late at night when all she wanted to do was sleep, and she listened with her heart as a pastor, friend, partner, spouse, and scholar. Listening is an under-appreciated and under-practiced skill. She is an expert.

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INTRODUCTION

Statement of the Problem

In her 2004 book, *Total Truth: Liberating Christianity from Its Cultural Captivity*, Nancy Pearcey examines the deep historical roots of dualistic thinking in the Western world. Many dualisms have developed over the centuries: form/matter (Plato), grace/nature (Aquinas), mind/matter (Descartes), freedom/nature (Kant).[1] Pearcey concludes that the culminating effect of these dualisms has been the entrenchment of the split between *facts* versus *values*, a split ultimately "clinched in the late nineteenth century by the rise of Darwinism."[2] Using the metaphor of a building to epistemologically locate the two components of dualisms, Pearcey contends that the facts/values split places science and reason in the lower levels of the building and ethics and religion in the upper levels. The implication is clear. Knowledge based on science and reason is foundational. Ethical and religious knowledge is not foundational. Pearcey's agenda is to restore discernment of truth and falsity as the preeminent value in worldview thinking and especially to restore this value for Christians because it is not only consistent with a Christian worldview, she argues, but also because highly valuing objective truth is foundational for a Christian worldview, a worldview that makes claims of "Total Truth."

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[1] Nancy Pearcey, *Total Truth: Liberating Christianity from Its Cultural Captivity* (Wheaton, IL: Crossway Books, 2004), 74-80, 102-6.

[2] Ibid., 106.

The facts/values split Pearcey studies is comprehensive and is thus unconsciously manifested in our everyday speech, personal behavior, and societal and cultural norms (or lack thereof). I suspect most of us have heard the often-repeated phrase, whether genuinely exclaimed or exclaimed in criticism of moral relativism, "That may be true for you, but it's not true for me." This kind of language is symptomatic of more than an apathetic stance toward the reality of absolute truth, as many conservative Christians claim, it is symptomatic of just how deeply the split has affected our sense of "where" value judgments occur—within the individual. A key aspect of the facts/values split is the consequent split between *public* and *private*. Facts reside in the public domain; values reside in the private domain. Society is seen as a mere collection of atomized individuals making their own value judgments, and social norms are largely the democratic realization of majority rule. Social norms fall prey to a kind of generational cycle of forgetting and remembering unless extra-personal institutions like the church are able to systematically promote and defend a set of core values.

Dualistic thinking impacts our understanding of self and human nature. Consider three common dualisms regarding humans: thinking and feeling, head and heart, body and soul. We surely sense in these three examples a natural affinity in their parallelism. Thinking, the head, and the body, we assume, naturally go together as a group; let us label it as "rational/material." Likewise, we associate our feelings, our hearts, and our souls as related within a different group, which we will label "irrational/immaterial." Are those fair labels? Probably they are fair to a rationalist, but not to a religionist. How about that juxtaposition, rationalist versus religionist? Is that fair? No, certainly not to a religionist, most of whom would take offense at the implication that religion is not

rational. We can see how quickly our assumptions can be exposed and how they can be called into question. What about the three dualisms (thinking and feeling, head and heart, body and soul) named above? What's behind such seemingly natural dualistic affinities?

Do dualisms such as "mind and matter" and "body and soul" emerge from simple self-examination and observation of humanity throughout the millennia of human existence? Yes, that is what Descartes wanted us to believe, and he thought he found in his *cogito ergo sum* the undeniable foundation for everything else that followed in his philosophy. Or in trying to answer this question about the source and reality of dualisms are we likely to find cultural and linguistic antecedents to our dualistic conceptions of human nature that have just as much to do with social construction and cultural transmission theories as they do with the results of empirical science? To answer a simple "yes" to this question does little justice to the complexities implied in it, but some thinkers have accepted and elaborated on dualisms because they, the dualisms, are rich with meaning and content. Philip Hefner is one thinker who has embraced the complexity and the dissonance inherent in dualisms having to do with human nature. Hefner is well known for his theory of humans as *created co-creators*.[3] This term itself implies a dualism: creator and creation. And in referring to human nature Hefner does not merely rely on well-worn concepts like *body* and *soul*, rather he focuses on what he calls the "two-nature character of the human."[4] Hefner's work is filled with holistic treatments of the dualistic view of human nature as being comprised of biology and culture:

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[3] Philip J. Hefner, *The Human Factor: Evolution, Culture, and Religion*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1993).

[4] Ibid., 29.

> *Homo sapiens* is itself a nodal point wherein two streams of information come together and coexist. The one stream is inherited genetic information, the other is cultural information. Both of these streams come together in the central nervous system. Since they have coevolved and coadapted together, they are one reality, not two. To speak of them as two . . . is metaphorical.[5]

While Philip Hefner in his work has reflected on how science can inform theology and provide fresh soil in which theology can grow (generally stated, science as context for theology), there are other thinkers and theologians who have pursued more systematically a "bottom-up" approach to examining and describing human nature and its place in theological systems. Despite their differences, biochemist Arthur Peacocke and physicist John Polkinghorne (both are also ordained priests in the Church of England) adopt the philosophical stance of what Alan Padgett calls "dialectical realism."[6] Padgett's explanation of what dialectical realism *is* in distinction to *naïve realism* and *critical realism* is complex and lengthy. In a nutshell *dialectical realism* is the philosophical commitment to the fact that there is one world, one reality, "independent of human experience," and that "our worldview should be aimed at understanding that world as fully as possible. For this fuller understanding we need all the disciplines of the university, including the human sciences and theology."[7] Through the approach and methods of dialectical realism, Peacocke and Polkinghorne start on the so-called "lower levels" of reality—biochemistry and physics, respectively—and work their way back and forth between science and theology to weave a web of understanding about human

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[5] Ibid.

[6] Alan G. Padgett, *Science and the Study of God: A Mutuality Model for Theology and Science* (Grand Rapids, MI: W.B. Eerdmans, 2003), 22-45.

[7] Ibid., 30.

freedom, the problem of divine transcendence and immanence, divine freedom and causality, etc. These webs of understanding can be so intricate and interconnected that it is hard to tell the scientific threads from theological ones, which may be precisely the point. In this model of science and theology, what Ian Barbour terms *integration*,[8] theological categories like *creation* and *transcendence* inform and are informed by scientific methodology and discoveries, and thus when considering human nature a hybridized view emerges. Humans are an *emergent phenomenon*, a complex unity of biological systems, yet through human realities such as culture humans transcend those biological systems.

Within the community of Christian theologians Nancey Murphy is one of the best-known expositors of the "emergence" viewpoint, which she classifies under the larger philosophical rubric *nonreductive physicalism*. Murphy credits the work of Roy Wood Sellars (1880-1973) as the initiator of this viewpoint:

> Sellars began in 1916 to explicate a conception of the mental as an emergent property in the hierarchy of complex systems, and ultimately developed a conception of nature as forming a nonreducible hierarchy of levels.
>
> Sellars's position is expressly opposed to three competitors: Cartesian mind-matter dualism; absolute idealism (the view that the mental and its products are the only reality); and reductive materialism.[9]
>
> For the nonreductive physicalist human beings are more than mere aggregates of atoms, and the activities that we class as mental and spiritual are at least as important to the course of events as the purely physical aspects.[10]

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[8] Ian G. Barbour, *Religion in an Age of Science* (San Francisco: Harper & Row, 1990), 23-30.

[9] Nancey C. Murphy, *Beyond Liberalism and Fundamentalism: How Modern and Postmodern Philosophy Set the Theological Agenda* (Valley Forge, PA: Trinity Press International, 1996), 136-37.

[10] Ibid., 150.

Nancey Murphy's work is especially compelling because of her commitment to go beyond the dualisms that have haunted (suffocated?) us for so long. Generally, in her work on relating science and theology, Murphy draws heavily on the work of the philosopher of science Imre Lakatos. According to Murphy, Lakatos reacted to "Thomas Kuhn's rather ambiguous account of the history of science as a series of *paradigms*, [which Lakatos described] instead as a series of competing *research programs*."[11] There is a certain amount of old-fashioned pragmatism in Lakatosian philosophy. Progress in science depends on the fruitfulness of the core metaphysical assumptions about the nature of reality, assumptions that are not testable. Using the analogy of webs again, we can see the power of the Lakatosian approach to building theoretical systems in which doing science can progress. Once a spider has built a web there is no single foundation without which the whole web will disintegrate should it be removed or critically damaged. The metaphor is not a perfect one, for that is the nature of metaphors, but in it we can see the objects to which the spider has attached its web are like the metaphysical assumptions we make about the world around us. To the spider they are not constructed; they simply *are*. Damage inflicted on the web or even the detachment of the web from one of its boundary objects is not necessarily fatal to the whole web. The damaged part of the web can be reconstructed. In my view, the epistemological approach of Lakatosian research programs is theoretically sounder and less susceptible to the all-or-nothing dependence on first principles in foundationalism, the dominant epistemological stance to come out of

[11] Nancey C. Murphy, "Nonreductive Physicalism: Philosophical Issues," in *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature*, Theology and the Sciences, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony (Minneapolis, MN: Fortress Press, 1998), 139.

the Enlightenment that the Western world has relied upon for centuries in its philosophical and theological system building.

There is currently a sea change taking place. The tide of foundationalism and modernism is receding, and in the surf of its ebbing many eddies and whirlpools have formed and are still forming. *Postmodernism* is the broad term we have assigned in naming the tumultuous waters. I will not elaborate at length on the term postmodernism at this point. I will, however, list four key elements of postmodernism critical to the methodology of my thesis: anti-foundationalism, the emphasis on relationality, what some have called the "loss" of self but what I prefer to call the "dissipation" of self, and the amazing progress of technological advance.

A question regarding our conceptions of the nature of humanity now presents itself. If we have been conceiving human nature based on a set of foundational principles, what have been and what are those foundational principles? What are our cultural, philosophical, and theological conceptions of humanity? Without a doubt the ancient Greeks constructed these foundations and not too late after them the early Christians built upon those foundations. During the roughly 1500 years after Christ, Christian thinkers further revised and extended Christian anthropology and ultimately the humanism that came out of their development gave birth to the so-called "Modern Age."[12] The common sense of words like "soul" and "spirit," "mind" and "body," and even "life" and "death" are permeated with notions of supernatural realms, thoughts of

[12] Let us consider 1500 to 1950 as the Modern Age. This period is characterized by a host of historical *movements* and sea changes in intellectual endeavors like the Protestant Reformation, the scientific revolution, the triumph of rationalism and empiricism, the rise of Darwinism, and the subsequent battle between the forces of science and religion.

God and creation, hopes for eternal life, and worries of damnation. As Greek philosophy and Christianity have fused together during the past 2000 years it has become almost absurd to try to deconstruct cultural and intellectual history to determine which system of thought subsumed the other in one particular metaphysical category or another. For centuries prior to the arrival of what we are calling the Modern Age, systematic reflection on the nature of reality by Christians focused largely on the maintenance and integration of inherited wisdom and tradition and Holy Scripture.

Once the principles of the Enlightenment became the foundational principles for Western thought it took just a couple hundred years for religion and theology to be exiled to the upper levels, to use Pearcey's metaphor. Many practitioners of religion and theology did not give up their centuries-long hold on guarding the foundational principles of society and of human nature. Around the midpoint of the 19th century, in the wake of Darwin, the divisiveness became extremely pronounced between the practitioners and promoters of science and the practitioners and promoters of Bible-based, "common-sense" religion.[13] The apparent divisiveness between science and religion continues to the current day. In the ongoing debate and dialog between secularists and Christians about worldviews and their correspondences to reality, the desire to deconstruct and parse philosophical categories remains strong and seems to flow from, in both cases, the need to legitimate those worldviews in an abundantly pluralistic marketplace of ideas. For both secularists and Christians the even stronger impulse is the appeal to scientific

[13] The ironic thing is that this division originated primarily within the church. Pearcey writes about the division of evangelicalism starting around 1800 into two strains, the "scholarly" and the "populist." See Pearcey, *Total Truth*, "Part 3: How We Lost Our Minds," 251-348.

methodology and knowledge. The appeal to science is the one strategy of worldview legitimization most respected and held in common by participants in this dialog.

The participants in the broad debate between *materialism* and *theism* have consistently concerned themselves with questions about the origins of life and humankind. Materialists defend Darwinian natural selection opposed to the Christian defense of divine creation. Materialists attempt to do away with metaphysical categories and conceptions such as *soul* and *mind* by pursuing a strategy of reductionism and by placing their hopes in what has become known as a scientific "Grand Unified Theory" or a "Theory of Everything" (TOE). Evolutionary theory is the foundation for the theoretical edifice of a TOE. Many Christian thinkers and apologists pursue a strategy of identifying the apparent inscrutability of certain phenomena such as human consciousness and epistemological conundrums in the limits of empiricism, and in contrast to the scientist's quest for the realization of a TOE, Christian apologists often rest on philosophical arguments for God for their foundation.

I created a visual depiction (fig. 1) of the historical relationships, reactions, and interactions of dualisms discussed above and codified by Pearcey.[14] I directly used Pearcey's language in all but three of the boxes (except "Worldview Maintenance" and the bottom two "Grand Synthesis"). The depiction situates the various dualisms and the current state of affairs between science and theology within the long historical tension between materialism and theism and suggests a convergence of these two categories of thought with scientific research and methodological naturalism as the common ground.

[14] Pearcey, 74-80, 97-121.

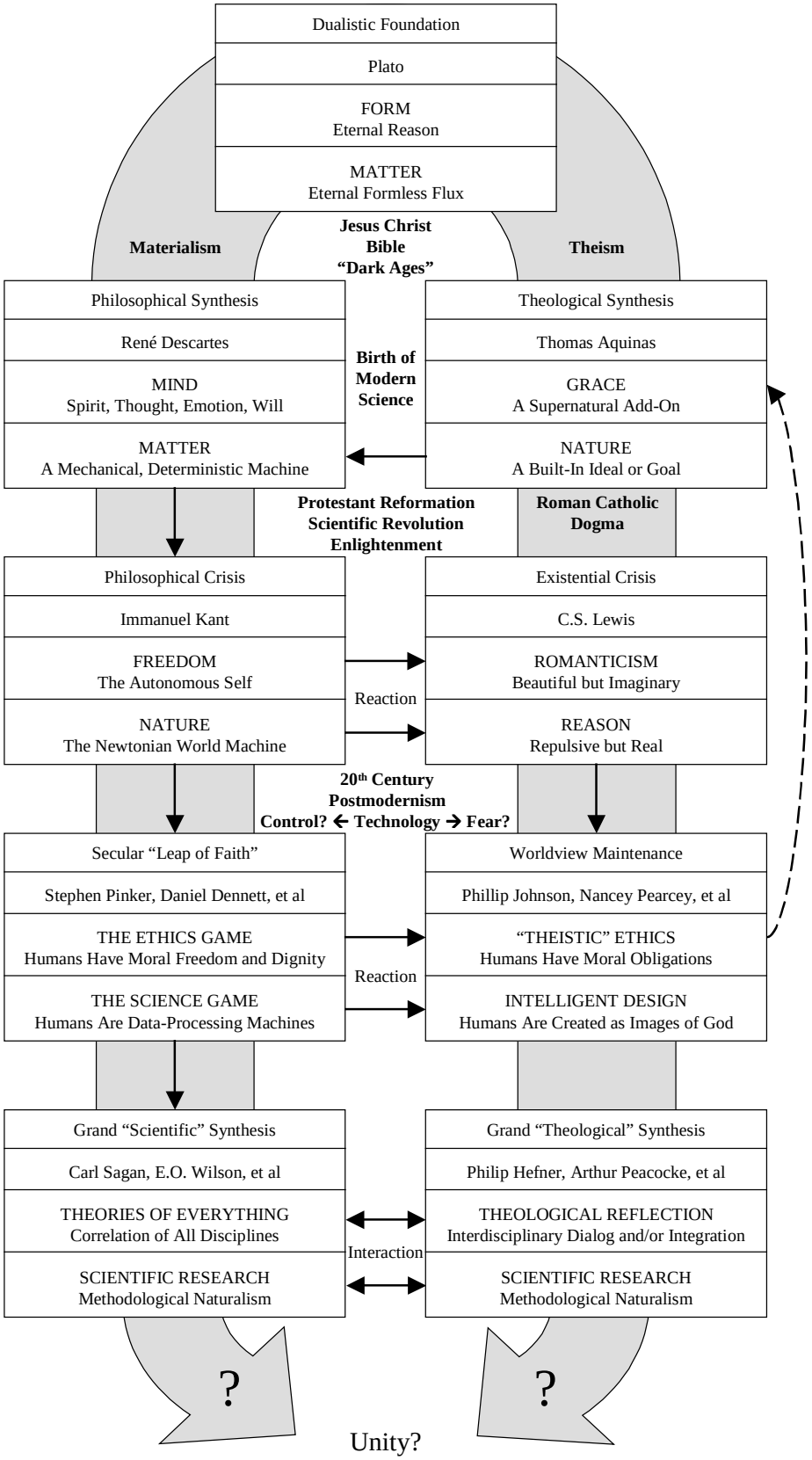

Fig. 1. Depiction of Pearcey's Dualistic Themes and Tensions

The debate about life's origins—evolution versus creation—essentially emerges from core questions that have perplexed humankind for millennia, "how" and "why" are we here? The questions of "how" and "why" life came to be on planet Earth have become even more poignant now that we humans have the ability to vastly alter—or totally destroy—all life on this planet as we know it. It is this reality—the reality popularly imagined as a cataclysmic apocalypse—that should greatly humble us and transform our questions of "how did we get here?" and "why did we get here?" into questions of "how are we going to continue being here?" and "why are we going to continue being here?"

These latter questions directed toward the future take on heightened significance considering the vast leaps in technological expertise and application achieved in the 20th century. Large leaps in our technological ability have great and grave implications for our ability to alter social structures and even the biological and ecological structures that distinguish us as the human species we know today and our place in the world. We have discovered the double-helical structure of DNA and are mapping the genomes of diverse species, including our own. We have landed humans on the moon. We have sent probes to sample the soils of Mars and pass through the rings of Saturn. We have constructed and continue to construct a vast computerized network in which anyone anywhere on the globe can instantly communicate with anyone else on the globe. Technological innovation and advance bring benefits to the survival of humanity (clean water, sanitation, health care, etc.), but the almost religious fervor of some people who esteem technological innovation as a progressive force pressing ever onward toward a utopian reality can be just as dangerous as the fervor of a millennial cult awaiting the apocalypse.

As examples of such dystopian possibilities we could read a number of novels authored in the 20th century, such as Yevgeny Zamyatin's *We*, Aldous Huxley's *Brave New World*, and George Orwell's *1984*, the first and last of which are, to a large extent, commentaries on the totalitarianism and socio-political ideologies of fascism and communism.

Many Christians take refuge in thinking of peace and justice as Platonic ideals that will descend upon the world in God's own time, and for many Christians who do take such refuge they see the arrival of God's peaceable kingdom, paradoxically, as occurring after some kind of cataclysmic apocalypse. The popular mythology of apocalyptic doom is expressed and reinforced by scores of fantasy novels and movies that sensationalize spiritualized themes of battles between good and evil. More recently with the advent of computerized special effects, movies are morphing apocalyptic motifs into technophobic fantasies of robotic domination and human enslavement. Even bestselling apocalyptic Christian fiction supposedly based on the Bible feeds the fires of fear and dread about the future, and the current headlines of war in the Middle East and immense natural disasters add more fuel to the fires.

There is one common thread that runs throughout the popular mythology of apocalyptic cataclysm, an underlying distress and sense of powerlessness to save ourselves from impending doom, often a doom of our own design. The distress is more than the Freudian projection of our awareness of individual mortality; it is also the exhaustion of extra-personal systems of making meaning—namely religious systems—by the triumph of materialist philosophy as it is embedded in the methods of science because science and technology continually progress in creating ways to meet our biological, societal, and economic needs. Simply put, the survival needs of the individual in modern

societies are increasingly fulfilled by impersonal technological innovations and not directly through interpersonal relationships.[15] Thus science and technology are relied upon more as sources for cultural and individual meaning than religious systems because the latter have come to be identified with metaphysical doctrines, which are by their very nature free from empirical testing and falsification.

It is my contention, with the above as context, that simple and unreflective reliance on the traditional conceptions of humans as unities of "soul" (salvageable, idealized, eternal) and "body" (fallen, corrupt, temporal) conspires with the current emphasis on cataclysmic apocalypse to create in the minds of many Christians a suspect view of technological advance and its application as resulting in an apocalyptic fait accompli.

Statement of Purpose

As Christians we must ask ourselves the future-oriented questions mentioned above and pursue answers to those questions in ways that are consistent with the vision and principles of Christ-like peace and justice, principles that involve personal and communal responsibility in building the Kingdom of God on Earth. We must ask ourselves if the passing of the "first heaven and the first earth" (Rev 21:1) necessarily entails a cataclysmic apocalypse? I propose it is our responsibility, with God's guidance, to "work out [our] own salvation with fear and trembling" (Phil 2:12), not with fear of destruction, but with fear in the sense of "awe" and "respect" for God's almighty justice.

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[15] See Albert Borgmann, *Power Failure: Christianity in the Culture of Technology* (Grand Rapids, MI: Brazos Press, 2003).

I propose Christian theology can positively incorporate both the results of scientific research and scientific descriptions of the human species and by doing so can weave a web between metaphysics and materialism to encompass a view of humanity and technology in process toward the consummation of God's creation. Specifically, in this thesis I will examine and critique the concept of humans as *technosapiens*[16] (some thinkers use the term *cyborgs*, i.e. organisms fused with technology). I will demonstrate that human "technological interface" with God's creation is essential to contemporary theological anthropology and that a technological articulation of theologically anthropological language is not only consonant with Christian tradition but also faithfully recontextualizes the biblical witness of the Triune God within our rapidly changing, scientifically-driven culture.

Chapter Outline

Chapter one provides historical background to the philosophical conceptions of humanity as body-soul unities and thus establishes the sources and context of the default philosophy of body-soul dualism. The subsequent chapters increasingly turn polemical to the default view.

Chapter two examines the primary biblical terminology and examines and critiques the work of John Cooper and his argument for the belief that the Bible teaches what he calls "holistic dualism." I conclude with the scholarly consensus that the Bible does not present a unified theological anthropology, especially one similar to the default view outlined in chapter one.

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[16] See Philip J. Hefner, *Technology and Human Becoming* (Minneapolis, MN: Fortress Press, 2003).

Chapter three provides broad historical overview of Western intellectual history. Brent Waters identifies two main cultural shifts in the wake of the Enlightenment. From the 17th century into the 21st century with "diminished momentum" is the shift from "providence to progress," which "corresponds with science displacing religion as the culturally dominant and formative force." From the late 19th century extending into the 21st century is the second shift with "gathering momentum" from "progress to process," which "corresponds with technology replacing science as the culturally dominant and formative influence."[17] Inspired and guided by Waters and Pearcey, especially "Part 1: What's in a Worldview" in her book *Total Truth*, chapter three bridges the philosophical and biblical backgrounds of theological anthropology to an examination of two main approaches to processing the tensions between science and theology and the entrenchment of Darwinian thinking in our culture: "Intelligent Design" (ID) and "theistic naturalism" (TN).

Chapter four reviews and critiques proponents of ID, specifically Nancy Pearcey, Philip Johnson, Michael Behe, William Dembski, and Hugh Ross. To use Johnson's phrase, they hope to drive a "sharp wedge of truth" into evolutionary theory and then split apart the foundational hold it has upon our educational establishments and our entire culture.

Chapter five reviews and critiques the work of theistic naturalists, specifically Nancy Murphy, Philip Hefner, and Arthur Peacocke, John Polkinghorne, and Howard

[17] Brent Waters, *From Human to Posthuman: Christian Theology and Technology in a Postmodern World*, Ashgate Science and Religion Series (Burlington, VT: Ashgate, 2006), 1.

Van Till. Their work construes human nature within a scheme that couples the science of evolutionary theory and the teleology of Christian theism.

Chapter six compares and contrasts two movies as cultural examples of the philosophical approaches to the issues surrounding science and theology and their impact on our understanding of human nature and the future of humanity, specifically issues concerning the future promise or delusion of technological advancement. *The Matrix*[18] corresponds with chapter four. *A.I. Artificial Intelligence*[19] corresponds with chapter five.

The concluding chapter seven synthesizes the issues and assumptions involved in interpreting technological advancement as "progress" and suggests the concept of humans as *technosapiens* opens up broad horizons of future possibility for the continuing work of God through humanity as *created co-creators*. I credit Stanley Grenz's book *The Social God and the Relational Self* as inspiration for my synthesis of the anthropological issues, specifically his treatments of eschatology and Christology and especially his examination of *imago dei* as "goal" and as "process."[20]

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[18] *The Matrix*, dir. Andy Wachowski and Larry Wachowski, 136 min., Warner Bros., 1999, motion picture.

[19] *Artificial Intelligence: A.I.*, dir. Steven Spielberg, 146 min., Warner Bros., 2001, motion picture.

[20] Stanley J. Grenz, *The Social God and the Relational Self: A Trinitarian Theology of the Imago Dei* (Louisville, KY: Westminster John Knox Press, 2001).

CHAPTER 1

PHILOSOPHICAL BACKGROUND OF THEOLOGICAL ANTHROPOLOGY

Introduction

One of the central doctrines to the Judeo-Christian tradition is that God created humans in God's image (Gen 1:27). Therefore, one of the central questions to be explored in the tradition is, "What is the nature of humanity?" The attempt to answer the question is the task of theological anthropology, and the answers offered to the question have been numerous, complex, some long-suffering, and some historically fleeting. For most contemporary Christians the conception of individual humans as the combination of a material body and an immaterial soul is simply a plain fact. Metaphorically speaking, the body is the vehicle and the soul is the driver. The soul is typically conceived as the essence of the individual person, the real "me," the "I" of consciousness, the spiritual part of me that will survive death and be rejoined to a resurrected body in God's good time. In this view the Bible clearly teaches this conception of humanity, that humans have a material body that is inhabited by a distinct, spiritual entity known as the soul. Or does it teach this? Most Christians would consider as pure folly skepticism of the fact the Bible teaches humans are unities of a material body and an immaterial soul as outlined above. Despite the prevailing sentiment of popular belief, biblical scholars and theologians have reformulated the culturally conditioned, "biblical" conception of body-soul dualism into conceptions such as "holistic dualism" and "dual-aspect monism" as more accurate

formulations of biblical anthropology. For the moment let us consider the possibility that the Bible does not clearly teach body-soul dualism, a clear dualism between a material substance (body) and a spiritual substance (soul). If this is true about the Bible, then from when and where and from whom did we inherit the concept of body-soul dualism? Because the general thrust of the current work depends largely on the concept of anthropological *monism* (the idea that individual human beings are singular and physical in nature), I will commit the first two chapters to examining the *monism-dualism* debate. In this chapter I will broadly survey the philosophical and theological history behind this debate,[1] and in chapter two I will review the main biblical terminology and arguments both for and against the contention that the Bible teaches monism in contrast to the dualism of ancient Greek philosophy.[2]

Plato

There is a well-known statement by the 20th century philosopher Alfred North Whitehead about the history of Western philosophy that it is "a series of footnotes to Plato," and thus it is with Plato that dualism had its greatest proponent. Plato lived approximately 400 years before Christ and wrote mostly in the form of dialogues, often using Socrates and his students as characters asking and answering questions back and forth, covering a wide range of philosophical issues. Due in large part to the dialogue

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[1] See Nancey C. Murphy, "Human Nature: Historical, Scientific, and Religious Issues," in *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature*, Theology and the Sciences, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony (Minneapolis, MN: Fortress Press, 1998), 1-19.

[2] See John W. Cooper, *Body, Soul, and Life Everlasting: Biblical Anthropology and the Monism-Dualism Debate* (Grand Rapids, MI: W.B. Eerdmans, 2000).

form of Plato's works it is often difficult to discern through our modern preconceptions what ideas were original to Plato and even to what those ideas were referring. Nevertheless, scholars have distilled a large body of ideas characteristic of Plato's philosophy. There are two classically Platonic ideas important to the current consideration of theological anthropology: Plato's concept of the Ideal Realm and the immortality of the soul.

Much of what we associate today with Plato's metaphysics stems from his approach to epistemology, the theory of knowledge. Plato felt the philosophies of earlier teachers like Heraclitus and Cratylus, a teacher of Plato himself, were mistaken in concluding from the "radical flux" of the world, in the words of philosopher James Jordan, "that everything escapes our attempts to comprehend it."[3] The world does exhibit constant flux, a claim Plato did not dispute, but the claim that flux totally inhibits our ability to comprehend the world seemed false to Plato because we do see patterns and forms in the world. Plato tried to reconcile the concept of "forms," taught by Socrates in his ethics, with the reality of flux in an epistemology that would preserve our intuitive experience of the world as one of constant change but also of orderliness and comprehensibility. In this effort Plato came to conceive the world in essentially two ways, as "appearance" and "reality." For example, there are many different shapes and types of chairs in the world. Chairs are created by people, get used and worn out, and eventually fall apart or otherwise become destroyed. Nothing in this world is permanent, that much in the philosophy of Heraclitus and Cratylus seemed certain. But how do we come to call all of these different individual chairs a "chair," even though their

[3] James N. Jordan, *Western Philosophy: From Antiquity to the Middle Ages* (New York: Macmillan, 1987), 78.

appearances and functions widely vary? The appearance of a particular object, such as a chair, is a "shadow" of an Ideal Form, a Form that exists eternally in an unseen Realm where the Good is the highest Form. In this example, we *know* a particular chair in this world is a "chair" because we recognize in it an expression of the perfect Form of Chair in the Ideal Realm. But how do we *know* the unseen Form of Chair? This question leads us into the important part of Plato's philosophy as it relates to his conception of human nature.[4]

Plato taught that the human soul pre-exists the body and is tripartite; it consists of three parts or elements: reason, spirit, and appetite. Through reason the soul has direct knowledge of the Forms. The appetite, on the other hand, corresponds with the needs of the material self here in this world. Reason and appetite can often be at odds with each other, and that is where the role of the spirit comes in. The spirit is the element of nobility, honesty, and modesty. Plato wrote of the three elements in relation to each other using the metaphor of a charioteer driving two horses. The right horse (spirit) is strong and obedient, but the left horse (appetite) is lumbering and independently willed. Much of what Plato taught about living a healthy and morally upright life has to do with this tripartite conception of the human soul. When reason can properly drive the two horses, the three then work together in harmony.[5]

Plato's teaching on human nature and its implications for living the moral life eventually served as the background philosophy of the New Testament world, especially evident in the warfare view of the spirit and the flesh. Everett Ferguson in his book,

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[4] Ibid., 78-96.

[5] Ibid., 101-3.

Backgrounds of Early Christianity, writes in reference to the period of his book (330 BC to 330 CE), "Plato's thought about the soul was perhaps the most influential part of his philosophy." Ferguson concludes that Plato's philosophy of the soul created the "familiar dichotomy in Western thought between body and soul" and links this dichotomy to the "clumsy" use of the "word *psychosomatic* (from *psychē*, 'soul,' and *sōma*, 'body') [that] had to be coined in order to put back together two things that from the biblical perspective never should have been separated." Ferguson also summarizes Plato's philosophy as "enormously influential" on early Christianity with respect to his "emphasis on nonmaterial reality, a deathless soul distinct from the body, the idea of a cosmic religion (beauty of the celestial order above), and a just society."[6]

Aristotle

Plato's theory of the Ideal Realm of Forms has had great influence on Western philosophy and religion to the current day. His pupil Aristotle, however, quickly criticized the theory and formulated his own theory of forms and material existence. Like Plato, Aristotle also built much of his philosophy on epistemological foundations. Aristotle believed Plato was mistaken about the concept of Forms as distinct from the world of appearance. The difficulty for Aristotle in accepting Plato's theory of Forms was in the seemingly irreconcilable problem of the "one and the many." For example, how could a woman be "beautiful" and a finely-crafted vase be "beautiful" if, according to Plato's scheme, both partake in the singular and perfect Form of Beauty? The woman and the vase are completely different, yet both are suppose to "partake" in the Form of

[6] Everett Ferguson, *Backgrounds of Early Christianity*, 2nd ed. (Grand Rapids, MI: W.B. Eerdmans, 1993), 314-15.

Beauty, which is distinct and unable to be diminished. If the woman and the vase are said to "partake in" or "have a share of" Beauty, then the share is less than the Form itself and thus both the woman and the vase are not really examples of Beauty at all. According to Aristotle this was a paradox. To resolve the paradox, Aristotle saw ideas such as "beauty" as characteristics or properties of an individual thing, and he reserved the concept of "form" for something else entirely. The concept of "form" for Aristotle was the purposive structure and function into which something grew, was molded, or otherwise was created to be. The "form" does not pre-exist particular expressions of it in the material world as does the "Form" of Plato, which is uncreated and eternal. We can see in general terms why Aristotle's epistemology is considered to be the basis for modern science, which methodologically focuses on observation and collection for categorization according to shared properties. Current-day biologists employ a taxonomic scheme inspired by Aristotle, who classified organisms into plants and animals and the latter into various groups by behavior and physical distinctions.

The distinction between Plato's and Aristotle's metaphysics regarding the relation of forms to the material world is clearest when they provide context for the concept of "soul" in their respective anthropologies. In comparison to Plato's ontologically dualistic treatment of human nature we could say Aristotle's view of humanity was not dualistic because he saw the soul (*psychē*), in Jordan's words, "as the *form* according to which . . . the matter of an organism is so structured that it naturally tends to develop and display the attributes of vitality found in mature members of its species." In fact, Aristotle formulated the concept of soul into three types: the *nutritive soul* ("found in plants"); the *sensitive soul* ("found in animals, which besides nutrition is responsible for their powers

of sense-perception, desire, and locomotion"); and the *rational soul* ("found in human beings [enabling them] to achieve theoretical knowledge and to deliberate about alternative courses of action"). It is important to note that Aristotle viewed these three types of soul hierarchically and in a way in which the higher levels included the powers of the lower type(s). The hierarchy proceeds from nutritive at the lowest level to sensitive and then to rational at the top. Despite the differences between Plato and Aristotle, the priority of reason and logic is common to the formulation of the anthropologies of both.[7]

The Legacy of Plato and Aristotle

Everett Ferguson summarizes well the main distinctions between Plato and Aristotle related to their respective views on the "soul" and their subsequent impact on Christian thought:

> For Plato . . . the body is the instrument or vehicle of the soul: "I am a soul; I have a body." This is not so for Aristotle: there cannot be body without soul, or soul without body. ... [Aristotle's] pupil Alexander the Great ushered in such great changes in the world that succeeding philosophies turned their attention to practical morality, and the ordered metaphysical worlds of Plato and Aristotle receded into the background. Plato's thought had a revival about the beginning of the Christian era, but Aristotle's great influence on Christian thought was only to come centuries later.[8]

Ferguson's words foreshadow the rediscovery of Aristotle as his philosophy played a role in the birth of modern science, which is the subject of chapter three. At the risk of oversimplification, Plato and Aristotle determined the paths of Western philosophical and theological anthropology, and some version of Platonism[9] has dominated religious

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[7] Jordan, 141, 149.

[8] Ferguson, 321-22.

[9] Middle-Platonism and neo-Platonism

notions of human nature (especially the first 1000 years of Christian notions). Likewise, Aristotelian impulses and methods have dominated modern scientific notions of human nature, although modern science has come to abandon the teleological (purposive) aspects of Aristotle's metaphysics. Philosophers and theologians typically refer to the former anthropological outlook as *substance* (or *radical*) *dualism*, that "the soul (or mind) is separable from body, and the person is identified with the former,"[10] and the latter, Aristotelian view of anthropology as *monism*, that human individuals are singular and physical in nature. I should clarify again it is problematic to classify Aristotle's anthropology as either dualistic or monistic; this correlation of Aristotelian metaphysics with modern science, reductionism, and materialism should be measured. Having said that, I think it safe to say the modern scientific anthropological outlook has its roots in what philosophers call *hylomorphism*, a term often assigned to Aristotle's metaphysics. *Hylomorphism* is the view that, according to philosopher Nancey Murphy, all "material things are composed of matter and form, [which] is an immanent principle that gives things their essential characteristics and powers."[11]

Ancient Greek philosophy provided intellectual and cultural context for concepts like "body" and "soul" for Western thought and, by default, the thought of Christianity. In the intervening centuries since Plato and Aristotle numerous philosophical and theological thinkers have discussed and debated the metaphysics of human nature. Intellectuals still find it difficult to come to consensus on just what is the nature of humanity. There are seemingly intractable problems and multiple issues to be dealt with

[10] Murphy, 24.

[11] Ibid., 4.

in trying to put together a coherent and broad account of human nature. Some of these issues such as the apparent incompatibility of free will and determinism and the problem of interaction between the immaterial substance of the mind and the material substance of the brain I will mention in this chapter and the chapters to follow, but I will not attempt to examine these issues in detail. Rather I will review in general terms some of the modern theological approaches to what has become known as the "mind-body problem" since traditional dualistic theological anthropology is increasingly coming under scrutiny from scientific and technological advancement, which is starting to open up the black box that has been the human mind.[12]

Descartes and the Mind-Body Problem

René Descartes (1596-1650) was the defining figure to solidify substance dualism as the default anthropology of Western culture. Descartes' famous *cogito ergo sum* ("I think, therefore I am") is a phrase almost impossible to bypass in the course of contemporary higher education. The phrase is what Descartes thought he found to be the undeniable foundation for his entire philosophical system. Descartes had set with the phrase not an undeniable foundation but rather the capstone in the arch of dualism. By the time the 19th century rolled around Darwin removed the capstone, and the arch of mind-body dualism began crumbling.

Quite often philosophers and theologians clarify the term "dualism" by compounding it with the name "Cartesian," referring to Descartes. "Cartesian dualism" is the same as what I called above "substance" or "radical" dualism. New Testament

[12] See Gregory R. Peterson, *Minding God: Theology and the Cognitive Sciences*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 2003).

scholar Joel B. Green points out many thinkers often view the ancient Greeks and the biblical writers through "Cartesian lenses" and that Plato has been "conscripted to support Cartesian categories." There seems to be considerable controversy in philosophical circles about how to parse the vocabulary and ideas of Cartesian metaphysics since there are some who root Cartesian dualism in Plato and some who think, like Green, there is commonly a "failure to perceive the depth of Descartes' innovations."[13] In the former view scholars interpret Plato as the foundational teacher of the dichotomy of reality into a material world and an immaterial, spiritual world. In the latter view scholars see Descartes as the prime figure and most systematic proponent of dualism. There is also controversy over the interchangeability of the terms *soul* and *mind* in the writings of Descartes.[14] Descartes used the two terms similarly in some contexts but with distinctions in other contexts. This issue of scholarly debate is worthy of note but not especially important to my intent and purpose, which is to simply convey the broad sweep of history regarding dualism and to draw attention to the central place of Cartesian metaphysics of mind-body dualism as it flowed from and perpetuated the general tenets of Platonic dualism as outlined above. In fact, in the midst of analyzing the use of *soul* and *mind* in Descartes and concluding there are variations and distinctions, philosopher Paul S. MacDonald states clearly the "concept of the soul that Descartes adopted is the same one that Aristotle rejected, the Platonic concept of the soul as the autonomous thinking being."[15] Therefore, regardless of Descartes' complex and

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[13] Joel B. Green, "'Bodies—That Is, Human Lives': A Re-Examination of Human Nature in the Bible," in *Whatever Happened to the Soul*, 161n.

[14] Paul S. MacDonald, *History of the Concept of Mind: Speculations About Soul, Mind, and Spirit from Homer to Hume* (Burlington, VT: Ashgate, 2003), 281-4.

[15] Ibid., 283.

sometimes vacillating theories about the interaction of the reasoning "mind" with the "ensouled" body and his attempt to prove immortality and later abandonment of that proof,[16] I will appropriate for simplicity Descartes' use of the terms *soul* and *mind* as referring to the same "half" of the dualistic thesis, the spiritual/immaterial. Descartes' view of the body is similar to the popular concept of Genesis chapter two when God breathes life into the lifeless dust to create the first human.

The above summary of the philosophical foundations provides the context for understanding the contemporary Western Christian default views of body and soul. Growing from the essential philosophical roots of Western anthropological dualism is the default understanding of the Bible as a natural proponent of substance dualism. In the next chapter I will broadly outline why the biblical witness is not necessarily committed to ancient Greek philosophy, specifically substance dualism, as explained in this chapter.

[16] Ibid., 279-80.

CHAPTER 2

BIBLICAL BACKGROUND OF THEOLOGICAL ANTHROPOLOGY

Introduction

The Bible has had an enormous influence on cultural and intellectual development in the West. This influence is obviously and especially true for Christian theology since the Bible is the prime source for faith and doctrine within the Christian tradition. John W. Cooper, Professor of Philosophical Theology at Calvin Theological Seminary, took on the task of examining biblical anthropology as it plays a role in the monism-dualism debate in a book originally published in 1989.[1] Cooper's book is important—and rare in contemporary scholarship—because he devotes it solely to examining biblical anthropology in a comprehensive manner *and* he concludes the Bible teaches dualism. Throughout his book Cooper claims he does not contest that the consensus scholarly view of the Bible is that it does not teach dualism—or monism for that matter—and that the Bible is mostly disinterested in the anthropological categories we would like it to embrace. The consensus view that the Bible is anthropologically "indifferent" emerges from the plain understanding of the Bible as a multifaceted collection of stories, allegories, genealogies, poems, histories, and prophecies of God's grand redemptive work in human history, not as a philosophical treatise or as a textbook of history in the modern

[1] John W. Cooper, *Body, Soul, and Life Everlasting: Biblical Anthropology and the Monism-Dualism Debate* (Grand Rapids, MI: W.B. Eerdmans, 2000). All citations of Cooper refer to the 2000 edition.

sense. Early on in his chapter, "The Monism-Dualism Debate about New Testament Anthropology," Cooper gives the nod to the consensus view that the Bible has a "non-committal" view in the monism-dualism debate:

> In the first place, the New Testament neither implicitly contains nor explicitly teaches a philosophical anthropology as such or any theoretically precise or systematically consistent definitions of body, mind, soul, or spirit. Its use of anthropological terminology is extremely complex and diverse. Particular words such as *sarx* [*flesh*], *sōma* [*body*], *psychē* [*soul*], *pneuma* [*spirit*], and *kardia* [*heart*] have a variety of meanings which can vary from one New Testament book to another. Scholars cannot even achieve consensus in mapping the diversity of nuances and connotations. . . . The Bible is neither theoretically clear in its mode of expression nor is it interested in addressing such philosophical issues as the number of substances of which human beings are composed. Since this is so, one cannot simply base one's case for a dualistic anthropology on the many texts which employ "body," "soul," or "spirit"—words which some philosophers use to articulate dualism. . . . If the New Testament sets forth no philosophical anthropology at all, it cannot be teaching philosophical dualism. It must be granted that traditional dualists have often erred in this regard.[2]

Cooper does not see himself as a "traditional dualist," rather he believes the "proper anthropology" of the Bible is what he calls "holistic dualism," a kind of "dual-natured" anthropology of "functional holism" and "dualism."

Biblical Examples of Dualism

Consider the following passages from the New Testament that seem to clearly portray the clean dichotomy between flesh and spirit—and by parallel implication body and soul—to get a feel for how the default view described in chapter one is apparently taught in the Bible:

- Keep awake and pray that you may not come into the time of trial; the spirit indeed is willing, but the flesh is weak (Mark 14:38).
- To set the mind on the flesh is death, but to set the mind on the Spirit is life and peace (Rom 8:6).

[2] Ibid., 96.

- What I am saying, brothers and sisters, is this: flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable (1 Cor 15:50).
- What is your life? For you are a mist that appears for a little while and then vanishes (Jas 4:14).

These passages sound rather negative and should be considered alongside other passages that reveal a positive perspective on the nature of the body and flesh:

- All flesh shall see the salvation of God (Luke 3:6, quoting Isa 4:5).
- And the Word became flesh and lived among us . . . (John 1:14).
- The body is meant not for fornication but for the Lord, and the Lord for the body (1 Cor 6:13).
- Or do you not know that your body is a temple of the Holy Spirit within you, which you have from God, and that you are not your own? For you were bought with a price; therefore glorify God in your body (1 Cor 6:19-20).

There is a clear dichotomy in these passages between spirit/soul and flesh/body. What are we to make of this dichotomy? Does the dichotomy imply substance dualism as it appears to? What does the Bible teach as a whole about the composition of humanity? Does it teach monism? Dualism? Something else? I will demonstrate that the Bible as a whole does not teach a clearly identifiable anthropology within either of the two main categories—monism and dualism—and that to hybridize what it does teach into a category like "holistic dualism," as Cooper does, confuses matters. I will focus on three things in this chapter. First, I will frame the hermeneutical task. Second, I will examine key anthropological terms in the Hebrew Bible and the New Testament, relying primarily on Cooper for this task since he does a comprehensive job examining the terminology within the broad rubrics of anthropological dualism *and* monism. Third, I will briefly review and critique Cooper's argument that the Bible teaches dualism.

Consideration of the Hermeneutical Task

Much of the monism-dualism debate in Christian scholarship swirls around the

idea that Jewish culture and religion were essentially anthropologically monistic prior to the Hellenization of eastern Mediterranean lands by Alexander the Great. The anthropologies inspired by Plato and Aristotle arrived in the eastern Mediterranean and fused with the inchoate notions of the "breath of God" as life-force and the shadowy world of Sheol (the place of the dead) to form the distinctly new religio-cultural background of the New Testament writings. The result in the New Testament is a clearer metaphorical dichotomy between "flesh" and "spirit, "body" and "soul" than in the Hebrew Bible.

The scholarly consensus dates the completion of the writing of the Hebrew Bible (with the likely exception of Daniel) before Plato and Aristotle and thus before the Hellenization of the eastern Mediterranean. It is possible that Plato and Aristotle were influenced by Hebrew thought, but this is highly unlikely given two facts: they lived before Greek domination of the Ancient Near East, and the Greek translation of the Hebrew Bible did not emerge until well after their deaths. The consensus view of biblical scholars is, therefore, that the Hebrew Bible does not presuppose a theological anthropology that is readily identifiable as monistic or dualistic, especially within the Greek philosophical categories outlined in chapter one.

I am arguing for the simple recognition that Greek philosophy is the "lens" through which we see the world of theological anthropology. We should try hard to understand the background of Western theological anthropology as the many-layered stratification of Greek philosophical thought and its subsequent encounter with and assimilation of the Hebrew Bible. Translators excavate ancient vocabulary of the Bible from beneath many historical layers of cultural interpolation and assimilation, and it is

the result of their work that lay people encounter when they try to recover the original meanings of key terminology when they examine the source material for themselves. The present examination of biblical terminology and context reveals the Bible does *not* present a consistent and unified *theological* anthropology, particularly the default anthropology described in chapter one. As Joel B. Green says:

> In short, simple appeal to "what the Bible teaches" will not resolve those anthropological questions arising from discussion of body and soul, mind and brain. It is worth asking, though, whether a reading of the narrative of Scripture as a whole accounts best for a view of the human person characterized by dualism or by monism. Theological interpretation of Scripture will need more textured attention than it has generally attracted if the biblical materials are to speak faithfully to these issues.[3]

Nephesh

Nephesh, the Hebrew word most commonly associated with the English word *soul,* has a wide range of meanings in the Hebrew Bible. The breadth of meaning for *nephesh* is difficult to recover in English. The association of *nephesh* with *soul* (Greek: *psychē*) comes mostly from the Greek Septuagint, the standard translation of the Hebrew Bible for the Greek-speaking world from c. 200 BCE to c. 400 CE (St. Jerome completed his Latin translation of the Bible—Vulgate—in 405 CE). The Septuagint dominated the Western world for six centuries and had great influence for several more centuries. The Septuagint translated *nephesh* as *psychē* in about 80% of the instances according to Wolff,[4] and according to Daniel Lys as cited by Paul MacDonald the Septuagint

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[3] Joel B. Green, "Body and Soul, Mind and Brain: Critical Issues," in *In Search of the Soul: Four Views of the Mind-Body Problem*, Joel B. Green and Stuart L. Palmer (Downers Grove, IL: InterVarsity Press, 2005), 21.

[4] Hans Walter Wolff, *Anthropology of the Old Testament* (Philadelphia: Fortress Press, 1974), 10.

translated *nephesh* as *psychē* in about 90% of the instances.[5] Where the modern translations don't translate *nephesh* as *soul* or *life* they translate it as a pronoun, as referring to a person or a person's body or a body part, or in some reference to the abstraction of "appetite" or "desire." *Nephesh* can also refer to animals. *Nephesh* relates to God in only 3% of the cases.[6] We can see in early scriptural interpretation the Septuagint's range of meaning for *nephesh* was compressed into the term *psychē*, which carried with it the Platonic baggage described in chapter one.[7] Though modern translations give more breadth to the range of meanings for *nephesh*, these translations do not completely liberate the text from our deeply embedded dualistic preconceptions. The effect may be less forceful than that of the Septuagint in its day, but the limited range of meaning and preference for Western sensibilities compared to those of Hebrew thought are still evident in modern translations.

Ancient Hebrew thought was more expressive of concrete relations than abstractions, as with Greek thought. This is an important contrast to keep in the forefront of our modern minds. Hebrew anthropological terms are often synonymous with

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[5] Paul S. MacDonald, *History of the Concept of Mind: Speculations About Soul, Mind, and Spirit from Homer to Hume* (Burlington, VT: Ashgate, 2003), 11.

[6] Wolff, 26,32.

[7] Joel B. Green notes, however, that "Aristotle, for example, devotes an entire treatise to 'the soul' . . . and defines [*psychē*] in terms of what we today would designate a physicalist account of human nature, just as the Septuagint . . . typically translates the Hebrew [*nephesh*] . . . with [*psychē*], without thereby introducing anthropological dualism into the Old Testament" (Green, 19). Green may be technically correct, the predominant substitution of *psychē* for *nephesh* in the Septuagint does not in-and-of-itself introduce dualism into the Hebrew Bible; to commit such an unwarranted introduction of meaning from the receptor language into the translated language is an example of what D.A. Carson calls the "linkage of language and mentality" exegetical fallacy; see D. A. Carson, *Exegetical Fallacies*, 2nd ed. (Grand Rapids, MI: Baker Books, 1996), 44-45. Rather it is the predominance of *psychē* coupled with the influence of subsequent dualistic interpreters and interpretations upon the text that created and/or contributed to the tradition of dualistic interpretation of the Bible. As we have already seen, Aristotle cannot be classified as a dualist, so at best we can only say that Aristotle is one example of a Greek philosopher to use *psychē* in non-dualistic ways.

concrete, physical entities, such as parts of the body. And depending on their context these terms can refer to a specific *body part*, the *whole body*, the *whole person*, and in reference to animals. Literally and anatomically, *nephesh* most often refers to the *throat*, *neck*, or *stomach*.[8]

Drawing upon the work of Claus Westermann, MacDonald concludes, "An individual does not *have* a *nephesh* in the sense of a separate or separable possession, rather, an individual *is* a *nephesh*; the human life is coterminus and coextensive with its *nephesh*."[9] Despite the long historical connection between *nephesh* and *psychē* and *soul*, even John Cooper says of *nephesh*, "In sum, this crucial term is as different from as it is similar to the Platonic sense of 'soul'."[10] The range of meanings for *nephesh* is broad, and translating *nephesh* well involves paying especially close attention to context and theological assumptions. If we are to be honest to the original meanings of *nephesh* we should not understand it as referring to the Platonic or Cartesian *soul* described in chapter one.

Ruach

The Hebrew term *ruach* is a curious term in Hebrew anthropology because in about 30% of its instances in the Bible it refers to *wind*, which distinguishes it from the often-concrete *nephesh* and *basar* [*flesh* or *body*]. In the words of Wolff, *ruach* "does not mean the air as such; it means the moving air." *Ruach* is a "natural power," "a mighty

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[8] cf. Cooper, 39; MacDonald, 2-4; Wolff, 11-15.

[9] MacDonald, 6.

[10] Cooper, 39.

phenomenon standing at Yahweh's disposal." Therefore it makes sense that *ruach* functions as life-giving force, as life-animating *breath*. The wind is powerful. Life-giving is a demonstration of God's almighty power. The wind comes and goes. So does life. About 35% of the time *ruach* refers to God and just slightly less than that it refers to humans and animals.[11] More important to our discussion of biblical anthropology is the translation of *ruach* as *spirit*. About 50% of the time in the NIV and the NRSV *ruach* is translated as *spirit*. Perhaps the most well-known appearance of *ruach* as *spirit* in the Bible is in Genesis 1:2:

> Now the earth was formless and empty, darkness was over the surface of the deep, and the *Spirit* [*ruach*] of God was hovering over the waters. (NIV)
>
> The earth was a formless void and darkness covered the face of the deep, while a *wind* [*ruach*] from God swept over the face of the waters. (NRSV)

In the case of Genesis 1:2 Christians often maintain the tradition of the *ruach* referring to the Holy Spirit, the Third Person of the Trinity, despite the contextual evidence against viewing *ruach* in Trinitarian terms, not to mention the fact that the writers, compilers, and editors of Genesis most probably had not even the vaguest conception of a Trinitarian God. The NRSV takes a bold stand in this instance with the literal "wind," but somehow it just doesn't seem to fit the overall creation story. What about a case where *ruach* refers to humans? Perhaps the second-most well-known instance of *ruach* is just such a case, Ezekiel 37. Here Ezekiel describes his vision of the dry bones coming back to life. Modern versions unanimously translate *ruach* as *breath* or imply the object of *ruach* with the verb *breathe* in Ezekiel 37, for example: "Thus says the Lord God to these bones: I will cause *breath* [*ruach*] to enter you, and you shall live" (Ezek 37:5). It is here we

[11] Wolff, 32-34.

should be especially careful not to pour Platonic dualism into *ruach* as *spirit*. The dualist John Cooper clearly states as much:

> *Ruach* is not an immaterial soul, but a vital force, the power of life. It is not generated by the bodily organization itself, but is externally conferred on the organism by God. . . . In sum, *ruach* is used in a wide variety of ways in the Old Testament, some of them coinciding with *nephesh*. But none of them clearly points to an immaterial subsistent self. Once again Platonism is left without much foundation.[12]

Basar

Basar is the Hebrew term most commonly translated as *flesh*, *meat*, or *body*. In almost 40% of the instances of *basar* in the Hebrew Bible the word refers to animals, "incomparably more often mentioned," as Wolff says, than animals' *nephesh*. The near equal application of *basar* to animals and humans indicates its more "beastly" nature than *nephesh*. *Basar* is never used in reference to God.[13] *Basar* is translated in the NIV as *flesh* and as *meat* each about 25% of the time, and as *body* about 8%. In the NRSV *flesh* does most of the work at about 60% of the load, and *meat* and *body* are used almost 15% of the time in each case. Consider Isaiah 49:26 in the NRSV and the NIV to see an example of the range of meaning of *basar*:

> I will make your oppressors eat their own *flesh* [*basar*], and they shall be drunk with their own blood as with wine. Then *all flesh* [*kol-basar*] shall know that I am the Lord your Savior, and your Redeemer, the Mighty One of Jacob. (NRSV)

> I will make your oppressors eat their own *flesh* [*basar*]; they will be drunk on their own blood, as with wine. Then *all mankind* [*kol-basar*] will know that I, the LORD, am your Savior, your Redeemer, the Mighty One of Jacob. (NIV)

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[12] Cooper, 40.

[13] Wolff, 26, 32.

Notice how the NIV translators chose to do interpretive work for the reader in the second use of *basar*. There is an intended ironic juxtaposition lost in the NIV. The self-destruction of Israel's oppressors in the metaphor of eating their own *basar* is juxtaposed with the salvation of *all basar*. The meaning of *basar* in its fleshly connotations is contrasted with, according to Wolff, the alternative meaning of *basar* as the "sense of what binds people together and what can then be an almost legal term for 'relationship'." In brief, *basar* is the Hebrew term most commonly associated with the material body and the fleshly nature of all life and thus through abstraction with that which "unites the world of men and the world of animals under the term [*kol-basar*]."[14]

Leb and *Lebab*

The last Hebrew term we will look at is *leb* or *lebab*. In the NIV and NRSV *leb and lebab* (hereafter *leb-ab*) is translated as *heart* about two times out of three. Curiously, the next most common English word for *leb-ab* is *mind*—in the KJV about 2%, NIV about 4%, and in the NRSV about 10%. In contrast with *nephesh* and especially *basar*, *leb-ab* refers to animals only five times, and as Wolff says, "four of these are in comparison with the human heart." According to Wolff, "there are only 26 mentions of the heart of God." As with the other terms, we should be careful before we pour into the original Hebrew our modern associations with the English words used in translation. Wolff states that the use of the word *heart* for *leb-ab* may lead "our present-day understanding astray."[15] Romanticized notions of the heart as our conscience, innermost feelings and yearnings, and generally the seat of our "true self" are some of the notions that may lead us astray.

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[14] Ibid., 29.

[15] Ibid., 40.

Yes, these notions are sometimes at play in the Hebrew usage of *leb-ab*, but first we should recognize, as with the other terms, *leb-ab* has literal reference to the heart organ itself. Moving from the concrete to the abstract, as advocated by Wolff and Paul MacDonald and others, we can identify what *leb-ab* refers to in the Hebrew imagination. Wolff starts with an interesting example in 1 Samuel 25:37-38 to demonstrate the utter difference between the Hebrew anatomical understanding of the function of the heart and our modern understanding:

> [37]In the morning, when the wine had gone out of Nabal, his wife told him these things, and his *heart* [*leb*] died within him; he became like a stone. [38]About ten days later the Lord struck Nabal, and he died.

Wolff: "The modern reader finds this confusing. In the first sentence he thinks that when the heart stopped beating the man died. . . . But then he learns that Nabal went on living for another ten days." Wolff says that the Old Testament knows nothing of the "connection between the beating of the pulse and the [*leb-ab*]." Wolff suggests the original meaning refers to "paralysis," and that's how he could have lived for another ten days; Nabal probably suffered a stroke.[16] The implication is that the heart as the central organ in the body is the one to control the movement of the body and its limbs. In this sense, curiously enough, the Hebrew anatomical understanding of the heart was simply misplaced since it is the brain that controls the nervous system, which in turn animates the body.

Leb-ab in Hebrew imagination does dual duty. In modern Western imagination the heart is romanticized as essentially the emotional center, and the mind is the center of reason. Modern science tells us we got the latter right and that the former is just a

[16] Ibid., 41.

poetical social construct. The split between head and heart in Western culture is clean and clear. However, *leb-ab* metaphorically covers both reason and emotion in Hebrew thought. Wolff writes, "In by far the greatest number of cases it is intellectual, rational functions that are ascribed to the heart—i.e., precisely what we ascribe to the head and, more exactly, to the brain."[17]

Psychē

As I mentioned above the word *psychē* is the most common ancient Greek word used to translate the Hebrew term *nephesh* in the Septuagint, and as with *nephesh* the term *psychē* does not have singular meaning, which is hard to contain in a single English equivalent. *Psychē* is translated in the New Testament about one-third of the time as *life* and about one-fifth as *soul*. The contextual meaning of *psychē* as *life* in the New Testament functions much like *nephesh* does in the Hebrew Bible, which elicits the broad conception of the power behind life, the intangible source that differentiates life from non-life. In the instances where *psychē* is translated as *soul* in English it is clearer that *psychē* contains Hellenistic philosophical connotations. Two such passages are Revelation 6:9-11 and Matthew 10:28. In Revelation, as Cooper contends, the writer clearly identifies *psychē* with the "dead saints between death and resurrection."[18] New Testament scholar Werner Georg Kümmel emphasizes interpreting *psychē* as communicating in a passage such as Matthew 10:28 "that only God can destroy the heavenly life as distinct from the earthly [life]"[19] and that "these texts [cf. Mark 8:36] just

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[17] Ibid., 46.

[18] Cooper, 115.

[19] Werner Georg Kümmel, *Man in the New Testament*, trans. John J. Vincent (Philadelphia: Westminster Press, 1963), 32.

do not take for granted the special value of the human soul: on the contrary, they are intended to warn man about the danger of losing eternal life."[20]

Pneuma

The texts of the Jewish intertestamental period used *nephesh* and *ruach* in Hebrew and *psychē* and *pneuma* in Greek "repeatedly and unambiguously," according to Cooper, "to refer to the disembodied dead."[21] As with *ruach*, *pneuma* refers to the life-animating power of God or literally the "breath" of God as may be construed from Matthew 27:50 and John 19:30 when Jesus "gave up his *pneuma*" upon his death on the cross. Cooper points out *pneuma* must also refer to a personification of "spirit" as in the case of Luke 24:37 when Jesus appears in the upper room and the text says, "They were startled and terrified, and thought that they were seeing a *pneuma*," referring to the resurrected person of Jesus. *Pneuma* thus refers to both "breath" and "life-force" or "personal spirit," according to Cooper.[22] In about 60% of the 385 instances of *pneuma* in the New Testament the term refers to the "Holy Spirit" or more commonly the "Spirit of God" or simply the "Spirit" in contemporary English translations. The majority denotation of *pneuma* in reference to God muddies the waters in trying to discern how *pneuma* might be interpreted in the New Testament to reveal a distinct theology of human nature, especially given *pneuma*'s connection with the Hebrew *ruach*, which refers evenly to "wind," the "Spirit" or "life-giving power" of God, and to humans and animals. The word *spirit*, as in the "Holy Spirit" or the "Spirit of God," in Trinitarian theology

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[20] Ibid., 24.

[21] Cooper, 82.

[22] Ibid., 114-15.

certainly means something much different than in reference to the "spirit" of an individual human being, regardless of the metaphysical meaning poured into the word. The function of a word like *pneuma* in the New Testament becomes clearer when contrasted with other terms in the dichotomy between Creator and creation.

Sarx and ***Soma***

Kümmel claims Paul is the "only New Testament writer who to any great extent offers us direct statements about man's nature, and uses extensively the anthropological terminology of his time. Paul's anthropological statements have, therefore, always determined quite decisively the whole picture of man which Christian doctrine has extracted from the New Testament."[23] According to Kümmel , Paul "sees man trapped by the *kosmos*, standing distinct from God" and that Paul's anthropology does not rely upon the common Greek dualism of the time, the antithesis between "outer man and inner man." Rather Paul "promiscuously" uses terminology like *psychē*, *sarx* (*flesh*), *soma* (*body*), and even *pneuma* to invoke what his cultural context would understand as the distinction between "outer and inner man," but Paul's main point is to illustrate the distinction between humans as God's fallen creatures and the "divine" *pneuma*. With all of these terms, according to Kümmel, Paul uses them to refer to the whole person, not a metaphysically distinct "inner" person. The Greek word *sarx* thus refers to the whole human person and specifically the human's "earthly origin."[24] This is the "natural man," the one stained by sin. *Sarx* need not connote "fleshliness" as "sinfulness." The "flesh" is best understood as the constitution of humanity in distinction to God. Adam and Eve

[23] Kümmel, 38.

[24] Ibid., 41-43.

before the Fall were *sarx*. It's simply the case that Paul uses *sarx* to illustrate fallen "creatureliness" because of his culture's pejorative understanding of "fleshliness," an understanding most pronounced in ascetical forms of Gnosticism. Cooper, on the other hand, goes to great length to create a distinction between *sarx* and *soma*, especially in his treatment of the New Testament passages dealing with life after death. He claims, "The resurrection body is a *soma pneumatikon*, a spiritual body, which requires precisely that it not be *sarx*. This is why Paul states in Philippians 1 that being with Christ is not being in the flesh."[25] Yes, the resurrection body is a *soma pneumatikon*—but Cooper presses Paul's comparison of *soma* and *sarx* too far and he concludes Paul teaches an ontological distinction between the physical and spiritual nature of humans. *Sarx* as the representative of the cultural imagination of the sin nature is indeed incompatible with Christ. Cooper's conclusion that *sarx* is metaphysically incompatible with resurrection or Christ is not warranted simply because Paul uses *soma* to denote the naturalized concept of the human physical body.[26]

The Case for Dualism in the Bible

I have taken considerable space above to frame the issues of biblical exegesis and to examine the key terms in Hebrew anthropology. The discussion above demonstrates Hebrew thought had little to no understanding of Platonic dualism. None of the Hebrew terms or any of the Greek terms directly refer to the immaterial "soul" as conceived in the Cartesian dualism with which we are familiar today. What about parallels to Aristotelian anthropology? John Cooper claims there are "parallels" between the "holisms" of

[25] Cooper, 152.

[26] There are several New Testament passages that teach Jesus "came in the *sarx*" and imply the redemption of *sarx*: e.g. Luke 3:6; 1 Pet 3:18, 4:1; 1 John 4:2; 2 John. 1:7.

Aristotle's ideas and Hebrew anthropology, but he is clear to say that the two sets of ideas are not "fully symmetrical" and that Aristotle is not grounded in the Hebrew Bible. Cooper also characterizes Aristotle's anthropology as "ontological holism." Recall the term used by Nancey Murphy to refer to Aristotle's anthropology in chapter one: *hylomorphism*. Cooper uses the same term and explains in concluding his chapter, "Old Testament Anthropology: The Holistic Emphasis," that "[a]ccording to Aristotle, all earthly things including human beings are constituted by two metaphysically different elements or principles, form and matter. Thus his ontology is called 'hylemorphism'[sic] (matter-formism). Neither form nor matter is a substance . . . only the actual things they together constitute are substances."[27] This explanation also sounds like what many scholars call *dual-aspect monism*. Aristotle may help us philosophically frame the anthropology of the Hebrew Bible, but Aristotle negates the afterlife, which the Hebrew Bible teaches in Cooper's view.

The teaching of an afterlife in the Bible—for Cooper—offers the clearest evidence of a biblical case for dualism. Much of Cooper's argument for dualism in the Hebrew Bible revolves around the presence of people after death in Sheol, "the realm of the dead" or simply "the grave" in some contexts.[28] Essentially Cooper's argument is that upon death the *nephesh* and/or *ruach* is taken from or otherwise departs the body and dwells in Sheol, and because the Bible demonstrates continuity of personal identity from life to afterlife there must be an immaterial aspect to humans that survives death because the body goes into the ground and decays. Pouring into *nephesh* and *ruach* a dualistic

[27] Ibid., 50-51.

[28] Ibid., 56.

understanding of them as the immaterial essence of an individual person is not warranted, as revealed above in the examination of these terms. Cooper acknowledges incompatibility between Platonic dualism and biblical anthropology over and over again in his book, but he does want to leave open this possible application of particular Hebrew (and Greek) anthropological terms as the immaterial essence of a person in a way similar to that of the popular understanding of the terms *soul* and *mind* in Western thought.[29] Cooper claims that dualism is the "inescapable" implication of existence in Sheol:

> At death there is a dichotomy of fleshly and personal existence. A person need not be a purely nonbodily substance as in Plato or Descartes for dualism to result. Being an ethereal or quasi-bodily entity will do just as well. The logic is just as inexorable. Dualism is entailed and ontological holism is ruled out.[30]

This begs the question. There is nothing inherent in personal existence after death that inexorably implies that dualism is true, especially considering Christian theology of the resurrection. Cooper and a host of other philosophers and theologians devote a great deal of attention to examining and solving (attempting to solve?) all sorts of problems with the continuity of individual identity between life and afterlife.[31] In my estimation the entertainment of these philosophical conundrums in concert with biblical exegesis puts the cart before the horse. We have enough difficulty building consensus on what was the nature of theological imagination in the Hebrew Bible and the New Testament that to

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[29] Cooper writes on page 68, "The only other option is that the ghostly person is what the *nephesh* and/or *ruach* becomes once it is withdrawn from the fleshly body." This view, according to Cooper, is supported by "at least one Old Testament scholar, Otto Kaiser."

[30] Cooper, 69.

[31] For an introductory look at some of these philosophical issues and an overview of major approaches to dealing with them, see Green and Palmer. For an in-depth look at several approaches to the philosophical problems involved in life after death, see Kevin Corcoran, ed., *Soul, Body, and Survival: Essays on the Metaphysics of Human Persons* (Ithaca, NY: Cornell University Press, 2001).

introduce consideration of modern philosophical conundrums as a way to understand the Bible is to bury the text beneath more layers rather than excavating the layers that already exist.

Even if we go along with Cooper's methodology of introducing the "identity" and "intermediate state" problems as a way to consider the biblical texts, then we must ask ourselves how credible is the evidence of the Bible's portrayal of life after death for some kind of dualism, especially in the case of existence in Sheol? Cooper is very careful to explain that existence in Sheol is not akin to the soul's experience in purgatory or some other popular conception of heavenly or hellish realms to come from medieval imagination with its cherubs and clouds, demons and flames. Again, we're not talking about Platonic dualism in the Hebrew Bible. But Cooper does claim that existence in Sheol is more than some kind of inchoate, shadowy existence in the nether regions.

Cooper's conclusion that the Bible teaches dualism draws more upon his modern philosophical assumptions about the afterlife than they do on his fair and balanced exegesis of the biblical text. Cooper's arguments for dualism in the New Testament are similar to his arguments for dualism in the Hebrew Bible, namely that dualism is the inexorable implication of life after death. There is a growing consensus among scholars that New Testament thought and language have more in common with their roots in the Hebrew Bible than they do in Greek philosophy. Again, this does not mean those roots were not subsumed by subsequent Hellenization and accommodation to time-tested philosophical precepts. There is a difference between original meanings and meanings deposited in the intervening strata of biblical interpretation throughout the centuries.

It is an erroneous assumption that the Bible is the determinative source for the default dualism of Western philosophy summarized in chapter one. It is also a tenuous claim that the Bible even teaches dualism. The Bible is clear in portraying a dichotomy between God as Almighty Creator and the creation, including human beings. This dichotomy between Creator and creation is firmly emplaced as the foundation for the modern scientific worldview, which is the subject of the next chapter.

CHAPTER 3

THE ENLIGHTENMENT: THEOLOGICAL ROOTS AND IMPACT

Historical Prelude to the Enlightenment and the Scientific Revolution

The methods of science and the materialistic philosophical assumptions they rest upon are the foundation of "factual" and "public" knowledge. The vast majority of people trust the scientific foundation of our society as stable and profitable not because they are intimately familiar with the rules of logic, the rigors of the scientific method, and the lofty intellectual constructs of the philosophy of science, but rather people trust the scientific foundation of our society because of the grandeur of the technological edifice that has been and continues to be constructed upon it. The grandeur is so awesome that it inspires many of us to claim the knowledge built upon the foundation as the only knowledge we can claim as certain. Consider a famous example of scientific knowledge we claim as certain today: Earth orbits the sun and not the other way around. Such an example of knowledge deserves the label "scientific" because it is through the methods and instruments of science that we *came to know* this fact. In actuality the claim that Earth revolves around the sun is a counterintuitive claim. Our naked experience of the sun rising each day in the east and setting in the west lends itself more readily to the belief that the sun revolves around Earth. The realization of the heliocentric reality we now embrace was the result of what Thomas Kuhn called a "scientific revolution" or a "paradigm shift," which is "the tradition-shattering complements to the tradition-bound

activity of normal science."[1] In the example of the Copernican Revolution the tradition being shattered was the tradition of interpreting our experience of the sun and other celestial bodies as revolving around Earth and the "tradition-bound activity of normal science" was the accepted practice of correlating observational data within the tradition. At the risk of oversimplification of Kuhn's concept of paradigm shift or scientific revolution, the raw data stayed the same (the naked reality of celestial movements), but—to use religious terms—the "revelation" of the heliocentric view "converted" people from the "religion" of the geocentric "tradition." The old paradigm of correlating data and making sense of the world of astronomy was "Ptolemaic astronomy" and the new paradigm was "Copernican astronomy."[2] Later, Kepler modified the Copernican models of celestial mechanics, but this was not a paradigm shift. Another revolution would not occur in astronomy until Einstein revealed an entirely different view of reality with special and general relativity and his reformulation of the nature of gravity.

Though Kuhn developed his theory in reference to the history and development of scientific knowledge, the concept of paradigm shift has been extrapolated into many other disciplines. A scientific paradigm shift relates to a near-complete redesign and remodeling of the edifice of knowledge but without touching the philosophical foundation, which is left unmoved. The gradual abdication of the institutionally promoted dogma of the Roman Catholic Church as the arbiter of public knowledge to the

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[1] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 2d ed. (Chicago: University of Chicago Press, 1970), 6.

[2] Ibid., 10.

enthronement of the scientific method and the pronouncements of the scientific community as the current arbiters of public truth was much more than paradigm shift. The abdication of the Church's authority to the pronouncements of science was more like the forces of plate tectonics than the upheaval of local earthquakes caused by plate tectonics. The result of the shift in cultural authority was that while the foundation supporting the edifice of knowledge had been crumbling for hundreds of years the edifice had to be gradually moved, presumably, to more stable ground. This is the *myth* behind the "scientific revolution" in the 17th century.[3]

The knowledge of science did not always enjoy the privilege it does today. The fact that science and scientific knowledge today does enjoy privilege over religious doctrine and dogma is an example of the concept of *progress*, a concept itself that comes from the Enlightenment. The privileged position of science is thus a relatively recent phenomenon within the thousands of years of recorded history. How and why did science elevate to its current privileged status? And how is the status of science relevant and related to the concerns of theological anthropology?

In answering these questions we should not pit the methods and results of science over-against the methods and conclusions of the Christian tradition or any other religious tradition for that matter. My purpose here is not to debate the thorny issues of cultural relativism or the nature of truth, rather my purpose is to simply acknowledge that cultural

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[3] Brent Waters, *From Human to Posthuman: Christian Theology and Technology in a Postmodern World*, Ashgate Science and Religion Series (Burlington, VT: Ashgate, 2006), 2-11. This is the "shift" and "myth" Waters characterizes as the shift from "providence to progress." "The idea of progress fuelled by scientific discovery emerged as a more captivating cultural icon than that offered by an inscrutable providence" (7).

conditions and systems for determining public truth ebb and flow for good or for ill. The worldview to emerge from the dominance of scientific knowledge, which many have dubbed "scientism," is a historical movement that flowed from and hence departed with Christian theism. The two—scientism and Christian theism—need not stand opposed to and in competition with each other, though it is necessary to realize that such enmity between the two is in large part the background for the current discussion.[4] To appreciate the role of Christian theism in the development of scientism and to recognize the shift from the foundation of church dogma to scientific method, there are two main figures we should consider in pre-Enlightenment history that are of great importance to Christianity and the intellectual development of the West: Anselm of Canterbury (1033-1109) and Thomas Aquinas (1224-1274).

The Legacy of Anselm and Aquinas

Anselm was the preeminent figure in the era of the Great Schism in 1066 between the Christian church of the East and the church of the West that firmly set the West upon its current path of privileging autonomous reason over religious dogma, which was codified in the creeds of the Christian church and concurrently explained and embedded in the philosophy of Plato. The time of the Great Schism and Anselm marks the beginning of the end of what are pejoratively called the "Dark Ages," starting approximately in the fifth century and coinciding with the disintegration of the Roman Empire. At the time of the Schism Christian thinkers demonstrated clear commitments to logic and rationality in the West as fruitful to "faith seeking understanding." John

[4] I merely want to convey the general sweep of history of modern day scientism and its theological roots. The scope of the present work does not permit an examination of all of the highlights of the sweep of history to which I refer.

Marenbon writes of Anselm, "More clearly than any of his medieval predecessors, he defined a role for reason within his theological speculations and used rational methods in conducting them."[5] It was arguably first in Anselm's thought that the methods of logic were used as a way to move from what was thought self-evident in the nature of God and humanity to theological conclusions already made explicit in scripture and the tradition of the church fathers. This was an important development. Logical reasoning could lead an individual to the truth of God's revelation without having to rely upon appeals to the authority of the Bible or the church hierarchy. Nearly 1000 years ago the process was firmly under way of privileging individually autonomous reason over religious dogma, though certainly unintended by Anselm. Anselm saw the truths of scripture and tradition as self-evident to individual human reason, and thus reason was able to expose matters of ultimate importance, namely in the case of Anselm the salvation of one's soul. "In other words," as Paul Tillich wrote in reference to the developments of Anselm's thought, "autonomous reason and the doctrine of the church are identical."[6] The elevation of reason in Anselm's thought was not the origin of the ascendancy of rationalism to its current heights, but it was Anselm that starting moving the first bricks in the edifice of public knowledge from the "old" foundation of church dogma to the "new" foundation of individually autonomous reason.

Thomas Aquinas is the other important figure in the church's role in the

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[5] John Marenbon, *Early Medieval Philosophy (480-1150): An Introduction* (Boston: Routledge, 1983), 94.

[6] Paul Tillich and Carl E. Braaten, *A History of Christian Thought*, 2nd ed. (London: S.C.M. Press, 1968), 159.

development of Western thought. Aquinas wrote at a time when the ancient thought of the Greek philosophers was "rediscovered" via the transmission of their work in the Islamic world. The Islamic influence established itself in the Iberian Peninsula, and Islamic thinkers like Ibn Rushd (Averroes) incorporated the work of Aristotle into their theological contemplations. Ibn Rushd wrote a comprehensive commentary on the works of Aristotle, which influenced Aquinas in his own synthesis of Aristotle in Christian theology and cosmology. The importance of Aquinas in the development of Western thought cannot be overemphasized. Aquinas is primarily important for his systematization of knowledge via revelation *and* reason. Aquinas did not bifurcate the two into completely separate domains, but he was preeminent in exhibiting what Michael Haren calls "a confidence that truth itself is one and common to [reason and revelation and] a general critical awareness, arising from the distinction between reason and faith, of the method of procedure and the foundation of an argument."[7] According to Aquinas revelation provides foundation for theological knowledge, the words of scripture are not the limit of theological knowledge, and thus theological conclusions can derive from methodological inquiry (experience and observation) and formulations of reason. In medieval theology the influence of Aristotle is clear as Paul Tillich commented on Aristotle's influence on theology in the 13th century:

> Perhaps the most important thing he [Aristotle] gave was a new approach to knowledge. The soul has to receive impressions from the external world. Experience is always the beginning in Aristotle, whereas in the Augustinian tradition immediate intuition was the point of departure. The Augustinians stood, so to speak, in the divine center, and judged the world from there. The Aristotelians looked at the world, and concluded to the divine center.[8]

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[7] Michael Haren, *Medieval Thought: The Western Intellectual Tradition from Antiquity to the Thirteenth Century* (New York: St. Martin's Press, 1985), 181.

The legacy of Anselm and Aquinas is the ennobling of individually autonomous human reason, in concert with revelation, to probe the depths of God, of the world, and of humanity. But the ennobling of human reason presents a question, stated by Tillich, "Is God the last or the first in our knowledge?" Tillich claimed the Augustinians "answered that the knowledge of God precedes all other knowledge; it comes first and we must start with it." The Augustinian stance toward religious knowledge is *theonomous* (God-centered, divinely appointed and revealed, particularly in scripture, especially regarding the moral law of God); the "opposite type is the Thomist philosophy of religion ... knowledge cannot start with God ... but our knowledge must reach him by starting with his effects—the finite world." The divergence of religious thought between the two main approaches described by Tillich above reached a climax with the philosophers of the Enlightenment. The Western world in the wake of Anselm and Aquinas and other medieval scholastics inherited the fruits (spoils?) of what has been dubbed the "Thomistic synthesis," namely the emphasis on gaining knowledge through experience and analysis of the ways of the world. This emphasis is clearest and most important in scientific methodology. In contrast to *theonomous* knowledge, Tillich refers to knowledge in Thomism as *autonomous* knowledge. Aquinas recognized, according to Tillich, *autonomous* knowledge only goes so far in knowing God and such knowledge must be rooted in authority, namely the authority of the church, which for Aquinas was centered in the Church of Rome. And therein lies the rub for the Western world. Once the authority of the church (of Rome) had fallen politically, intellectually, and morally (as marked by the advent of the Protestant Reformation), the Thomistic tradition of

[8] Tillich and Braaten, *A History of Christian Thought*, 184.

autonomous knowledge—bereft of its border-patrolling authority, the church—ultimately gave birth to the allegedly boundless supremacy of human reason in the Enlightenment.[9]

The Enlightenment Agenda

Western cultural, political, and economic systems such as individualism and individual rights, modern liberal democracy, and capitalism flow from the principles of the Enlightenment in 17th and 18th century Europe and colonial America. The Western concepts of the individual and human nature are also rooted in Enlightenment thought; therefore, we should understand its major characteristics. According to Paul Tillich the agenda of the Enlightenment was four-fold:

1. *autonomy*: "free use of reason" for each and every individual "without the guidance of somebody else"
2. *reason* (itself four-fold):
    a. *universal reason,* that the entire universe is "intelligible"
    b. *critical reason,* a "revolutionary emphasis on man's essential goodness in the name of the principle of justice"
    c. *intuitive reason,* the power of the human mind to "intuit essences," seeing the "universal in the particular, without asking analytic questions, or relational questions"
    d. *technical reason,* today's "predominant meaning" of reason, which "analyzes reality into its smallest elements, and then construes out of them other things, larger things"
3. *nature* (two-fold):
    a. *material,* concept of nature as "all the realities that are the subject matter of physics, biology, botany, etc."
    b. *formal,* concept of nature that "refers to human beings" and human will and "the law of morals or the law of cognitive reason"
4. *harmony*: the "ultimate concern" of the Enlightenment; a "paradoxical concept" of cosmic order, "in spite of every individual thing and every individual human being seemingly going their own way;" a "secularized" view of Christian providence.[10]

By listing the four aspects in this order we can see a kind of logical progression from the

[9] Ibid., 184-187.

[10] Paul Tillich and Carl E. Braaten, *Perspectives on 19th and 20th Century Protestant Theology* (New York: Harper & Row, 1967), 24, 30-33, 35-37.

individual as observer and contemplator of nature, through the application of reason, to the summation of grand themes of cosmic interrelation and order and purpose. Notably, the concept of *purpose* has been virtually lost in the secularization of these Enlightenment principles during the intervening centuries, largely as a result of Darwinism and its impact of the metaphysics of human origins, which will be the focus of the next two chapters. The first two items of Tillich's characterization of the Enlightenment agenda—*autonomy* and *reason*—form the common foundation for our current predicament in our cultural tensions between the privileged public position of the scientific description of human nature and the private impulses toward religious understandings of human nature. Within both spheres of science and religion, even within young earth creationism, apologists for their respective worldviews rely upon the autonomy of the individual to apply reason to discerning the "evidence," even if that evidence is a literal reading of the Bible. The outcomes of the last two items on Tillich's agenda—*nature* and *harmony*—are hotly contested and contain within their scope the most sacred beliefs to both godless materialism and traditional Christian theism, and it is within these two realms—*nature* and *harmony*—that we are still battling over *how* to situate humanity and *who* gets to situate humanity in the grand scheme of things.

The current clash between science and theology emanates from two distinct teleological views of nature and harmony (i.e. cosmology). Scientific materialism tends to view nature as a system of interrelated parts with no apparent purpose to the overall "harmony" of the cosmos. Christian theism tends to view nature as the once pristine, now corrupted, handiwork of a creator God who will redeem the cosmos according to God's divine purpose to a new, divine "harmony." There are three main metaphors for

nature within these two visions: nature as mechanism, nature as organism, and nature as a work of art. These metaphors have long been employed by scientists and theologians to communicate their worldviews. The orderly mechanical workings of a machine as a metaphor for nature was particularly dominant during the Enlightenment. The metaphor of mechanism serves a central place in the story of Western anthropological dualism and the rise of materialist philosophy.

Mechanism and Materialism

I will use the term *materialism* to refer broadly to the metaphysical commitment that came out of the Enlightenment and quickly served as the philosophical foundation for the three "isms" of the 19th century: Marxism, Darwinism, and Freudianism.[11] In theological and philosophical literature writers often use other terms such as "scientific materialism," "scientific naturalism," "naturalism," "philosophical naturalism," and "scientism." Sometimes there is confusion in the parsing of these various phrases, but they all point to a central claim, namely the exclusion of God and non-material reality to irrelevance, extremely remote transcendence, absurdity, or non-existence. Michael Shermer in *How We Believe: The Search for God in an Age of Science* gives us an honest definition of this central claim when he defines "philosophical naturalism" as "the belief that life is the result of a natural and purposeless process in a system of material causes and effects that does not allow, or need, the introduction of supernatural forces." Shermer notes philosophical naturalism is "sometimes called methodological naturalism,

[11] For an excellent brief review of the materialistic metaphysics of science and its relation to the Enlightenment see Stephen M. Barr, "Retelling the Story of Science," *First Things* 131 (March 2003), 16-25.

materialism, or scientism."[12] Shermer is a bit careless here because he knows better than to lump together the term *materialism* with *methodological naturalism*. The former most often refers to what philosophers and theologians call *ontological materialism* (which is what I want to invoke with the term *materialism* alone), i.e. the material stuff of the universe "is all that is or ever was or ever will be" (to borrow a phrase from Carl Sagan). The latter term—*methodological naturalism*—refers to simple reliance on reductionistic cause-effect explanations of the workings of nature. Methodological naturalism is the assumed foundation for scientific inquiry.

The thinkers of the Enlightenment emphasized the autonomous, raw mechanical workings of the world, and this was important to the development and advancement of science. Whether or not God is acknowledged as simply existing, as the first cause, the absentee landlord, or as not existing at all, the Enlightenment rationalists' emphasis on mechanism was the primary trait of the Enlightenment as its intellectual developments related to a theological understanding of human nature and technology. The concept of *mechanism* stands in direct contrast to *purpose* as the former relates to materialism's understanding of the structures of existence and the latter relates to the default position of Christian theism, i.e. intelligence and purpose precede the creation of the universe from an almighty God. According to Enlightenment rationale God may have set the mechanistic workings of the cosmos in motion, but those workings currently grind on—all by themselves—according to inviolable laws of nature, without the constant control of intelligent supervenience. The materialistic and mechanistic philosophical view with God as remote creator is known as *deism*. There is little to no difference between deism

[12] Michael Shermer, *How We Believe: The Search for God in an Age of Science* (New York: W.H. Freeman, 2000), 115.

and materialism with reference to their understandings of "nature" or the "universe" as completely closed.

Reaching back to chapter one and the philosophical overview of body-soul dualism, we can now see the importance of Descartes in the early 17th century to the current story because he consummated in many ways centuries of Platonic anthropological dualism within the greater dichotomies of faith/science and spirit/matter. Descartes is also extremely important because his dualistic sensibilities created today's common sense dualism believed by default by the vast majority of Christian believers, chiefly with his emphasis on the mechanical workings of the material world. It is in Descartes' work that we first see the clear and systematic separation of the mental-spiritual world from the mechanical-natural world that we are familiar with today. Paul S. MacDonald quotes Descartes in his *Treatise on Man*, "I suppose the body to be nothing but *a statue or machine made of earth*, which God forms with the explicit intention of making it as much as possible like us."[13] The following may not be a fair characterization of Descartes' dualism, but the 20th century philosopher Gilbert Ryle pejoratively called the Cartesian mind "the ghost in the machine."[14] The phrase may be unfortunate, but it certainly captures the essence of the scientific critique and contemporary academic scorn of dualism. By their very status in myth and lore, *ghosts* are not to be taken seriously and neither are *souls*. On the other hand, *minds* are the

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[13] Paul S. MacDonald, *History of the Concept of Mind: Speculations About Soul, Mind, and Spirit from Homer to Hume* (Burlington, VT: Ashgate, 2003), 280.

[14] Nancey C. Murphy, "Human Nature: Historical, Scientific, and Religious Issues," in *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature*, Theology and the Sciences, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony (Minneapolis, MN: Fortress Press, 1998), 9; MacDonald, 266.

subject of ongoing scientific research and philosophical speculation. This is Descartes' greatest legacy since he posited that the mind interacts with the body in the pineal gland, which is in the brain. Those scientists and thinkers pursuing the mind-body problem principally focus on cognitive and neurological science and the problem of the interaction of the mind with the brain. Within the context of scientific research the body (primarily the brain) is the technological artifact to be reducibly examined by science, and the mind (consciousness) is the more mysterious phenomenon traditionally felt by laypeople to be the immaterial "me" inside of which emotions and thoughts and memories intermingle unconsciously and consciously to create and perpetuate the drama that is one's life.

Conclusion

The intriguing questions and problems for those people who hold a scientific, materialistic worldview in thinking about the mind-body problem revolve around explaining the phenomenon of the mind in terms of the mechanical workings of the neurological system. Many concerned Christians view scientists as an ever-encroaching army who desire to abolish the spiritual truths of Christian faith and thus approach the important questions surrounding the mind-body problem as apologetic entry points to re-establish the Truth of Christianity.

In chapters four and five I will review the approaches of two "camps" of thinkers who hold different views of the interaction between science and theology as that interaction is framed by the privileged position of scientific knowledge in the public sphere that emerged out of the Enlightenment. The first camp is made up of the

proponents of "Intelligent Design" (ID),[15] who desire to re-establish the truth of a Christian worldview as an antidote to the ills of society that has long been diseased with the cosmic purposelessness of materialism and Darwinism. Concerned Christians in ID seek to re-colonize science under the flag of Christian theism and thus enlist ID's "science" in the battle for Christian truth in the public arena. I sympathize with much of their agenda (concern for the unborn, the marginalization of religious viewpoints in the public arena, helping lay people overcome intellectual obstacles to faith), but ID offers little in the form of constructive theological reflection about the nature of humanity. The second camp is made up of the proponents of "theistic naturalism" (TN),[16] who seek to subsume the metaphysics of materialism and evolutionary theory into its re-interpretation of Christian theism. In relating the approaches to science and theology of these two camps to my thesis it will be obvious where my theological sympathies lie—with the second camp.

[15] For the sake of brevity I will often use "ID" to refer generically to the ID movement and its ideas and to the proponents of ID.

[16] Likewise I will use "TN" to refer generically to the methods and ideas of theistic naturalism as well as to its proponents.

CHAPTER 4

THE RESPONSE OF INTELLIGENT DESIGN TO MATERIALISM AND DARWINISM

Introduction

The proponents of ID constructively frame many cultural and political issues[1] and tensions as outgrowths of materialistic worldview foundations that have stripped away individual sense of purpose that, they claim, foster alienation and nihilism, but their strategies and tactics for alleviating such tensions mostly serve to promote their own moral, cultural, and political agendas by altering our understanding of science education. It is clear to me as a long-time observer of ID that its adherents seek to re-colonize scientific knowledge and subordinate it to ID's own particular theistic presuppositions.

Once science became "naturalized" by the Enlightenment the aesthetic and philosophical appreciation of divine order gave way to the metaphor of impersonal mechanism, and divine revelation gave way to individual autonomous reason. As the split between science and theology has grown and as humanity has become more dependent on technological progress, scientific knowledge has become highly valued

[1] Such an issue is religious viewpoint discrimination in the public arena. See Phillip E. Johnson, *Reason in the Balance: The Case against Naturalism in Science, Law & Education* (Downers Grove, IL: InterVarsity Press, 1995), 24-30. Phillip Johnson gives two compelling examples: the fear of public school administrators to let religious groups use facilities, ostensibly a violation of church-state separation (19-24); the fear of institutions of higher learning to allow dissent from the established orthodoxy of naturalism (29-30).

currency of cultural "truth." ID recognizes the consequences of the split and the cultural valuation of science and thus desires to stamp scientific currency with theistic "explanations."

Strategies and Tactics of ID

In examining scientific issues ID uses two main strategies to persuade the unconvinced of their case: dichotomous presentation (atheistic materialism versus theism—Christian theism implied) and the appeal to incredulity. ID employs these two strategies through seven tactics to win hearts and minds to Christian theism.

1. Expose the gaps in current evolutionary theory.
2. Conjure up statistical improbability and analogize biological systems with mechanical systems designed by humans.
3. Correlate the results in tactic two and craft prose to expose evolutionary explanations as "just so" stories that violate common sense (strategy of incredulity).
4. Expose the foundations of evolutionary theory as mere materialistic assumptions.
5. Claim that the proponents of materialistic science hold dogmatically to materialistic assumptions because to question those assumptions lets "God" in the door, which is unacceptable not only for scientific cause-effect reasoning but also for socio-political reasons.
6. Claim anti-theistic socio-political bias is the main reason why materialistic scientists will not give up their assumptions and demonstrate how theistic

assumptions demonstrate why there are gaps in evolutionary science (divine intervention?).

7. Discuss "worldview" thinking, pronounce the failure of materialism, and then present theism, specifically Christian theism, as the best or only worldview that unifies reason and science and, indeed, the totality of human experience.

I do not intend the ordering of these seven tactics as "steps" in which proponents of ID present the logic of their case. The tactics are interchangeable. A good comprehensive case for the ID agenda will include all seven, though much ID literature focuses on just three or four tactics, especially one, two, and three.

The Proponents of ID

There are five proponents of ID I will introduce to the reader as a basic introduction to the contributions of ID and its place in the larger context of the interaction between science and theology. Law professor Phillip Johnson and writer and Christian apologist Nancy Pearcey are best known for tactics four (exposing materialistic assumptions), five (exposing anti-theistic bias), six (proclaiming theistic "Truth"), and seven (worldview maintenance). Johnson is often seen as the standard bearer of ID's comprehensive case. Mathematician and philosopher William Dembski, biochemist Michael Behe, and astronomer Hugh Ross are best known for their contributions to tactics one (exposing gaps in evolutionary theory), two (statistical improbability and revealing the stupefying complexity of life and the cosmos), and three (materialistic "just so" stories, often juxtaposed with the "anthropic principle").

Phillip Johnson

Phillip E. Johnson was a clerk for Chief Justice Earl Warren of the United States Supreme Court, and he is also emeritus professor of law at the University of California, Berkeley. Johnson is widely regarded as the founder of the contemporary ID movement and one of the earliest and most comprehensive promoters of the term "Intelligent Design"[2] as a term to be used in opposition to the theory of evolution. Using his skill as a lawyer and armed with the presumption that science can be subjected to the legal strategies and tactics of adversarial adjudication, Johnson took on the claims of Darwinian theory in his 1991 book *Darwin on Trial*. Johnson's legal training and perspective led him to be skeptical of the way language is crafted to present evolutionary theory as "fact." It seemed to him the institution of science sets the rules of inquiry into the truth of evolution in such a way that a negative critique of the theory is impossible.[3] The scientific establishment predetermines evolution is a purposeless process without need of divine intervention. This predetermination is what Johnson views as the bias of atheistic materialism in evolutionary theory. Johnson usually refers to this bias as "metaphysical naturalism" or simply "naturalism." He writes, "Naturalism is the metaphysical position that underlies not only contemporary science but the humanities and the so-called social sciences as well." Starting with the assumptions of naturalism, according to Johnson, leads many thinkers to construct what he calls the "grand metaphysical story of science" to explain everything from "the ultimate beginning to the

[2] Use of the term "intelligent design" as the umbrella term for what had been called "creationism" was introduced by Johnson in his 1991 book, *Darwin On Trial*. Phillip E. Johnson, *Darwin on Trial*, 2nd ed. (Downers Grove, IL: InterVarsity Press, 1993).

[3] Ibid., 8.

emergence of human consciousness."[4] The problem is, as Johnson sees it, the "grand metaphysical story of science" contains "some myth and fantasy" and that its storytellers "have refused to consider that there may be limits to what can be learned about reality through their methodology."[5] Johnson's main contribution to ID has been his extended argument from his assessment of scientific methodology and its naturalistic assumptions to the conclusion that we must be open to knowledge from beyond the limits of naturalistic science. This extended argument or worldview is what Johnson calls "theistic realism."[6] Johnson has also crafted an agenda and strategy for promoting the critical evaluation of scientism's atheistic materialism and the adoption of theistic realism, or (more honestly) Christianity. This strategy he calls the "wedge of truth," a strategy that starts by driving the sharp end of a wedge into the materialistic assumptions of evolutionary theory and then splitting apart what has been called the "culture of death" built upon those materialistic assumptions with the thick end of the wedge, which is Christian truth.[7]

Nancy Pearcey

In her career Nancy Pearcey has served in many jobs and roles within the institutions of conservative Christianity. Pearcey earned a master's degree in Biblical Studies from Covenant Theological Seminary in St. Louis, prior to which she studied philosophy, German, and music at Iowa State University. Currently she is the Francis A.

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[4] Johnson, *Reason in the Balance*, 16-17.

[5] Ibid., 89.

[6] Ibid., 48-50.

[7] Phillip E. Johnson, *The Wedge of Truth: Splitting the Foundations of Naturalism* (Downers Grove, IL: InterVarsity Press, 2000).

Schaeffer Scholar at the World Journalism Institute, and she has served as the founding editor for Chuck Colson's "Break Point" (a syndicated radio commentary), director of the Wilberforce Forum, author of a monthly column for *Christianity Today* for five years, and as managing editor of the science journal *Origins & Design*. Pearcey is also a frequent lecturer and public speaker.

As I mentioned in the introduction to this thesis, Pearcey surveys the long historical sweep of dualistic thinking in her 2004 book *Total Truth: Liberating Christianity from Its Cultural Captivity*, and she concludes this history culminates in the establishment of the dominant modern dualism of the last two hundred years, the split between *facts* and *values*. This split is the mental grid through which we unconsciously route ideas into the private upper stories of our worldview building or the publicly common areas of the lower stories. Pearcey credits the metaphor of the lower and upper stories of a worldview building to Francis Schaeffer. She writes, "In the lower story are science and reason, which are considered public truth, binding on everyone. Over against it is an upper story of non-cognitive experience, which is the locus of personal meaning. This is the realm of private truth, where we hear people say, 'That may be true for you but it's not true for me'."[8] Pearcey also summarizes the facts-values split in her discussion of Immanuel Kant. She writes, "Kant's dichotomy is to say that the lower story became the realm of publicly verifiable *facts* while the upper story became the realm of socially constructed values. . . . The divide between *fact* and *value* was clinched

[8] Nancy Pearcey, *Total Truth: Liberating Christianity from Its Cultural Captivity* (Wheaton, IL: Crossway Books, 2004), 21.

in the late nineteenth century by the rise of Darwinism."[9]

William Dembski

William Dembski holds two Ph.D.'s (mathematics and philosophy) both from the University of Chicago. He is best known for his ideas of "specified complexity" or "complex specified information" and what he calls the "explanatory filter." By Dembski's own admission a "detailed explanation and justification of [the complexity-specification criterion] is fairly technical," but he contends the "basic idea is straightforward and easily illustrated." Dembski uses the movie *Contact* to illustrate specified complexity. Ironically, the movie *Contact* was based on a novel of the same name by famed atheist and popularizer of science, Carl Sagan. In the movie researchers for S.E.T.I. ("Search for Extraterrestrial Intelligence") discover a signal coming from outer space that repeats over and over again the sequence of prime numbers from 2 to 101. The signal "counts" out the sequence through ordered radio wave pulses and noticeable pauses between the prime numbers. The sequence starts with 2: pulse, pulse . . . pause. And then 3: pulse, pulse, pulse . . . pause. And then 5: pulse, pulse, pulse, pulse, pulse . . . pause. And so on all the way to 101 pulses. Once the researchers realize the signal contains the repetition of the sequence of prime numbers they confidently celebrate they have indeed discovered a signal from an E.T.I. How do the researchers know the signal is from an E.T.I? Well, as Dembski admits, the full answer to this question is "detailed" and "technical," but a simplified version goes something like this.

[9] Ibid., 106. I do not want to make too much of this, but I find it curious that Pearcey correlates the upper stories with the individual and the personal in one part of her book, and then in another part of her book she refers to the upper stories as "the realm of socially constructed values," which implies a publicly guided and accessible process.

The signal exhibits "*contingency*, *complexity*, and *specification*." The signal exhibits *contingency* because the signal of the pulses and pauses "is irreducible to the laws of physics that govern the transmission of radio signals." In other words, there is nothing known about the laws of physics and radio waves that spontaneously and repeatedly generate the exact same sequence of pulses and pauses (though cosmic entities such as pulsars do generate recognizable signals, and thus the source of their contingency is known). The signal exhibits *complexity* by transmitting the first 25 numbers in the prime number sequence, and the statistical probability that this sequence could have been randomly generated by chance or an unintelligent source is extremely slim, to put it mildly. Still, design may not be inferred on statistical improbability alone. The signal exhibits *specification* (and thus *design* and *intelligence*) because the sequence repeats over and over again the same prime number sequence. Dembski analogizes fulfilling the criterion of specification to an archer who hits the bull's-eye of a predetermined target 50 meters away 100 times in a row. This is not chance or dumb luck but skill and mastery. "Skill and mastery are of course instances of design." Therefore, the signal in *Contact* exhibits intelligent design. Dembski writes, "Consequently the complexity-specification criterion can be represented as a flowchart with three decision nodes. I call this flowchart the explanatory filter."[10] See figure 2 below.

[10] William A. Dembski, *Intelligent Design: The Bridge between Science & Theology* (Downers Grove, IL: InterVarsity Press, 1999), 127-33.

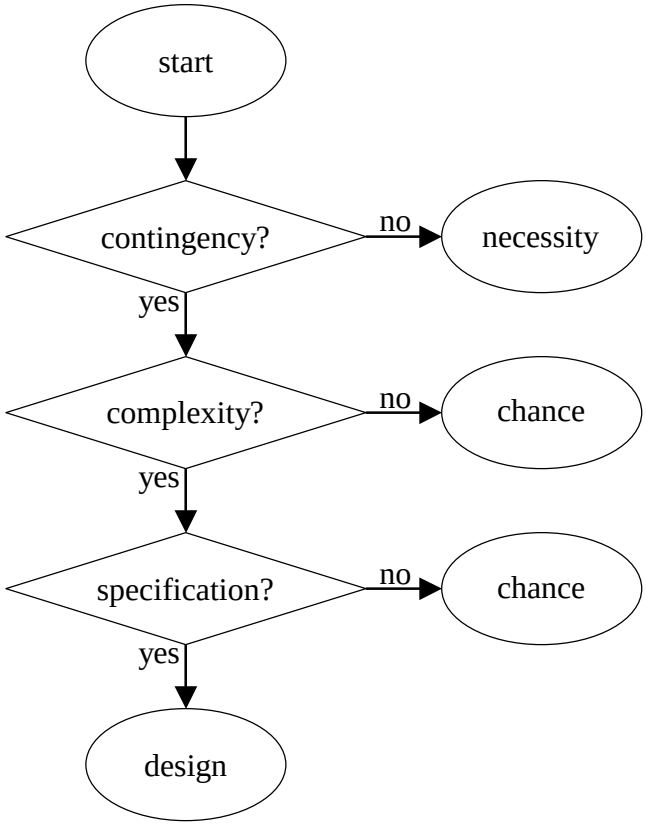

Fig. 2. Dembski's Explanatory Filter from *Intelligent Design*, 133.

Michael Behe

Michael Behe is Associate Professor of Biochemistry at Lehigh University in Pennsylvania. Behe is most known for his 1996 publication *Darwin's Black Box: The Biochemical Challenge to Evolution*.[11] In *Darwin's Black Box* Behe applies a similar approach to Dembski's explanatory filter to the recent discoveries of biochemistry. Behe codifies the result of his work in the phrase, "irreducible complexity." The Lilliputian complexity of biochemical systems can only be explained by inferring design, claims Behe. In his book he examines the inner-workings of several compelling cases, two of

[11] Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: Free Press, 1996).

which get the most attention in other ID literature and in the literature of ID's critics: the bacterial flagellum (complete with drive shaft, universal joint, propeller, rotor, stator, and bushing); the blood coagulation cascade (analogized to a Rube Goldberg contraption). I find the bacterial flagellum the most compelling case for Behe's irreducible complexity, perhaps for the fact that the bacterial flagellum so closely resembles similar mechanical artifacts of human design and because of this lay people such as myself can easily relate to the overall thrust of his argument. But just what is that argument? What is irreducible complexity? Behe explains irreducible complexity:

> By *irreducibly complex* I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning. An irreducibly complex system cannot be produced directly (that is, by continuously improving the initial function, which continues to work by the same mechanism) by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional. An irreducibly complex biological system, if there is such a thing, would be a powerful challenge to Darwinian evolution.[12]

The implication is clear. Evidence of irreducible complexity begs us to infer intelligent design.

Hugh Ross

Hugh Ross is the director of Reasons to Believe, a Christian apologetics organization devoted to communicating "the uniquely factual basis for belief in the Bible as the error-free Word of God and for personal faith in Jesus Christ as Creator and Savior."[13] Ross has written several books correlating the wonders of the cosmos to his

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[12] Ibid., 39.

[13] Reasons To Believe, "About RTB," available from http://www.reasons.org/about/index.shtml Internet, accessed 21 February 2007.

peculiar biblical interpretation.[14] He holds a Ph.D. in physics, specializing in astronomy. At the California Institute for Technology Ross did postdoctoral research on quasars. Ross concentrates his ministry and writing on helping lay people overcome intellectual barriers to Christian faith. These barriers typically have to do with evolution, the age of the universe, whether or not Adam and Eve were historical people, etc. Ross catches a lot of flak from many Christian conservatives and fundamentalists for promoting what is known as the "day-age" theory of interpreting Genesis chapter one because by doing so he is aiding and abetting the enemy, which is secular science and its godless evolutionism.[15] Recently, Ross and his partner Fazale Rana (a biochemist) at Reasons to Believe have written two books relating scientific discoveries to the an intelligent design theory of the origin of life[16] and the origin of humanity. What is unique about Ross's and Rana's books are their focus on what is commonly called the "anthropic principle," the idea that the laws of the universe must be exactly the way they are for life to exist. The implication is that a creative intelligence designed the universe this way to give rise to life. Many scientists and philosophers have advocated the anthropic principle, some of which are not classical theists, notably John Barrow and Frank Tipler.

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[14] I use the word "peculiar" not in a pejorative sense but rather in the sense of "unique" and "eclectic."

[15] One way to defeat evolution is to simply rule it out from the get-go by claiming divine revelation tells us creation is only 6,000 to 10,000 years old.

[16] Fazale Rana and Hugh Ross, *Origins of Life: Biblical and Evolutionary Models Face Off* (Colorado Springs, CO: NavPress, 2004).

Conclusion

Placing the "theistic" stamp on scientific currency results in the re-establishment of theistic cultural authority (namely Christian morality) in transactions of cultural truth. I am afraid, however, this strategy has a similar affect to that of printing the portrait of the Queen on the Canadian twenty-dollar bill. The portrait's presence is a symbolic reminder of the monarchy, but the monarchy bears little relevance to the day-to-day governance of Canada. Similarly, "teaching the controversy" surrounding evolutionary theory or otherwise inserting the claims of ID into the classrooms of the United States is only symbolic of what the vast majority of Americans already believe, that there is a "God."

I conclude ID represents an ironic rejection of the cultural dominance of scientific authority in determination of public truth, ironic because ID portrays its agenda as one with concern for scientific truth. ID typically views theistic naturalism as recalling the modes of deistic thought where God has a very small job in the cosmos, simply to keep the laws of the universe grinding along. This viewpoint is exactly backward in my view. It is ID that recalls deism by promoting God-of-the-gaps reasoning and isolation of God's creative action to specific events in its conflation of the creation narrative of the Bible and its own vague and quasi-scientific deconstruction of evolutionary theory. TN, on the other hand, grapples strongly with the theological and philosophical problems inherent in postulating a transcendent creator God and immanent divine action in human history and in the workings of the cosmos.

ID claims modern science rests on materialistic metaphysical assumptions that cannot be tested and verified. ID thus attempts to redraw the boundaries of scientific

knowledge to include theistic assumptions. This attempt is somewhat hypocritical because such a move introduces assumptions that also *by definition* cannot be tested and falsified. Theistic metaphysical assumptions such as the very existence of God, that this God is sovereign over creation, and that this God has transmitted special revelation to humans, to name only three, cannot be tested and falsified. ID's reliance on epistemological foundationalism should require it to demonstrate clearly *why* theistic assumptions are a better foundation than materialistic assumptions in scientific endeavors. ID proponents do attempt defense of their theistic foundations, usually by relying on the argument that without God objective morality is not possible. That is a subject beyond the scope of the present work. While I share many of ID's theistic assumptions about the nature of reality, I do not think ID has done a good job explaining why methodological naturalism in science should be replaced. ID sees critical evaluation and rejection of methodological naturalism in science as necessary because ID sees it as the foundation upon which the grand metaphysical story of evolution is built, and it is that grand story that has become, for good or for ill, a story told by many to refute the grand story and truth claims of Christianity. The result is the competition of two narratives for cultural dominance, which should have nothing to do with the methods of scientific research.

CHAPTER 5

THE RESPONSE OF THEISTIC NATURALISTS TO MATERIALISM AND DARWINISM

Introduction

I have chosen five Christian thinkers as representatives of TN to demonstrate how TN sorts out the pieces of the puzzle and lays them on the table for possible connection. These thinkers are astronomer Howard Van Till, two scientist-theologians and Anglican priests—Arthur Peacock and John Polkinghorne, philosopher Nancey Murphy, and theologian Philip Hefner.

Howard Van Till

In much of contemporary popular discourse about science and theology there is the ongoing tension between the Bible as a source of how to think about the purpose of the universe and scientific discovery as a source for how think about the function of the universe. Howard Van Till's approach to relating science and theology occupies the part of the spectrum most close to the ID part of the spectrum in his estimation of the value of sources and methods. While Van Till emphasizes the importance of delegating properly the categories of questions to be answered by the Bible and by science,[1] he highly values both sources and tries hard to give them equal weight in forming a Christian view of the

[1] Howard J. Van Till, *The Fourth Day: What the Bible and the Heavens Are Telling Us About the Creation* (Grand Rapids, MI: W.B. Eerdmans, 1986), 204.

cosmos in a synthesis he calls the "creationomic perspective." Van Till writes, "The creationomic perspective is achieved when natural science is placed in the framework of biblical theism. The foundation of this perspective on the cosmos and its history is the recognition that the entire cosmos is God's Creation." For Van Till the core theological elements of the Bible are the foundational assumptions upon which Christians interpret the meaning of scientific discovery. For example, one such core element is the assumption that there is an Almighty Creator God and that everything that exists is the result of God's creative act. This is a clear teaching the Bible. Likewise, astronomy also teaches the universe was "created," i.e. it had a beginning and appears to be finite. Given the long periods of time since the "creation" as discerned by the science of astronomy, the theory of evolution seen from the creationomic perspective "removes the arbitrary imposition of discontinuity and incoherence that is demanded by the notion of instantaneous inception."[2]

Van Till focuses his approach to relating science and theology on how scientific discovery illuminates our understanding of our Christian core assumptions. Much of the battle between creationists and evolutionists revolves around how it all happened. Van Till wants us to see scientific discovery illuminate why it all happened, that is to see discovery illuminate the character of God and, in turn, humanity made in the image of God. In the creationomic perspective a process like evolution is not a tool in God's tool kit from which God could arbitrarily select in his creation of life on our planet. That would suggest that something like the process of evolution "is the primary reality and that God's employment of it is secondary and contingent upon its prior autonomous

[2] Ibid., 250, 253.

existence." Van Till continues, "It seems to me much preferable to view God's action as the primary entity and to see natural processes as the expression of that reality." It is worth noting that Van Till prefers to call his position the "creationomic perspective" and not "theistic evolution," as his view and others like it are often labeled by creationists, because the use of "theistic" as an adjective puts the emphasis on the word "evolution" and relegates theism to secondary status.[3]

While it may seem to readers familiar with Van Till that his placement here is a bit disjointed because he emphasizes the Bible as a source, his development of the creationomic perspective is sympathetic to the theology of theistic naturalists, especially in the theology of divine action. Like thinkers in TN Van Till does not view God as a capricious intervener in the affairs of an autonomous world, rather he is well-known for his concept of God's creation as a "fully-gifted creation,"[4] that "the creation [is] in fact gifted with all the capabilities necessary to make possible the continuous evolutionary development envisioned by the majority of natural scientists today."[5]

Arthur Peacocke

Arthur Peacocke was first a biochemist that did groundbreaking work on the dual nature of DNA, even prior to the work of Watson and Crick. He was also a pioneer in the research of the effects of radiation on DNA, which led to early understanding and treatment of cancer with radiation therapy. Later in life Peacocke studied theology and

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[3] Ibid., 264-65.

[4] See Howard Van Till, "The Fully Gifted Creation ('Theistic Evolution')," in *Three Views on Creation and Evolution*, ed. James Porter Moreland and John Mark Reynolds (Grand Rapids, MI: Zondervan Pub., 1999), 161-218.

[5] Ibid., 162.

became ordained in the Church of England. Peacocke was also an aficionado of classical music and is well-known for using music analogically to explain the relationship of the Creator to the creation and as a way to apprehend the distinction between divine transcendence and divine immanence. He wrote:

> There are times when we are so deeply absorbed in it that for the moment we are thinking Beethoven's musical thoughts with him. If, however, anyone were to ask at that moment (unseemingly interrupting our concentration!), 'Where is Beethoven now?' we would have to reply that Beethoven-as-composer was to be found only in the music itself. Beethoven-as-composer is/was other than the music (he 'transcends' it), but his interaction with and communication to us is entirely subsumed in and represented by the music itself—he is immanent in it and we need not, and cannot, look elsewhere to meet him in that creative role."[6]

Putting aside questions about free will and determinism in this analogy, I find it a fruitful way to capture the essence of what TN maintains at its core, "that there are two aspects to God's creative activity: (1) the bringing into existence of the new, in processes whereby novelty and complexity are made to emerge from some prior, earlier, and more basic simpler entities; and (2) the giving of existence to entities other than the Giver."[7]

In the analogy the entire sonata is a complex hierarchy of the "laws of nature" (the physics of sound), the mathematical relationships between different pitches (the interrelations between the notes), and the emergent melodies and harmonies of the sonata (the esthetics of music within the context of Western tonality). Of course the sonata must be performed in order for it to exist as a complex hierarchy, and the relation of performance to the very essence of the sonata begs the question: how does a sonata come to exist if performance of the completed sonata is the necessary action that sustains its existence? This is an extremely thorny question about causality and the answers to which

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[6] Arthur Peacocke, *All That Is: A Naturalistic Faith for the Twenty-First Century*, ed. Philip Clayton (Minneapolis, MN: Fortress Press, 2007), 19-20.

[7] Ibid., 20.

fill myriad volumes of philosophy throughout centuries. The problem of causality requires simple summary as it relates to the current state of TN thinking and the science and religion dialog.

Until recently scientific thinking as been equated with the program of philosophical reductionism, that is the program of reducing each level within the hierarchy of physical systems to the processes of the level immediately "under" it. Currently there is much scientific work on what has been dubbed "top-down" causality in contrast to reliance on "bottom-up" causality as with traditional scientific reductionism. Top-down causality is garnering attention in biology and in the theory of evolutionary change.[8] Peacocke wrote about top-down causation that "such considerations were providing significant clues to how conscious brain states could be 'top-down' causes at the 'lower' level of neurons—and so conceivably of human actions stemming from brain states."[9] There is a theological extrapolation to be made from cognitive research and theory. The mind-brain relationship is one where the *distinct* and *conscious* mind causes changes in brain state, which can be discerned through MRI scans of the complex electro-chemical processes of the brain. In a similar manner, for Peacocke and many in the TN group, the complex interrelations between various levels of physical systems cohere within one system, and God causally acts *top-down* on the *world-as-a-whole* as well as *bottom-up* through the created laws of the cosmos.

Panentheism is the term typically associated with this view of God as immanent within the created laws of nature and as transcendent in the top-down relation of God to

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[8] Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming--Natural, Divine, and Human*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1993), 56-59.

[9] Ibid., 158.

the world-as-a-whole. Using eucharistic language God is often described in panentheism as being "in, with, and under" the world.[10] Panentheism offers a fruitful approach for apprehending the difficulties inherent in the doctrines of God as immanent and transcendent in classical theism. Panentheism is most closely associated with the process philosophy of Alfred North Whitehead, which has three main characteristics according to Ian Barbour. "God is . . .

> . . . *the primordial ground of order*."
> . . . *the ground of novelty*."
> . . . *influenced by events in the world*."[11]

The third characteristic is the one most at odds with classical theism, which tends to emphasize the immutability of God's nature. For Peacocke and for our present purposes panentheism is especially valuable to us because it "takes embodied personhood as a model of God. It also places a much stronger stress on the immanence of God in, with, and under the events of the world while nonetheless retaining the ultimate transcendence of God, analogously to the way human persons experience their transcendence over their bodies."[12] The idea of humans transcending their bodies is one to which we will return in the next chapter.

John Polkinghorne

In the first half of his life John Polkinghorne was a theoretical physicist and taught at Cambridge for a number of years and was elected a Fellow to The Royal Society in 1974. Polkinghorne left Cambridge in 1979 for a few years and in 1982

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[10] Ibid.

[11] Ian G. Barbour, *Issues in Science and Religion* (Englewood Cliffs, NJ: Prentice-Hall, 1966), 440-44.

[12] Peacocke, *All That Is*, 23.

Polkinghorne became an ordained Anglican priest. Later he returned to Cambridge and eventually became President of Queens College, Cambridge, a position from which he retired in 1996. In the years since his ordination to the current day, Polkinghorne has written a number of books on science and theology, many of which he targeted at a lay audience. The Templeton Foundation awarded Polkinghorne the prestigious Templeton Prize in 2002 for his contributions to the field of science and theology.

Polkinghorne is well-known for his advocacy of *critical realism*—the view that there is one unified reality and that "science succeeds in giving an increasingly verisimilitudinous account of what the physical world is like." Polkinghorne notes the adjective "critical" is "required as a recognition that scientific understanding is not just read out of nature but is attained through a creative interpretative process."[13] He is also well-known for what I call the contemplation of "deep reality." As a self-styled scientist-theologian and a theoretical physicist, Polkinghorne has intuitive and expert understanding of the "lower" levels of reality, namely subatomic levels and quantum physics. Polkinghorne paints an impressionistic picture of physics as a science that reveals the deep reality of creation as a complex, multi-leveled, and integrated whole. When we zoom in very close on the picture of physical reality we see many "chaotically-ordered" colored dots as on a pointillism painting by Seurat. We are unable to discern the subject matter of the overall picture at the "dot" level. It is only when we pull back to look at the picture from an adequate distance that we can appreciate how a recognizable picture emerges from those dots. Polkinghorne refers to this view of looking at reality

[13] John Polkinghorne, *Faith, Science, and Understanding* (New Haven: Yale University Press, 2000), 78-79

the "bottom up" approach.[14] And even though he does not advocate reductionism he does claim the "bottom up" approach comes naturally to him as a scientist whose "habits of thought ... proceed from evidence to theory, from experience to understanding."[15] Polkinghorne goes to great lengths in his books to confess his bottom-up "habits of thought," and he consistently recites his confessions by explaining that the grand picture of reality is complex and no one viewpoint or intellectual discipline can provide a comprehensive appreciation of reality. He writes, "Reality is too rich to be taken in at a single glance; it must be viewed from many perspectives."[16]

There are several aspects of theoretical physics that resonate with "theological" modes of thought and use of language. Polkinghorne demonstrates how the often-puzzling paradoxes of quantum physics resemble paradoxes in Christology. In physics we have come to accept paradoxical claims in the theories of quantum entanglement, wave-particle duality, and the measurement problem or what is commonly known as the "Uncertainty Principle." Through observing a particle that is "entangled" with another we can *instantaneously* know the quantum state of the other "entangled" particle, even though that particle may be thousands of light years away. In fact, there is a direct relationship of "influence" between entangled particles. Nothing can travel faster than light, however, so how can one particle influence the other *instantaneously*? Because of this paradox Einstein viewed quantum theory as incoherent and at best incomplete.

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[14] John Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-up Thinker: The Gifford Lectures for 1993-4* (Princeton: Princeton University Press, 1994).

[15] Polkinghorne, *Faith, Science, and Understanding*, 29.

[16] Ibid., 13.

Nevertheless, entanglement is an observable and well-documented phenomenon.[17] Polkinghorne has seized upon such paradoxes in physics to demonstrate that our knowledge when pushed to the boundaries is a "quest for intelligibility"[18] and contemplation and research of paradoxes illuminate the meaning of seemingly incoherent doctrines of historical Christianity. He has compared wave-particle duality to the dual nature of Christ as the God-man.[19] The inchoate resemblances between scientific paradoxes and theological ones are important because they reveal the vertical nature of our finite human understanding of the very "bottom" of our existence on the quantum level to the very "top" level of our understanding of our ultimate origins from and return to the Creator God who revealed himself in the incarnation of Jesus Christ. The abundant evidence that human understanding is finite should ultimately drive us to humility even as we yearn to understand more about the creation and ourselves. Polkinghorne writes, "One catches an occasional glimpse of insight through the obscuring mists of ignorance."[20]

Nancey Murphy

Nancey Murphy is professor of Christian Philosophy at Fuller Theological Seminary in Pasadena, California. In her writing she focuses on the historical and philosophical background of today's intellectual landscape, namely in the development of the relationship between science and theology and especially in the realm of cognitive

[17] Ibid., 46.

[18] Ibid., 5.

[19] Polkinghorne, *The Faith of a Physicist*, 133.

[20] John Polkinghorne, *Science and Creation: The Search for Understanding* (Boston: New Science Library, 1988), 73.

science and how it challenges traditional Christian body-soul dualism. In earlier chapters I gave broad overview of the philosophical, theological, and biblical issues underlying body-soul dualism and concluded that today we have come to rest in a precarious position between the public truth of scientific materialism and the private truth of being concerned over the destination of our individual souls. Murphy desires to overcome centuries of debate about dualism, about whether or not the soul has substance and, if it does, what that substance may be and in what realm it may exist. For Murphy the scientific evidence is overwhelmingly in favor of a materialistic understanding of the cosmos. Her understanding has important nuances, however, and should not be seen as a capitulation to the reductionistic program of scientific materialism. The material cosmos is the creation, in Murphy's view, and the creation is the material cosmos. In essence, what you see is what you get. A major problem arises for atheistic materialism because what we "get" is so much more than what we "see." Human consciousness is the most immediate example of getting more than we see from the material components of creation. This is the conundrum presented to us by materialism. How are we to make sense of something like human consciousness if materialism is true? Murphy attempts to overcome this conundrum by advocating what she calls *nonreductive physicalism* (NP). "Physicalism" should be seen simply as the belief that the matter and energy of the universe are the only "metaphysical stuff" that is in this creation. As Philip Clayton put it in reflecting on the meaning of emergent monism, "It doesn't matter if you want to think of this monism as a *sort* of materialism, but only if you mean by this interpretation that the 'things' in the world—rocks and computers and persons—are all made out of *some material or other*."[21]

[21] Nancey Murphy, "Neuroscience, the Human Person, and God," in *Bridging Science and*

Murphy's explanation of NP draws upon the work of philosopher Roy Wood Sellers (1880-1973) who "developed a view of the entire hierarchy of the sciences that he called, variously, 'emergent realism,' 'emergent naturalism,' and 'evolutionary naturalism'." Sellars postulated within the hierarchy of complex systems in the world "were the inorganic, the organic, the mental or conscious, the social, the ethical, and the religious or spiritual."[22] The "higher" levels of systems "emerge" from the complex interactions of the lower systems and they causally "supervene" upon the lower levels. Human consciousness and the top-down causation of mental states on neurophysical brain states is an excellent example of supervenience in NP. Within NP mental states are seen as emergent realities from the physical neural network of the brain. Mental states are not reducible, however, to physical neuronal states. In other words, we cannot predict what a mental state will be by simply analyzing the physical neuronal state of the brain and the nervous system.

Murphy explains the concept of supervenience and the preceding conundrum of reductionistic materialism through a hypothetical communication between two friends. Two friends agree that when one turns off a light in her house that means she is not home. Subsequently, when the light is on that means she is home. The *supervenient* state of the light *being on* is the message "I am home," whereas the *subvenient* state of the light is simply "on." The reverse could just as well be true. The light *being off* could result from the supervenient state of the light meaning "I am *not* home." The

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Religion, Theology and the Sciences, ed. Ted Peters and Gaymon Bennett (Minneapolis, MN: Fortress Press, 2003), 116-17.

[22] Nancey Murphy, "Nonreductive Physicalism: Philosophical Issues," in *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature*, Theology and the Sciences, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony (Minneapolis, MN: Fortress Press, 1998), 130.

supervenient state of the light could also mean different things on different days of the week and even under different circumstances. In all of the permutations the supervenient state of the light acts causally on the light's subvenient state. The important point to remember here is that the supervenient state does not subsist in a different ontological category; rather the supervenient state is an emergent reality of complex relationships. These relationships can be extremely complex between the states of supervenience and subvenience, which Murhpy calls "multiple constitutability."[23] This simple example shows that the subvenient state of the light does not determine the supervenient state of the light in its relationship to other factors. The supervenient state also does not determine the subvenient state. In the above example the light bulb may burn out and thus the message of the supervenient state will act causally on some other "lower" level entity to maintain itself, for example by opening a particular window on the second floor of the house. The states are related causally, but they are not reducible to the changes in the other. Philip Clayton explains further the implications of this view as a frame for understanding human nature, what he and others call "emergent monism," of which Murphy's "nonreductive physicalism" is one philosophical plank. Clayton writes, "With 10^4 neural connections, the brain is the most complex interconnected system we are aware of in the universe. This object has some *very* strange properties that we call 'mental' properties."[24] In this "*very* strange" sense, our use of the word "soul" is a shorthand way to refer to the holistic collective of the supervenient properties of human consciousness and individual identity to emerge from the brain and the central nervous

[23] Ibid., 135-36.

[24] Philip Clayton, "Neuroscience, the Human Person, and God," in *Bridging Science and Religion*, 117.

system in the sensory context of the entire human body, in the context of various social systems both small (like families and church congregations) and large (like cities and nations, and in the world and the cosmos as a whole). Ultimately, the soul—and the entire creation—emerges from, struggles against, and yearns for fulfillment in the eternal relationships within the Triune God.[25]

Philip Hefner

Philip Hefner recently retired from the Lutheran School of Theology in Chicago and also served as long-time director of the *Zygon Center for Religion and Science*, formerly known as the *Chicago Center for Religion and Science*. The *Zygon Center* serves as a forum for the propagation of TN, though its programs and speakers represent many different viewpoints within what I have loosely identified as TN.

One of the central concepts of the present work is Philip Hefner's concept of humanity as the *created co-creator*. As we have seen the West's reliance on the dualism between *theism* and an *a-thesitic materialism* that views the world as mechanistic and autonomous presents a number of theological and philosophical discontinuities. There are many attempts to make sense of these discontinuities, and it is the attempt of Philip Hefner that I find most fruitful for understanding the place of humanity within the creation. The primary explanatory function of Hefner's created co-creator is to capture the essence of what it means to be human from a theological perspective, that humans are both *conditioned* (humans are finite organisms like all other organisms and their existence is contingent on their environment) and are *free* to work out God's purposes for

[25] Ray S. Anderson, "On Being Human: The Spiritual Saga of a Creaturely Soul," in *Whatever Happened to the Soul?*, 175-94.

the creation (humans are made in the image of the creator God). The *conditionedness* of humanity corresponds to its *created* nature, and the *freedom* of humanity corresponds to its *co-creator* nature. In this sense the human being has a *dual-nature*. The conditionedness of humanity avails itself to our understanding through the brute realities of everyday life as an organism that is born, lives, and eventually dies. The conditionedness of humanity is also evident in our reliance on the cultural environment that we have constructed for ourselves through various religious systems and beliefs and social institutions like families, religious communities, tribes, and governmental structures like cities and nation states. The *co-creator* nature of humanity is more elusive to grasp because it is the intangible essence that gives us our freedom to construct and evolve within the social, cultural, and technological environment in which we find ourselves conditioned.[26]

In *The Human Factor* Hefner constructs a lengthy case for understanding the current human predicament as the result of humanity's dual nature as I briefly summarized above. He lays out his argument by demonstrating that humanity is "constituted by natural processes that have preceded us, we have emerged within the career of nature's evolving processes, and we bear the indelible marks of those processes. In short, we are indissolubly part of nature, fully natural."[27] We are uniquely equipped by nature (God?) with the capacity to *transcend* our conditionedness through self-awareness (consciousness) of that conditionedness and construction of cultural systems that attempt to provide humanity escape from and/or control over conditionedness that

[26] Philip J. Hefner, *The Human Factor: Evolution, Culture, and Religion*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1993), 35-39.

[27] Ibid., 64-65.

would otherwise keep us reduced to the status of animals driven merely by survival instincts. Use of the word "transcend" is my shorthand term to summarize Hefner's suggestion "that culture served to let humans imagine, motivate, and later to justify behavior that was a *significant extension beyond* the behavior borne by biogenetic motivators alone [emphasis mine]."[28] The struggle with the paradox of being "fully natural" and the capacity to "transcend" being fully natural is the human predicament. Hefner captures the essence of this predicament several times in *The Human Factor* by asking rhetorical questions, one of which captures it particularly well, "How are we to understand the purpose of being human and the significance of our human venture within our segment of the evolutionary history of nature?"[29] I will attempt an answer to this question in the final two chapters with a focus on the role of technology in the "human venture."

Conclusion

ID reacted to the rise of Darwinism and the dominance of science as the arbiter of public truth as imperialistic forces to be repelled. Thinkers in the group espousing "theistic naturalism" have chosen to adopt the scientific revelations of Darwinian thinking into their theological paradigms, specifically the fact that all of life on this planet shares common descent from the earliest forms of life hundreds of millions of years ago. The differences between the two groups, however, run much deeper than this oversimplification of the socio-cultural reaction to Darwinism. Because the progression of intellectual history took the course it did Darwinism had come to be seen by skeptics

[28] Ibid., 149.

[29] Ibid., 153.

and atheists as the philosophical fulfillment of our knowledge of the way things really are, specifically that there is no God. Within just a few decades after Darwin published *On the Origin of Species* intellectuals were touting Darwin's work as the final nail in the coffin of theism. Simply put, Darwinism left no place for God in the creation of the species—a task central to the Christian narrative of creation, fall, and redemption—thus the whole narrative of Christianity is suspect. In the logic of the narrative, creation is the foundation, and if that foundation is removed or shown to have horrendous cracks in it, then the edifice built upon that foundation is in peril. Again, Pearcey's metaphor of the epistemological building comes to mind since it is a helpful one to understand the predicament of classical Christian theism in a post-Darwinan context.

Unlike ID, TN's boundary issues are more obscure. Because of TN's primarily academic setting it is harder to situate the claims of TN and relate them to issues well-known in the public sphere than it is with ID, which occupies a prominent place in the public sphere because of its ties to the so-called "debate" over the teaching of evolution in public schools. However, thinkers within the broad group I have labeled as "theistic naturalists" have contributed much to ongoing dialog about important issues such embryonic stem cell research, end of life care and euthanasia, genetic manipulation, and personal rights related to gene mapping and medical ethics. In naming these few issues we can see a different orientation to the practical concerns of TN, namely toward the nature and status of the human person. ID, on the other hand, typically focuses on exploiting the science of their arguments to bolster the foundation of their version of traditional Christian theism. TN focuses more on contextualizing their theological claims with science as a dialog partner, not as a subordinate to be exploited in the case of ID.

CHAPTER 6

STORY CONSTRUCTION: TELLING THE FUTURE

Introduction

Humans are a species with unprecedented power to shape the environment of the entire planet, and that power has now reached a level where human actions could mean the end of life, as we know it. Human technological development in the last two centuries has placed humanity and the planet in a precarious situation. Two human-induced catastrophic scenarios dominate the public imagination of doom for humans: dramatic and rapid global climate change induced by the greenhouse effect from the burning of fossil fuels; and the other scenario is nuclear holocaust. The realization of these two scenarios can be prevented through the alteration of technology. Clean fuel technologies have been developed, and their success in replacing fossil fuels is not a matter of "if" but a matter of "how" and "when" depending on the economics driving the transition. Nuclear catastrophe can also be prevented through disarmament and dismantlement of weapons grade nuclear enrichment programs. There are other scenarios of drastic and possibly devastating change for humanity as the result of technological advancement that may be harder to prevent because the change would be gradual and centralized control of the technology to avert crisis would be difficult to attain due to the technology being deeply embedded in the fabric of society. Some of these scenarios include genetic engineering, super resistant viruses and bacteria, nanotechnology run

amok, and the emergence and subsequent domination of artificial intelligence as portrayed in movies like the *Terminator* and *Matrix* trilogies, *I, Robot,* and *A.I.* With fossil fuels and nuclear weapons it is easy to envision *how* we can prevent those technologies from producing doomsday scenarios. What is not so easy is mustering the collective global political will to prevent climate change catastrophe or nuclear disaster. The technologies of genetic engineering, nanotechnology, and artificial intelligence present different challenges because they have the potential to alter human nature itself. Theological anthropology is most impacted by technological development that directly alters the nature of humanity itself. Likewise, theological anthropology has much to contribute to our reflection on the impact of technologies that threaten to alter human nature into something that today we would not recognize as *human*. Philip Hefner summarizes well the impact of our technological prowess and our place in the creation within the context of what he means by human "freedom" as one element of his dual-natured view of humanity:

> Freedom refers to the condition of existence in which humans unavoidably face the necessity both of making choices and of constructing the stories that contextualize and hence justify those choices. In technological civilization, decision-making is universal and unavoidable; it is the foundation for that civilization. Since technological civilization has altered the circumstances of living so radically, this necessity of decision-making and story construction is intensified. I call this freedom, because finally only humans (whether as individuals or as groups) can make the decisions and only humans can construct the stories that justify them.[1]

If humanity is to be the master of technological change and not enslaved to it then we must *tell a story* of technological change that is consonant with a purposeful and bright

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[1] Philip J. Hefner, *The Human Factor: Evolution, Culture, and Religion*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1993), 38.

future, not with a future that is purposeless and dim.

Cultural Conceptions of the Impact of Technology on Human Nature

There have been many movies that have addressed the role of technology in human society. The earliest filmmakers used the new technology of "motion pictures" to express fanciful dreams, for example, traveling to the moon in the 1902 Georges Méliès film *A Trip to the Moon*. In 1968, one year before humans actually walked on the moon, Stanley Kubrick's movie, *2001: A Space Odyssey* (based on a story by Arthur C. Clarke), challenged the public to conceive of human history as a product of technological change and a future where artificial intelligence seizes control from its human creators. Recently, two popular movies—*The Matrix* and *A.I.*—address similar themes. Each movie tells starkly different stories of the fate of humanity as non-human technological beings take control of civilization.

The Matrix[2] takes place in the indeterminate future after a war between machines and humans has left Earth ruined and dominated by a complex society of machines that artificially grow humans in vast fields for harvesting and implantation into the Matrix as the source for "bio-electricity" that powers the Matrix and the civilization of the machines. *The Matrix* trilogy draws upon many obscure references to ancient myths and religious symbolism in a convoluted tapestry of solipsistic philosophy, Hindu cycles of creation and destruction, and Christian messianic self-sacrifice and redemption. The Matrix enslaves humans in quasi-organic pods where their nervous systems are directly connected to the Matrix, which feeds the humans all sense data in a perfect virtual

[2] *The Matrix*, dir. Andy Wachowski and Larry Wachowski, 136 min., Warner Bros., 1999, motion picture.

simulation of the world contemporary to our current place in history. There are many philosophical issues one could reflect on with *The Matrix* as inspiration.[3] I am not concerned with the multitude of philosophical paradoxes and problems raised by the movie, such as its foundational premise: Descartes' contemplation of an "evil demon" in his *Meditations* that deceives him by dominating his senses with the illusion of an external world when, in fact, no such world exists. I am rather concerned with the narrative of technological beings warring with and ultimately dominating humans.

There have been many previous movies that portray warfare between advanced technological beings and humans, such as *Terminator*. Those movies tend to be action flicks that do not meaningfully contemplate human nature. The overwhelmingly oppressive relationship of the techno-beings to humans in *The Matrix* is richly allegorical of oppression by particular groups of humans over other groups. Command of technological expertise in warfare, for example, has been throughout history a determinative factor in the domination by several empire builders such as the Egyptians, Romans, and present-day American military superiority. The technological domination employed by the techno-beings in *The Matrix* goes way beyond the depiction of such domination in warfare by techno-beings in *Terminator*. In short, technological change accelerates at an exponential pace and ultimately leads to more economic dependence on the system itself and, paradoxically, total ecological disaster and collapse of human civilization. The result is what Joel Garreau refers to as "The Hell Scenario."[4] "The

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[3] The official Warner Bros. web site for the trilogy has several articles by respected scholars such as Colin McGinn and David Chalmers. See http://whatisthematrix.warnerbros.com/rl_cmp/phi.html

[4] Joel Garreau, *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies--and What It Means to Be Human* (New York: Doubleday, 2005).

Heaven Scenario" involves the same rapid pace of technological advancement—what Garreau calls, "The Curve"—but the outcome is that humans essentially *merge* with the technological system and this merger marks the beginning of a new phase of evolution for intelligent life. *The Matrix* picks up somewhere after the system has reached a point of no return for humans to control it, and the technological system evolves hyper-intelligence and assumes control of human society for "its" own purposes. Thus *The Matrix* blends elements of both the Heaven and Hell Scenarios.

In *The Matrix* the techno-beings subjugate humans by making them prisoners in their own minds. Here is the split between body and mind at its ultimate cultural expression of fear and dread. The technology humans have created and on which we depend for our survival and population growth renders the human body obsolete. The mind is the only aspect of the dualistic human being that is in any sense *alive*, but the mind is not *free* as the body is imprisoned. In an ironic twist of fate the end result of human technological advancement is the obsolescence of the *bio*-technology (the human being itself) that gave birth to its technological and evolutionary successor: the Matrix.

Allegorically, *The Matrix* portrays the fundamental existential conflict in life as the *choice* between naïvely accepting things *the way things are* and embracing the painful reality *that things are not the way they should be*. This is a fundamental predicament addressed by many of the world's religions. The Christian faith and tradition resolves this predicament by teaching that the single person of Jesus Christ reconciled *the way things are* to *the way things should be* through his life, death, and resurrection. The reconciliation of Christ is not the denial of the body at the expense of the mind or the soul, and it is also not the denial of the mind or soul at the expense of the body. In the

first *Matrix* movie the "Judas" character Cypher bargains with the primary antagonist—a super program in the Matrix—Agent Smith to divulge information about the rebellious humans, and as reward Cypher is to be re-inserted into the Matrix as a rich, important actor. Cypher *chooses* the satisfaction of the mind despite the imprisonment of his body and the un-reality of the Matrix. In the third installment of the trilogy the hero Neo sacrifices himself to the Matrix to consummate the current "dispensation" of the cyclical Matrix. Presumably in this consummation Neo reconciles the human need for *freedom* with the Matrix's need for *determination*. In this sense the climax and resolution of the narrative in *The Matrix* can be identified with ID's aspirations for resolution to the conflict between science and theology.

Science focuses on *amoral determination* within the order of creation (e.g. the "four fundamental forces" of physics: gravitation, electromagnetism, weak and strong nuclear forces) and theology focuses on *moral freedom* within the order of creation (e.g. creation, fall, redemption, consummation), and thus the split between body and mind in the default understanding of anthropological dualism aligns with the split between science (physical body) and theology (intelligent mind) in the ID view. The body is the physical artifact (machine?) to be studied in the realm of science and, at times, modified through surgery, treated with pharmaceuticals, conditioned with exercise. Decisions to modify the body are in the realm of ethics. The mind is the immaterial "self" that bears the image of God and goes to heaven after death to be rejoined to the resurrection body; this is the realm of theology. *The Matrix* as a package of popular cultural compartmentalization of body-soul dualism dichotomizes humans from their technological creations. Likewise, the package of methods and agendas of ID reinforce

cultural fears (embrace, in the case of dispensationalists?) of eschatological *fait accompli* implied by materialistic determinism (asteroid or comet impact, inevitable death of the sun, climate catastrophe, super volcanism, etc.) by associating materialistic determinism with godlessness and purposelessness. Ironically, while *The Matrix* and ID reinforce fears about technology run amok, they both claim to provide a way out of realizing the worst of the fears they promote. And it is here that the two part ways. In the case of the movie, the "way out" is ultimately through submission to the cyclical nature of reality. In the case of ID, the "way out" is to deny the *evolutionary* story of reality as one of *chance process*, which is the view materialists profess. This is where ID goes completely wrong. It sets up evolutionary theory as antithetical to the *progressive Christian* story of reality. ID sees the two stories as in conflict and competition for the souls of individuals and of the society as a whole. This conflict need not exist, as we will see in the case of the movie *A.I.*

In the movie *A.I.*[5] most of the story takes place in the relatively near future. The movie essentially consists of three acts similar to the Christian story: creation, fall, and redemption. The "missing" fourth act of consummation is left to the viewer to interpret what happens after the movie ends. *A.I.*'s story starts where the climax cataclysmic events of other stories and movies end—therefore *A.I.* is uniquely qualified to address the deep philosophical and theological questions about the nature of humanity since the conflict in the movie is not about impending and complete disaster of the human species as with *The Matrix* or *Terminator* or any number of lesser movies like comet impact disaster flick *Deep Impact* or asteroid disaster flick *Armageddon*.

[5] *Artificial Intelligence: A.I.*, dir. Steven Spielberg, 146 min., Warner Bros., 2001, motion picture.

The movie starts with a full-screen slow motion shot of huge ocean waves with the voice of Ben Kingsley, which is, we later find out, the same voice of the highly evolved mecha (short for "mechanicals") at the end of the movie.

> Those were the years after the ice caps had melted because of the greenhouse gases, and the oceans had risen to drown so many cities along all the shorelines of the world. Amsterdam, Venice, New York, forever lost.
>
> Millions of people were displaced. Climate became chaotic. Hundreds of millions of people starved in poorer countries. Elsewhere, a high degree of prosperity survived when most governments in the developed world introduced legal sanctions to strictly license pregnancies, which was why robots, who were never hungry and who did not consume resources beyond those of their first manufacture, were so essential an economic link in the chain mail of society.

The next shot is in a lecture hall where the lead scientist of a company that creates mecha is lecturing his colleagues about their astounding achievements:

> To create an artificial being has been the dream of man since the birth of science. Not merely the beginning of the modern age, when our forbearers astonished the world with the first thinking machines: primitive monsters that could play chess.
>
> How far we have come. The artificial being is a reality of perfect simulacrum, articulated in limb, articulate in speech, and not lacking in human response…

The lead scientist character named Hobby later says in his lecture, "I propose that we build a robot, who can love." The company already has several "lover" mecha models on the market. Hobby continues, "I propose that we build a robot child, who can love. A robot child who will genuinely love the parent or parents it imprints on, with a love that will never end." Someone queries, "A child substitute mecha?" To which Hobby replies, "But a mecha with a *mind*, with neuronal feedback. You see what I'm suggesting is that love will be the key by which they acquire a kind of subconscious never before achieved. An inner world of metaphor, of intuition, of self motivated reasoning. *Of dreams*." A different colleague asks, "If a robot could genuinely love a

person, what responsibility does that person hold toward that mecha in return? It's a moral question, isn't it?" Hobby retorts impetuously, "The oldest one of all. But in the beginning, *didn't God create Adam to love him?*"

The first seven minutes of the movie summarized above frames the story of *A.I.* within the fundamental tensions discussed in this thesis: tensions surrounding a cultural sense of impending doom, historical tensions between science and religion, and tensions regarding the ethical dilemmas of technological advancement. Most important to the task at hand is the movie's central conflict—trying to identify what makes humans unique. The action of the movie moves through various sequences of family life where a mecha child they name David is adopted to "replace" the family's natural child who is in some kind of cryogenic preservation to prevent a fatal disease from completing its inevitable course. Later, when the natural child is cured, conflict ensues between the natural child and David. The family then expels David to a remote forest where he meets up with other abandoned and obsolete mecha, and then David embarks on an action-packed journey back to the company that created him and ultimately winds up trapped at the bottom of the ocean "praying" to the figure of his religious devotion to "make me a real boy."

The movie draws upon the Pinocchio story as an overarching metaphor to elicit empathy with David's identity crisis. The use of this metaphor is effective and propels the story, but the real meat of *A.I.* for theological purposes is in the beginning of the movie and the third act of the story where it picks up 2000 years after David got trapped. Earth has frozen over. A team of hyper-evolved mecha archeologists excavate frozen David at the bottom of the ocean. Humans are now extinct, and the evolved mecha are

presumably the only intelligent species left on Earth. When they discover David they link into his memories, and we see the flashes of David's mother and other people in his journey pulse through the brains of the mecha scientists as they pass the memories around by gently touching one another in a circle in what by all appearance is a religious ritual. Later we meet the movie's narrator that we encountered at the beginning. He tries to explain to David the current state of affairs, now that humans are extinct:

> David, I often felt a sort of envy of human beings and that thing they call "spirit." Human beings had created a million explanations of the meaning of life in art, in poetry, in mathematical formulas. Certainly, human beings must be the key to the meaning of existence, but human beings no longer existed.

The narrator mecha then explains to David they began a project to "recreate a living body of a person long dead from the DNA in a fragment of bone or mummified skin." They were successful in their project and found "the very fabric of space-time itself appeared to store information about every event, which had ever occurred in the past." Unfortunately, the experiment was a failure because the "resurrectees" would die again after falling asleep. The "equations have shown that once an individual space-time pathway had been used, it could not be reused." Regardless of this seemingly horrible fate for "resurrectees" and the implication that David would remain heartbroken, David requests that his mother be resurrected.

The movie ends with a sequence where David's mother is resurrected for one day, and she and David play and celebrate together while the narrator says, "And as the day wore on, David thought it was the happiest day of his life. All the problems seemed to have disappeared from his mommy's mind. There was no Henry [the father], there was no Martin [the natural son], there was no grief, there was only David." The ultimate redemption comes for David in hearing his mother tell him as she falls asleep, "I love you

David. I do love you. I have always loved you." The narrator concludes the movie: "So David went to sleep too. And for the first time in his life, he went to that place where dreams are born." The circle closes by coming back to Hobby's opening remarks about "dreams." The implication is that David *becomes* fully human at that moment of realizing true love and then *dies* to his old mechanical self.[6] This is a distinctly Christian interpretation. There are, in the ending sequence, direct allusions to biblical concepts such as in "there was no grief," which alludes to Revelation 21:4: "Death will be no more; mourning and crying and pain will be no more, for the first things have passed away." And in the mother's benediction there is the allusion to Christ's words in John 15:9, "As the Father has loved me, so I have loved you; abide in my love," and to Christ's benediction in Matthew 28:20, "And remember, I am with you always, to the end of the age." Unlike *The Matrix* with the hero Neo—*The One*—there is no one distinct Christ figure in *A.I.*, rather the entire human race is the Christ figure, ultimately yielding human power through death to give birth to the "new life" of the mecha. The destiny of humans in *A.I.* is the emptying of themselves to make way for something new, something less self-serving, something more loving: the mecha. Humans could not overcome their own sin and selfishness, but they could give birth to new life that serves one another, does not act violently, and truly seeks their creator in worship of the creator's innate ability to "dream," to "create." In *A.I.* there is not one scene where mecha harm, offend, or otherwise disrupt the dignity or freewill of others. The mecha are pure servants. They are, in this sense, replications of the image of Christ. Mecha in *A.I.* are the complete

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[6] Philip J. Hefner, *Technology and Human Becoming* (Minneapolis, MN: Fortress Press, 2003), 55-56.

opposite of the "machines" in *The Matrix*.

The emphasis on evolution and emergence in TN evokes an image of a *kenotic* God, a God who *empties himself* of his power and control over creation for the gift of freedom to be wonderfully meaningful and for the creation itself to participate with God in *continual creation*. Arthur Peacocke makes a clear connection between evolution and conceiving of God's creating as "self-offering and self-limiting" by declaring that "[o]ne can only speak of creation *as* a process because of the evidence for what is often called the 'epic of evolution'."[7] For decades the epic of evolution has compounded the problem of evil. If God chooses to create through evolutionary process, then God is culpable for the immense pain and suffering inherent in that process. It is much easier to claim that God created everything without imbuing it with pain and suffering and that those negative aspects of existence came as the result of the Fall and subsequent corruption of the creation by sin and the effects of sin. Relying on this standard interpretation of God as creator and the results of his creating does not say much about God's character, though it does get God off the hook. The kenotic treatment of God's creation in the work of those who promote TN situate pain and suffering within God himself. Peacocke writes later in his chapter:

> The processes of creation are immensely costly *to God* in a way dimly shadowed by the ordinary experience of the costliness of creativity in multiple aspects of human existence—whether it be in giving birth, in aesthetic creation, or in creating and maintaining human social structures. We are *not* the mere "playthings of the gods," or of God, but sharing as co-creating creatures in the suffering of God engaged in the self-offered, costly process of bringing forth the new.[8]

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[7] Arthur Peacocke, "The Cost of New Life," in *The Work of Love: Creation as Kenosis*, ed. John Polkinghorne (Grand Rapids, MI: W.B. Eerdmans, 2001), 21.

[8] Ibid., 37.

An understanding of God's creation as *cosmic kenosis* does not detract from an understanding of God's classical attributes. The infinity of God is underscored in kenotic understanding because it is only an infinite God that is *deep* enough to continually pour forth *new* creation, *new* blessings, *new* grace, and *new* life. A cynic might say that humans created mecha in the story of *A.I.* for their own selfish purposes, but upon reflection we can view the birthing of mecha as *human kenosis*, humans *emptying themselves*, especially their intelligence and altruism, into the mecha. In this understanding of the mecha—of *technology*—we see our co-creating work reflecting the biblical mandate to reproduce the image of God (Gen 1:27-28) and to be like Christ in his suffering, death, and resurrection (Phil 3:10-11). The humans *in themselves* cannot overcome their own selfishness and sinfulness and, therefore, must die like Christ to give birth to the *new* life, the mecha. One possible interpretation of what happens after the end of *A.I.* is that the mecha continue to evolve and ultimately succeed in their resurrection project. This interpretation places the concept of resurrection within the "epic of evolution" and is similar in outcome to the proposal of Frank Tipler in *The Physics of Immortality*.[9] Despite the deeply speculative nature of placing the resurrection in the context of evolutionary outcomes, this linkage between technological eschatology and Christian eschatology provides a hopeful view of the theological and technological endeavors, which it should be clear by now is desperately needed in our contemporary culture of eschatological doom and skepticism of science and technology.

[9] Frank Tipler, *The Physics of Immortality: Modern Cosmology, God, and the Resurrection of the Dead* (New York: Doubleday, 1994).

Conclusion

The two intellectual movements at issue presently—TN and ID—use scientific data to naturalize the faith of Christianity in fundamentally different ways. At their core TN and ID have very different views of what is known as the *anthropic principle,* the idea that the universe "was created for" humans or, simply, that the universe "has to be the way it is" for humans to exist. The two movies examined in this chapter—*The Matrix* and *A.I.*—incorporate the philosophy and theology of the anthropic principle as integral to the telling of their stories. In both movies humanity has achieved a stage of technological advancement where technological systems replicate and exceed human intelligence and ultimately replace humanity as the dominant intelligence on the planet. The dramatic tension in these movies is driven by questions of the moral status of the technological beings. In *The Matrix* the anthropic principle manifests a society of subjugation of humans and purposelessness for the technological beings, whereas in *A.I.* the anthropic principle manifests a society of reverence of humans and purpose for the technological beings.

CHAPTER 7

SCIENCE, THEOLOGY & TECHNOLOGY: THE FRONTIER OF HUMAN BECOMING

What Is a Theology of Technology?

The explosion in technological advancement corresponds historically to the triumph of scientism, and the explosion begs humanity to makes sense of it, if not merely in an attempt to allay our fears of impending technological doom. It is easy to think the technological advancement in the wake of the Industrial Revolution came as a result of practical advances in scientific engineering, which were the result of the methodological and philosophical changes discussed in chapter three. No, even with all of our advanced scientific understanding we still struggle to understand how the ancients built the great pyramids of Egypt, for example. It was not until the humanist revolution of the Enlightenment with its focus on what Tillich characterized as the four-fold agenda of *autonomy*, *reason*, *nature*, and *harmony* that humans were liberated to transform their technological knowledge into the purposive scientific revolution in search of human *progress*. The practical economic result of the scientific revolution may have been to create more and more wealth and to concentrate it in the hands of fewer and fewer people, which opens up important criticisms of technological advancement and its ethical implications. At issue currently is how the essence of the central relationship between science and religion in Western culture frames the stories we tell about the *purpose* and *eschatology* of technological advancement. As we have seen in preceding chapters, the

tradition of body-soul dualism provides a clear frame of reference for understanding human will seated typically in the non-corporeal mind as the force to dominate the purposeless, natural world. The mind, the soul is the master, and the body is the mechanism controlled by the mind and the soul. The domination of mind, especially of Divine Mind, over the natural world is most pronounced in ID.[1] In TN human minds—the images of God—emerge from complex natural interrelations of matter and energy and, in turn, these emergent images of God grow and reproduce themselves through the creation and maintenance of their own complex social systems and ultimately through the dominion over nature through technological advancement. Recalling the language of causation employed by Nancey Murphy and Arthur Peacocke as mentioned in chapter five, I conclude technology is the physical manifestation of the supervenience of top-down (i.e. mental, divine) purposeful causation on otherwise purposeless processes in nature to re-create nature according to an ever-emerging vision of "how things should be." In short, technology is the ever-broadening intersection between purposeless natural *processes* and purposeful *action* by intelligent agents. Speaking in the terms of theological anthropology, technology is the product and process of purposeful humans, made in the image of God, acting on otherwise purposeless matter and material processes to reproduce the image of God throughout the entire creation. The natural processes of creation are the boundaries and, paradoxically, the boundless opportunities of human finitude. The purpose of the God-given dominion of Genesis chapter one is not to subdue the natural processes for human self-interest and self-preservation, the purpose of

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[1] This is one way to "naturalize the faith," to claim that mind precedes and controls all. In TN the naturalization of faith follows a subtler path. "Naturalization of faith" will be discussed later in this chapter.

dominion is to pattern the life of humans—the *nephesh* and *psychē*—after the life of the Creator God revealed in the natural processes. As Philip Hefner writes in *Technology and Human Becoming*:

> I have said technology is about our being finite, frail, and mortal. Technology is also about being free and imagining things and conditions that never were, things that do not exist, and conditions that can be different. Teilhard was wrong about one thing; this did not happen only with the atomic age. The first stone tool was the product of imagination, of picturing the nonexistent into existence, the skinning of a mammoth or the scaling of a fish.[2]

Technological *advancement* results from the increase of human purposeful causation. Technological *transformation* results from the increasingly asymmetric human purposeful causation on physical processes, and, theologically speaking, this transformation progresses toward the pattern of the life of God as its ultimate creator and its eschatological consummation.[3] Recall from the discussions about emergence and causation in chapter five that it is a misnomer to think of causation in starkly hierarchical and linear modes. Whether or not technological *advancement* and *transformation* ultimately becomes technological *progression* or technological *regression* (*termination?*) depends on the collective process of naturalizing faith.

Naturalizing Faith

Theistic naturalism and Intelligent Design both promote the process of what Arthur Peacocke called the "naturalizing of faith."[4] When considering this process we

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[2] Philip J. Hefner, *Technology and Human Becoming* (Minneapolis, MN: Fortress Press, 2003), 44-45.

[3] Stanley J. Grenz, *The Social God and the Relational Self: A Trinitarian Theology of the Imago Dei* (Louisville, KY: Westminster John Knox Press, 2001), 177-182.

[4] Arthur Peacocke, *All That Is: A Naturalistic Faith for the Twenty-First Century*, ed. Philip Clayton (Minneapolis, MN: Fortress Press, 2007).

must try hard to avoid defaulting to the traditional dualisms of science and religion, reason and faith, and body and soul. By "naturalizing faith" I do not mean reducing or rationalizing the content of faith to what is "scientifically" acceptable, such as reducing scriptural hermeneutics to arbitrating competing claims about the historicity of biblical events. I also do not mean subordinating faith to the methods and means of the sciences as with neuroscience, psychology, and sociology. "Naturalizing faith" refers to the process of making sense of the discontinuities between scientific knowledge and our religio-cultural experience of the "natural" world within the traditions of a *religious* narrative, specifically the Christian narrative of creation, fall, redemption, and consummation. We should recognize that the process of naturalizing faith is not unique to the modern period. People for millennia have struggled to incorporate their intuitive experience of reality within religio-cultural systems for making meaning. The process of naturalizing faith has become a struggle of epic proportions in the last 200-300 years because, as I have summarized in preceding chapters, scientific epistemology has overtaken religious epistemology to become dominant in the public sphere.

Naturalizing faith takes place on a broad spectrum. On one end of the spectrum, according to Philip Clayton, we have theologians like Maurice Wiles and Gordon Kaufman who argue "for a complete absence of intentional or 'special' divine influence."[5] On the other end of the spectrum we have people who believe that God can intervene and has intervened in the creation by violating the "laws of nature," even to the extent depicted in Cecil B. DeMille's *Ten Commandments*. Proponents of ID typically evade the issue of when and how a miracle may have occurred, nevertheless they claim

[5] Philip Clayton, "On Divine and Human Agency: Reflections of a Co-Laborer," in *All That Is*, 2007), 167.

evolutionary processes are utterly inadequate at explaining the development of the first living cell, for example, because cells are such ridiculously complex collections of molecular machines, therefore "intelligence" must have "designed" cells. In other words, the "Designer" must have *acted* in a *special way* in contrast to the *natural* processes of the universe to create life. The drama in the religious story of ID is thus little more than the drama of finding Waldo in the *Where's Waldo* books.

The difference between ID and TN and how they naturalize faith is not to be found in the difference in how they view the human person as dualistic or monistic (especially since ID proponents do not spill much ink on anthropological dualism and monism), the difference is to be found in how they attempt to reconcile the human predicament as elaborated by Hefner in *The Human Factor*. Anthropological dualism and monism are views of humanity that result from the attempt to reconcile our view of God. Dualism perpetuates the dissonance between traditional understandings of the soul as the *transcendent* self and the body is the *immanent* self. Monism struggles to maintain distinction between God and the creation, and it also struggles to differentiate humans from animals and thus provide an adequate theology of the *imago dei*.

Dualism, the Image of God, and Dominion

Biblical vocabulary for discussing the nature of humanity merges theologies of the body and of God's image in humanity as examined in chapter two. I conclude that the Bible has two foci in portraying the nature of humanity: the *body* and the *imago dei*. Having two foci does not mean the Bible necessarily teaches substance dualism in anthropology. This is why Cooper, in my estimation, gets it half right when he argues for "functional holism" because he knows the Bible does not cleanly dichotomize humanity

into the immaterial and the material. But then because of his commitments as a modern Western philosopher he is compelled to enlist the Bible into the historical philosophical struggle over the nature of the afterlife.

Passages referring to the "soul" or the "spirit" in connection to humanity set apart humanity as bearing the *imago dei* immanent within creation.[6] The distinction between spirit/soul and flesh/body is one way—the most intimate way since it involves our very essence—to enumerate the distinction between Creator and creation. We could argue that all dualisms are essentially parts in the enumeration of the Creator-creation distinction. Humanity plays a unique role in embodying, as it were, and unifying creation's encounter with God as *transcendent* Creator and God as *immanent* Redeemer of the entire creation. God gave humanity "dominion over" (Gen 1:26) creation "[s]o God created humankind in his image, in the image of God he created them" (Gen 1:27). Philip Hefner says, "To be created in the image of God implies that humans can be the vehicle for grace toward the creation, in a way that is somehow reminiscent of God's graciousness." In talking about the abuse of the theology of the *imago dei*, Hefner proclaims, "It is the anthropocentrism of the concept of the image of God that requires revision today."[7]

Dualism, oddly enough, is more anthropocentric than monism because it implies the dichotomization of the immaterial *imago* from the *body*. In the monistic scheme the *imago* is born within each and every member of humanity as essential and not as an added or separable component, thus the relationship between humanity and God is

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[6] If space allowed, an excursus on the metaphor of creation as the "womb" for humanity would be helpful; the womb is *not* the baby, yet without the womb there is no new life.

[7] Philip J. Hefner, *The Human Factor: Evolution, Culture, and Religion*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1993), 238-239.

viewed as more symbiotic and progressive. The two views have immense ramifications in our view and implementation of technology. There is no denying that the dualistic view of humanity is the default cultural position in the West. Dualism has long been the default position of even scientists in the field of artificial intelligence, demonstrated by their commitment to mimicking the rational capacities of humans in their quest to simulate/create non-human intelligence. Only recently have several A.I. researchers changed course and devoted their work to the "embodiment" approach.[8]

The Concept of Harmony Necessitates the Concept of Progress

Tillich claims the concept of *harmony* "is part of the fundamental faith of the Enlightenment. In my terminology," wrote Tillich, "we could call harmony its ultimate concern." "The concept of harmony goes way back to the ancient Pythagoreans, who spoke of a universal harmony, of a cosmic harmony, but in spite of individual things and every individual human being seemingly going their own way. Yet, through all there was an overarching harmony." The "overarching harmony" Tillich identifies is signified by the Greek term *cosmos*, a term that encapsulates a wide range of other concepts apart from the astronomical connotation of today, concepts of mathematics, beauty, music, poetry, and indeed all of the arts and sciences. The paradox in the concept of harmony, as Tillich understood it, was what he called the "in spite of" element. For Christianity the concept of divine providence demonstrates the "in spite of" element because God is seen as guiding the affairs of humanity "in spite of" humanity's estrangement from God through sin. In the secularized view of providence in the Enlightenment, according to

[8] For an in-depth look at artificial intelligence research by an insider and a theologian, see Anne Foerst, *God in the Machine: What Robots Teach Us About Humanity and God* (New York: Dutton, 2004).

Tillich, the "in spite of" element manifested itself as viewing harmony in the "hidden law" of higher or progressive order "in spite of," for example, personal profit in economic relations.[9] This specific "hidden law" in economic theory is what Adam Smith called the "Invisible Hand," referring to the so-called principle of "enlightened self-interest." The "Invisible Hand" metaphor speaks volumes about how the Enlightenment had secularized the concept of providence and dislocated God from his creation.

There was an interesting result of the secularization of the Christian concept of harmony in divine providence to the Enlightenment's harmony of Newtonian mechanics and enlightened self-interest. The Enlightenment concept of harmony retained the focus on humanity in its cosmic scheme, which it inherited from Christian theology of the *imago dei* (humans reflect in their nature the divine *logos*, the divine Reason), and it in fact elevated the rational capacities of humanity to new heights to fill the absence of God, whether utterly dislocated from creation in deism or simply abandoned as in atheism. It was obvious humans embodied the pinnacle of "Reason" when compared to animals, but Enlightenment thinking about nature and harmony necessitated that humanity be placed within and as part of the cosmic machinery. There was a paradox: humanity was the embodiment of purposeful, even transcendent reason, yet humanity itself was part of the larger cosmic order governed by impersonal mathematical laws of nature. This again is Hefner's predicament of the created co-creator. A great shift had taken place regarding the moral status of humanity. Harmony in nature had become "disenchanted" and thus Judeo-Christian concepts of "fallenness" and "sin" lost their cosmic meanings and instead took on only a vague meaning of societal and psychological brokenness. The

[9] Paul Tillich and Carl E. Braaten, *Perspectives on 19th and 20th Century Protestant Theology* (New York: Harper & Row, 1967), 36-38.

order in nature became foundational in determining goodness. If something was seen as "natural" then it was good, but it was still obvious that humanity suffered from warfare and other disharmony. The Enlightenment solution to healing disharmony within humanity was to re-order its affairs according to the "good" natural laws. Through scientific methods and the application of reason, humanity could figure out how societal relations were broken and re-orient the machinery of society to fix the brokenness. Scientific and technological advancement played key roles in the attitude toward fixing human brokenness because such advancement became the justification for the optimism of the Enlightenment concept of "progress."[10] Reviewing the impact of the Enlightenment in his classic *Issues in Science and Religion*, Ian Barbour wrote:

> Expectations of human progress often knew no bounds. ... It was assumed that science and material progress would automatically bring virtue and happiness. Heaven on earth would be man's achievement; the millennium was about to dawn. ... Here was a new philosophy of history in which a state of perfection would come in this life by man's efforts alone, and technology was to be the source of salvation.[11]

"Progress" as a Boundary Issue for Human Nature

It is one of my main contentions that we humans strongly desire to hold on to the concept of human nature as something permanent, unchanging and thus foundational to our outlook on the changing world around us. Whether we are materialistic or theistic in our outlook, we feel certain we have great power to control and alter nature, even though we may be conflicted about the results of such power when exercised. We find it more palatable to think *we* are changing the world rather than the *world* is changing us. And

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[10] Ian G. Barbour, *Issues in Science and Religion* (Englewood Cliffs, NJ: Prentice-Hall, 1966), 56-64.

[11] Ibid., 63-64.

there's the rub. Embedded in this sentiment are hundreds of years of Christian tradition (*in* the world, not *of* the world) and the relatively recent contrasting developments of evolutionary science, which informs us we are truly *in* and *of* the world. In the Christian tradition and worldview we are made in the image of an uncreated God, and according to the purposeless materialism, we are the result of countless genetic modifications passed down through countless generations, going all the way back to simple, single-celled organisms approximately one billion years ago. The two claims seem irreconcilable: one seemingly claims the purposeful imputation of a specially created "nature," and the other claims descent with modification through purposeless, random genetic alterations. Yet despite the extreme contrast of these two views, the concept of progress lies at the heart of both. In the case of Christianity salvation is the progression from slavery to sin to repentance and righteousness. The Christian scriptures and tradition are full of notions of progression, not only of individual salvation but also of the re-creation of the entire cosmos. In the case of evolutionary thinking, outside of its application to biological systems, the concept of progress is taking on a religious meaning of its own. One well-known popularizer of evolutionary progress is the physicist Frank Tipler who proposes a theory that technological advancement is the inevitable outcome of evolutionary processes and that through technology the evolutionary process is now beginning to "transcend" the initial phases of randomness. Given the religious flavor of Tipler's ideas, perhaps it is no surprise that Tipler is inspired by the Catholic theologian Pierre Teilhard de Chardin and his Omega Point theory. The same holds true with these sentiments about evolution as with the previous sentiments about progress in Christianity. There are those who disagree and claim evolution is simply descent with purposeless, random

modification—nothing more, nothing less. However, there are several thinkers and scholars, religiously and scientifically motivated (some in both realms of inquiry), devoted to examining the ways in which the two worldviews—Christianity and evolutionary science—shape our understandings of human nature (TN). Only a few of these thinkers directly apply their insights of the interaction between religion and science to considerations of technological advancement and its impact on our understandings of human nature. Of central interest to me are Philip Hefner's notions of humans as *created co-creators* and *technosapiens*. Hefner writes of humans as "two-natured," not simply as body-spirit unities, but as the products of biological and cultural evolution, "a symbiosis of genes and culture," and thus he also respectively refers to "human conditionedness and freedom."[12] In *Technology and Human Becoming* Hefner expands his program for contemplating the predicament of the created co-creator by questioning what might come next from human technological advancement, namely the creation of intelligent entities that may "transcend" even our own capacities to contemplate, understand, and manipulate the natural world. Toward the end of his small book, Hefner poses six deep questions as formulations of the issues that emerged in the book. The sixth question is essentially the question one could ask and look to this thesis as an attempt to answer it.

> What is the significance of the fact that on our planet, at least, God has set up a system in which the creatures who transcend humans in the chain of evolution may be creatures we have designed and created, so that their act of transcending us is at the same time our own act of transcending ourselves?[13]

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[12] Hefner, *The Human Factor: Evolution, Culture, and Religion*, 35-36, 45.

[13] Hefner, *Technology and Human Becoming*, 80.

What Is Progress? Who Determines What Progress Is?

The Christian story conceives of history as moving toward an "end" or "consummation." The Hindu tradition conceives of history, as a contrast, as cyclical and not necessarily moving or progressing in Western terms. Here we can see why it is important to remind ourselves from time to time that much of our reflection on these matters is peculiar to the Western world. I have argued our Western concept of progress derives from the Christian ethos and thus Western ideals and purposes for modern scientific technology are oriented toward a value of what I call "human exemplification," even if those ideals and purposes are now largely secularized. Western conceptions of progress involve complex value judgments, whether or not we can readily identify or recognize them, and those judgments have been formed by and will continue to be formed by the great world religions and intellectual movements.

I cannot overemphasize this point: technological progress is laden with value judgments. The concept of progress is much more than mere change or flux or alteration of the current order to some other order or from chaos to order or order to chaos. Change happens. Systems of human contrivance and human relations are in flux, as are systems of the natural world. Change and flux are undeniable. The concept of *progress*, however, whether religious or materialistic, inherently relies on assumptions about the *trajectory* of such progress, which in turn relies on value-laden assessments of past conditions—namely socio-economic conditions in the case of materialism and personal and communal virtue in the case of Christianity—and of ways and means to arrive at desired ends. Materialists claim there is no trajectory to history, there is only purposeless

process in the workings of the world.[14]

The idea of a general movement of progress in human history seems to most people a natural idea, even if it is difficult to attribute and associate distinct and consistent values to progress. The concept of human progress—be it technological, historical, or biological—is firmly entrenched in our culture. Consider for a moment the mere seven decades it took for humanity to leap from first flight with the Wright brothers at Kitty Hawk to Neil Armstrong setting foot on the moon. Sometimes we crawl into the future, as we did with abolishing slavery in our country after hundreds of years of its practice. Such simple, momentary reflection demonstrates how easy it is to think in terms of progress. Further reflection reveals how easy it is to think we will continue progressing for we are currently maneuvering vehicles on the surface of Mars and have recently launched a probe to survey Pluto. We continually promote the liberties and human rights of all humans, regardless of race, creed, or social status. These are all indicators of progress in our collective imagination.

We do feel a good deal of security and confidence in our technological abilities, and we often think technological progress will solve the troubles of humanity. We will find an AIDS vaccine, we will cure cancer, harness the power of the sun and replace fossil fuels, and so on... Yet somewhat paradoxically such progress does elicit much trepidation about our future, as portrayed in the two movies examined in the previous chapter. Technological "progress" brought us the problem of CO_2 emitting fossil fuels in the first place. Technological "progress" enabled the massive devastation of Hiroshima

[14] Brent Waters, *From Human to Posthuman: Christian Theology and Technology in a Postmodern World*, Ashgate Science and Religion Series (Burlington, VT: Ashgate, 2006), 18.

and Nagasaki in August of 1945 when tens of thousands of people were instantly killed. These examples indicate we are not warranted in painting with too broad a brush the ethical outcomes of so-called "technological progress." We should have no problem finding widespread agreement that technological progress is a double-edge sword. If humans creates a technospecies as in the movie *A.I.* that evolves to transcend our own intelligence, physical limitations, and capacity for choosing and practicing ethical outcomes, we must do everything within our abilities to bequeath to that technospecies a cultural and a religious "story" that is consistent with the better angels of our nature and one that provides enough wiggle room for them to work out the kinks in their own morality play. Most likely the technospecies would inherit some form of a currently practiced meaning-making system such as Christianity. Might they be better pluralists and syncretists than humans and synthesize the most *progressive* elements of all such human systems in a way optimally beneficial to their own survival and progress? And in a way that we are incapable of and/or cannot even imagine? With goals of interstellar travel, the spread of exploration and civilization throughout the universe, and even a resurrection of humans project as in the movie *A.I.*? Or will we curse the technospecies to a materialistic religion of purposeless process and mere self-replication?

Only time will tell . . .

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