

Emerging in the Image of God: From Evolution to Ethics in a Second Naïveté Understanding of Christian Anthropology

Jason Paul Roberts
Marquette University

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EMERGING IN THE IMAGE OF GOD: FROM EVOLUTION TO
ETHICS IN A SECOND NAÏVETÉ UNDERSTANDING OF
CHRISTIAN ANTHROPOLOGY

by

Jason P. Roberts, B.A., M.A.

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ABSTRACT

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Through a careful integration of theological, philosophical, and the natural scientific sources, the biblical concepts of the *image of God* and the *knowledge of good and evil* have the potential to remain important and appropriate descriptors of the human condition, including the possibility and necessity of human morality. This study employs French philosopher Paul Ricoeur's notion of "second naïveté" understanding to demonstrate the hermeneutical significance of contemporary biocultural evolutionary theory for reinterpreting and reappropriating these ancient symbols of Christian anthropology as terms equipped to encapsulate a morally fruitful and intellectually honest conceptual framework for constructing, conducting, and evaluating theological anthropology and ethics today. Forging and polishing this hermeneutical lens for the purpose of recasting a biblically-based picture of humanity involves alloying these ancient concepts with others from the interrelated fields of cognitive linguistics, evolutionary psychology, and emergence. Viewed through this lens, the opening chapters of Genesis describe human beings as creatures wrought of the creation and embedded within it to the same extent as all other creatures. Though ordinary in every other aspect, human creatures are unique in that they have emerged with an ambivalent condition of freedom through which they bear the vocation to re-present the creative beneficence of the God who shares power and does not create through violence.

I defend this thesis in seven chapters. In the first chapter, I introduce the research topic, goals, and hermeneutical procedure for this study. Chapters 2 and 3 describe *biocultural evolution* and *evolutionary psychology* within a non-reductive *emergentist* perspective as sources and resources for contemporary theological anthropology. In chapter 4, I propose an articulation of the doctrine of the *imago Dei* within this evolutionary worldview. Chapter 5 situates the *knowledge of good and evil* vis-à-vis biocultural evolution and recent biblical studies. I then construct a proposal in chapter 6 for how this second naïveté understanding of the *image of God* and the *knowledge of good and evil* opens up new frameworks and frontiers for fundamental theological ethics. Finally, chapter 7 offers a summative and prospective conclusion to this study and its likely impact on my future research.

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CHAPTER 1

TOWARD A SECOND NAÏVETÉ: BIOCULTURAL EVOLUTION AS HERMENEUTICAL LENS

Found in the Primeval History in Genesis, the biblical concepts of the *image of God* and the *knowledge of good and evil* remain integral to Christian anthropology. These concepts have been the subject of theological reflections for centuries and continue to stimulate discussion in academic and ecclesial circles. Through a careful integration of theological, philosophical, and the natural scientific sources, these concepts have the potential to remain important and appropriate descriptors of the human condition, including the possibility and necessity of human morality.

This study employs French philosopher Paul Ricoeur's notion of "second naïveté" understanding to demonstrate the hermeneutical significance of contemporary biocultural evolutionary theory for reinterpreting and reappropriating these ancient symbols of Christian anthropology as terms equipped to encapsulate a morally fruitful and intellectually honest conceptual framework for constructing, conducting, and evaluating theological anthropology and ethics today. Forging and polishing this hermeneutical lens for the purpose of recasting a biblically-based picture of humanity involves alloying these ancient concepts with others from the interrelated fields of cognitive linguistics, evolutionary psychology, and emergence. Viewed through this lens, the opening chapters of Genesis describe human beings as creatures wrought of the creation and embedded within it to the same extent as all other creatures. Though ordinary in every other aspect, human creatures are unique in that they have emerged with an ambivalent condition of freedom through which they bear the vocation to re-present the creative beneficence of the God who shares power and does not create through violence.

The following section of this opening chapter explicates the subject and structure of this study and introduces the topics of each subsequent chapter. The final three sections define *second naïveté* as a guiding hermeneutical construct for reappropriating the biblical concepts under investigation, outline the scholarly precedent for utilizing *biocultural evolution* as a hermeneutical tool for gaining a second naïveté understanding of Christian anthropological concepts, and construct the emergentist hermeneutical perspective and procedure adopted for doing so.¹

Statement of the problem and research goals

Ricoeur's "aim at a second naïveté" is a critical-hermeneutical endeavor targeting the ancient and perennial symbols of human self-understanding. This journey of self-re-discovery begins "as an awareness of [a] myth as myth," such as the biblical myths of creation and "fall." For Ricoeur this project of "demythologization is the irreversible gain of truthfulness, intellectual honesty, objectivity."² The goal of the interpreter is to revivify myth-symbols, not repudiate them. He wonders, therefore, "Does that mean that we could go back to a primitive naïveté? Not at all," he responds:

In every way, something has been lost, irremediably lost: immediacy of belief. But if we can no longer live the great symbolisms of the sacred in accordance with the original belief in them, we can, we modern [people], aim at a second naïveté in and through criticism. In short, it is by *interpreting* that we can *hear* again. Thus it is in hermeneutics that the

¹ The following papers were presented at the Annual Meeting for the Society of Biblical Literature, Chicago, Illinois, November 17-20, 2012. Should any of these find their way into publication, they will provide a sounding board for the hermeneutical procedure developed in this study: Ryan Bonfiglio, "Is Ricoeur Still Relevant? Reconsidering the Contributions of The Rule of Metaphor to Biblical Studies"; Read Marlatte, "The Challenge of Pauline Metaphor: Metaphor Theory on the Edge of Explanation and Understanding"; Todd Oakley, "Mental Space Theory and Hermeneutics"; Eve Sweeter, "Cognitive Linguistics and the Interpretation of Sacred Texts."

² Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 350; originally, *Philosophie de la volonté: Finitude et culpabilité, II: La symbolique du mal* (Paris: Aubier-Montaigne, 1960), 326; emphasis original.

symbol's gift of meaning and the endeavor to understand by deciphering are knotted together.³

This insight is as true for the theological interpretation of Scripture as it is for the natural sciences and other disciplines from which theological anthropology must draw many of its background distinctions. A growing epistemological consensus across the gamut of contemporary academia indicates that in science, theology, and especially where the former informs the latter, *what* human beings know about themselves is a function of *how* they know it as historically-situated embodied selves participating in particular spheres of communal discourse. As an expert in the interdisciplinary interaction of science and theology, J. Wentzel van Huyssteen argues that in postmodern, “postfoundationalist” discourse, one is able “to retain the language of epistemology by fusing it with hermeneutics.”⁴ What human beings know about being human emerges out of the confluence of our biological, ecological, and cultural inheritance and interactions. Through this ongoing creation of meanings and in what theologian Philip Hefner calls the “symbiotic relationship” between the streams of inherited genetic information and cultural information, *Homo sapiens* has emerged in the natural history of our world as a “defined self-definer,” a “created co-creator,” a bearer of the image of the creator God.⁵ For Hefner, “at the core of this analogy [of the *image of God*] today is the character of *Homo sapiens* as a free creator of meanings, one who takes action based on those meanings and is also responsible for those meanings and actions.”⁶

³ Ricoeur, *The Symbolism of Evil*, 351; *La symbolique du mal*, hereafter *SM*, 326.

⁴ J. Wentzel van Huyssteen, *Alone in the World?: Human Uniqueness in Science and Theology* (Grand Rapids: William B. Eerdmans, 2006), 22.

⁵ Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 27, 118, 119; cf. 45, 47, 120-21, 265, 277.

⁶ *Ibid.*, 239.

In distinct but commensurable ways, the biblical and natural historical narratives of human origins depict human beings as creatures whose self-consciousness emerges with a capacity and necessity for ethical interaction and reflection. *Homo sapiens* qua human have a knowledge of good *and* evil. According to an evolutionary perspective, “good” and “evil”—wellbeing and ill-being, cooperation and conflict—condition and catalyze the development of humankind’s ability to construe these values-laden concepts linguistically. Viewed through this lens, the attainment of what Genesis 3 and theologians and exegetes throughout the centuries call the “knowledge of good and evil” does not constitute a falling away from the divine image and likeness. Instead, this development is more a *falling into* or *stumbling upon* the original ambivalence of humanity’s evolved and evolving nature. In an evolutionary understanding of Christian anthropology, this fateful discovery is inextricable from the emergence of humankind as bearers of the *imago Dei*.

To develop the perennial symbols of Christian anthropology in this way is to offer a response to Hefner’s call when he professes at the conclusion of his seminal article exploring “biological perspectives on fall and original sin”:

The rudimentary probes that have formed the substance of this essay have not touched in any depth the constructive challenge that awaits the theologian and philosopher in fulfilling the task that [Paul] Ricoeur set before us—to transport the traditional symbols, where they are important vessels of information for us, into the realm of contemporary, second-naivete [sic] experience, and enable them to coalesce with our experience to provide genuine knowledge of reality, for the sake of our wholesome living.⁷

Therefore, from a Ricoeurian-inspired hermeneutical perspective which integrates scientific and theological disciplines, the goal of this study is to demonstrate how a

⁷ Philip Hefner, “Biological Perspectives on Fall and Original Sin,” *Zygon: Journal of Religion and Science* 28 (1993): 99-100; cf. *The Human Factor*, 142.

contemporary scientific understanding of human uniqueness and its emergence provides a fruitful hermeneutical lens for gaining a second naïveté understanding of the *image of God* and the *knowledge of good and evil* that integrates these concepts and provides a paradigm for framing Christian ethics. By providing reliable knowledge about the world Christians call “the creation,” natural-scientific understandings are able to inform, though not fully determine, the course and content of Christian anthropology and ethics rooted in historical revelation and theological tradition. Biblical scholars and theologians are able to utilize the data and methods of the natural sciences through secondary and even primary research, in supporting their (hypo)theses and conclusions. However, theological data, procedures, and their resulting inferences concerning a reality transcending that of the natural world are distinct from and not reducible to those of the natural sciences or historical- and literary-critical biblical scholarship.

Despite these methodological distinctions, many exegetes and theologians who engage in dialogue with natural scientists tend to agree that the *knowledge of good and evil* is part and parcel of the *image of God*, even if they converge on this point along slightly different paths. One group reaches this destination through careful textual and historical analysis; the other through placing the theological tradition in dialogue with contemporary human self-understanding. Of course, the latter group interacts with the former, though rarely as extensively as I do in chapters 4 and 5 below.

After exploring, developing, and defending this insight, I submit that the concept of the *knowledge of good and evil* might best be understood in terms of what theologian Edward Schillebeeckx calls the “negative contrast experience,” what moral theologian Daniel Maguire calls the “foundational moral experience,” and what structural

anthropologist René Girard calls “mimetic desire.” These perspectives represent three meta-ethical “camps” that mutually inform and interpret one another, as they each provide an anthropological concept aimed at locating the biocultural conditions of possibility for both ethics and religion. What a particularly Christian ethic provides for each of these camps is a vision of human flourishing or salvation that cannot be fully accomplished through biological and cultural processes. Culminating in Jesus Christ and the already-but-not-yet kingdom or reign of God, the economy of salvation to which the Hebrew Bible and New Testament bear tandem witness exemplifies and foreshadows a completion of the image of God that fulfills the dynamism of the negative contrast experience, the foundational moral experience, and mimetic desire, while calling for loving modes of action reflecting—imaging—an eschatologically oriented faith and hope.

This study proceeds along the following seven steps in delineating and defending this thesis. As indicated above, the three remaining sections of this introductory chapter continue to explicate the research topic, goals, and procedure for this study. Chapters 2 and 3 describe *biocultural evolution* and *evolutionary psychology* within a non-reductive *emergentist* perspective as sources and resources for contemporary theological anthropology. In chapter 4, I propose an articulation of the doctrine of the *imago Dei* within this evolutionary worldview, integrating biblical scholarship on Genesis 1:26-28 and the contributions of several recent and current scientists and theologians. Chapter 5 situates the *knowledge of good and evil* vis-à-vis biocultural evolution, recent biblical studies, and theological insights pertaining to the concept of the *image of God*. I then construct a proposal in chapter 6 for how this second naïveté understanding of the *image of God* and the *knowledge of good and evil* opens up new frameworks and frontiers for

fundamental theological ethics. Finally, chapter 7 offers a summative and prospective conclusion to this study and its likely impact on my future research.

To clarify, when italicized, the terms “*image of God*” and “*knowledge of good and evil*” (among other key terms in English) refer to these concepts as concepts—as in, “the concept of *the image of God*” or “the concept of the *knowledge of good and evil*.” As in the above paragraph, this use of italics is sometimes made explicit, but not always. When not italicized, these theological terms refer to the manner in which *Homo sapiens* may be understood to bear (and in this sense *to be*) God’s image and know good and bad/evil. To avoid another potential source of confusion, the term *image of God* is never used to convey a “conception of God” or a “God concept.”

My description of the image of God and the knowledge of good and evil as created and creative processes emerging within the natural world presents another danger. One could argue that depicting the image of God and the concept of *God* as products of biocultural evolution is to naturalize the divine image and the God imaged. If the natural world is capable—on its own—of producing God-imaging creatures, what role is left for God to play in their creation? Why not apply Ockham’s razor and simply eliminate the extraneous causal explanation, i.e., God? The short answer is to say that this study’s strong naturalistic claims about the emergence of the image of God must be read as the “bottom-up” arc of a hermeneutical circle which includes robust, “top-down” theological claims. The limited scope of my thesis dictates that these theistic tenets cannot be fully explored in the course of this study, even where they bear mention. An equally extensive project would be required to explicate my understanding of how God creates through evolutionary processes, values created realities, wills their wellbeing, and communicates

with God-imaging creatures through gracious acts of self-revelation. Let it suffice to say that I presuppose these basic tenets of a theistic, Christian perspective, and that the pages of this study intimate the manner in which I hold them.

Second naïveté defined

Ricoeur defines second naïveté as “a creative interpretation of meaning, faithful to the impulsion, to the gift of meaning from the symbol, and faithful also to the philosopher’s oath to seek understanding.”⁸ When Ricoeur turns to the myth-symbols of what he calls “the ‘Adamic’ myth and ‘eschatological’ vision of history,” this pursuit of the philosopher becomes the “essentially Anselmian” hermeneutical circle of the theologian—of faith seeking understanding.⁹ “Such is the circle” Ricoeur envisions: “hermeneutics proceeds from a prior understanding of the very thing that it tries to understand by interpreting it.”¹⁰ To seek a second naïveté understanding is to acknowledge that there is no stepping outside, before, above, or behind the perennial symbols of human self-understanding bequeathed by a religious tradition and its texts. From within the tradition, these symbols and their own presuppositions are assumed, in that they are taken *a priori* to be indispensable, if relatively raw, data.

In the hermeneutical circle of theology and its various sub-disciplines, the critical function of exegesis gives rise and gives way to the appropriative function of interpretation.¹¹ This task is accomplished through reframing the original significance of the myth-symbol (as best can be determined) via a reconceptualization that is both contiguous and commensurable with ancient meanings, while demanding and allowing “a

⁸ Ricoeur, *The Symbolism of Evil*, 348; *SM*, 324.

⁹ *Ibid.*, 357; cf. 308, 352-57; *SM*, 332; cf. 286, 328-32.

¹⁰ *Ibid.*, 352; *SM*, 327.

¹¹ *Ibid.*, 350; *SM*, 326.

qualitative transformation of reflexive consciousness.”¹² The creation of a second naïveté understanding must involve the emergence of a new kind of meaning and activity that would not be available apart from the continued use of the myth-symbol. To live out of the continual, critical re-appropriation of sacred symbols such as the *image of God* and the *knowledge of good and evil* is to open up novel modes of human being, knowing, and doing.

For the hermeneutical circle on which biblical symbols necessarily lie to be constructive and not vicious, these sacred symbols must gain verification or justification. In order to attain and maintain such truth-value, first, the myth-symbol must be plastic enough to appropriate new conceptual infrastructure in its reappropriation. Further, the myth-symbol must make good on what Ricoeur calls the “wager” that the symbol will allow for increased, irreplaceable, and irreducible “intelligibility,” “power of reflection,” “coherent discourse,” and “power to raise up, to illuminate, to give order to [a] region of human experience.”¹³ Relative to three other “myths that speak of the beginning and end of evil,”¹⁴ Ricoeur argues that elements of all these myths have been appropriated, repudiated, and/or refined in “the place where the pre-eminence of one of these myths is proclaimed still today—namely, the Adamic myth.”¹⁵ By the end of Ricoeur’s *La symbolique du mal*, this assignment of preeminence is more a descriptive assessment than an evaluative one. His argument at this stage is that an important reason the Judeo-Christian traditions have had so much more staying power in Western religious thought

¹² Ibid., 356; *SM*, 331.

¹³ Ibid., 355; cf. 357; *SM*, 330; cf. 332.

¹⁴ Ibid., 5; *SM*, 13.

¹⁵ Ibid., 306; cf. 309; *SM*, 285; cf. 287-88. For a summary of Ricoeur’s *Symbolism of Evil* and a Christian theological argument for attributing preeminence to the Adamic myth, see Peter B. Ely, “Revisiting Paul Ricoeur on the Symbolism of Evil: A Theological Retrieval,” *Ultimate Reality and Meaning* 24.1 (2001), 40-64.

than their early parallels and competitors is the explanatory power and hope they have provided regarding the human condition and its future.

A “myth,” according to Ricoeur, is “not a false explanation by means of images and fables, but a traditional narration which relates to events that happened at the beginning of time and which has the purpose of providing grounds for the ritual actions of [people] of today and, in a general manner, establishing all the forms of action and thought by which [humanity] understands [itself] in [its] world.”¹⁶ For Ricoeur Genesis 1 marks the beginning of “the ‘Adamic’ myth and the ‘eschatological’ vision of history” recorded in the Hebrew Bible and New Testament.¹⁷ The myths over against which Ricoeur sets biblical depictions of the human condition are “the drama of creation and the

¹⁶ Ibid., 5; *SM*, 12-13. To be precise, while the *image of God* and the *knowledge of good and evil* are both taken here to be myth-symbols, the Garden Narrative that begins in Gen. 2:4b does not fall as neatly into the genre of “myth” as the material that precedes it. Yet, for reasons that will become clearer in chapters 4 and 5, there are good reasons to conclude that the Priestly writer(s) (P) of Genesis 1 informs the meaning of this more ritual-oriented myth with the more sapiential creation narrative of the Yahwist (J) via the process of redaction. In this case, as both writer(s) and redactor(s), P creates a composite creation account in which the older narrative follows the myth, which becomes its prologue. Genesis 2-3 becomes an expansion and elaboration of many elements of the new myth, thereby taking on its own mythic quality. For instance, *Yahweh Elohim’s* declaration that humankind as “become like one of Us” in Gen. 3:22 has a bearing on the significance of *Elohim’s* plural jussive in Gen. 1:26, “Let Us make [humankind] in our image, according to our likeness” (NASB).

In a collaborative work with Ricoeur, André LaCocque also argues that Genesis 1 follows the “trajectory” (*trajectoire*) of temporally earlier creation tradition, especially Genesis 2-3 (André LaCocque and Paul Ricoeur, *Thinking Biblically: Exegetical and Hermeneutical Studies*, translated by David Pellauer [Chicago; London: The University of Chicago Press, 1998], 9; cf. Paul Ricoeur, “On the Exegesis of Genesis 1:1-2:4a,” In *Figuring the Sacred: Religion, Narrative, and Imagination*, translated by David Pellauer, edited by Mark I. Wallace [Minneapolis, Fortress Press, 1995], 132, 134; originally, “Sur l’exégèse de Genèse 1,1-2,4a.” In *Exégèse et herméneutique*, edited by Éditions du Seuil [Paris: Éditions du Seuil, 1971], 70-71, 73). According to LaCocque, “it is a mistake to oppose the two ‘versions’ of creation in the first chapters of Genesis. P, to whom we owe the Pentateuch as actually transmitted, prefaced it with Genesis 1-2:4 in full knowledge of the J version in Genesis 2ff. We have seen above what P had in mind. The myth of Genesis 1 is meant to relate narrative to ritual, in parallel with the old Mesopotamian *Enuma Elish*, for example. By contrast, Genesis 2-3 is simply narrative, a story. Its role is pedagogical and explanatory, rather than restorative as in myth and ritual. With J’s etiology of creation, we are still formally close to myth, but generically the distance from myth is considerable” (LaCocque and Ricoeur, *Thinking Biblically*, 10-11).

¹⁷ Ibid., 232-78; *SM*, 218-60.

‘ritual’ vision of the world,” “the wicked god and the ‘tragic’ vision of existence,” and “the myth of the exiled soul and salvation through knowledge.”¹⁸

To summarize, through relating these myths to one another, Ricoeur argues that the Adamic myth is unique because its eschatological vision of history offers an ultimate solution to what he calls “the concept of the servile will.” In the polytheistic creation myth human beings are bound to recapitulate the violent exploits of the creator gods in the realms of political conquest and religious ritual; in Greek tragedy the evil incurred and committed by people is fated by the gods and only assuaged through public spectacle and corporate catharsis, not forgiveness; in the Adamic myth the chaos to which Yahweh Elohim (Gen 2:4) brings order in “the beginning” of creation continues to threaten to encroach upon the primordial goodness of the world in the forms of natural hardship and the knowledge that the creation itself and human action can bring about both *tov vara*’—good and bad/evil; in the orphic myth of Platonism and Neo-Platonism, the human body is a double punishment for the exiled soul, forced to mingle with matter as a consequence for wrongdoing and bound to commit further evil in that state, resulting in cyclic re-incarnation. Only the Adamic myth and the eschatological vision of history forgoes the primordial mischief of the gods, affirms the goodness of material existence, and short circuits the penal cycle of life, death, and return.

Again, for all its staying power in Western culture as a purveyor of anthropological information and an eschatological vision of the future, the Adamic myth is for Ricoeur, the preeminent, dominant, or central myth of the four he analyzes. Because the three other myths influence various canonical books of Christian Scripture, Ricoeur creates a metaphor in which “[t]he cycle of the myths can be compared to a

¹⁸ Ibid., 175-210, 211-31, 279-305; *SM*, 167-98, 199-217, 261-84.

gravitational space, in which masses attract and repel each other at various distances.”¹⁹

By gaining a controlling influence over its conceptual satellites and by shedding light upon them, the Adamic myth encompasses the center of gravity of this mythic solar system.

At the same time, and to step with Ricoeur beyond his original metaphor, stars emit light because their cores undergo nuclear fusion. Likewise the core concepts of the Adamic myth must fuse with others as this star ages, in order to continue to provide a hospitable environment for human life, as it evolves. As new and valid modes of human self-understanding inform how persons understand and live out of the traditional symbols of the Adamic myth, they enter, through criticism, the realm of second naïveté. Through interpretation, these ancient symbols continue, as Hefner has alluded, to remain “important vessels of information” for Christian theology, able “to provide genuine knowledge of reality for the sake of our wholesome living.”²⁰

Beyond this pragmatic potential, Ricoeur’s insights also imply that the biblical cosmology and anthropology of the first few chapters of Genesis are themselves results of a critical interpretation and appropriation of extant religious mythology. While not a self-proclaimed critique, analysis, and synthesis of theological cosmology and anthropology inherited from inside and outside an Israelite religious community and its corporate religious experience, the opening chapters of Genesis comprise just such a body of sacred literature. Yet what these ancient writers and hearers gained through updating their mythology was a new primitive naïveté, not a second naïveté.

¹⁹ Ibid., 310; *SM*, 288.

²⁰ Hefner, “Biological Perspectives on Fall and Original Sin,” 100.

Acknowledging these hermeneutical differences, the fourth and fifth chapters of this study propose that the composition and redaction of this biblical material in the shadow of Mesopotamian cosmology and ideology sets a precedent for synthesizing elements of one's own canon of sacred literature among themselves and with external sources in order to construct a renewed theological vision of humanity, its origins, and destiny. Taking this approach reclaims, as Ricoeur explains, "the purpose of providing grounds for the ritual actions of [people] of today and, in a general manner, establishing all the forms of action and thought by which [humanity] understands [itself] in [its] world."²¹

Relying upon Gerhard von Rad's assessment of how established source material fed into the final composite narration of origins in Genesis 1-3, and acknowledging the influence ancient near eastern parallels apparently had on these passages in the historical-cultural context of their redaction, Ricoeur concludes that "the very idea of Creation emerges enriched from this kind of proliferation of originary events."²² Within this

²¹ Ricoeur, *The Symbolism of Evil*, 5; *SM*, 13.

²² LaCocque and Ricoeur, *Thinking Biblically*, 49; cf. Mark I. Wallace, *The Second Naiveté: Barth, Ricoeur, and the New Yale Theology* (Macon, Ga.: Mercer University Press, 1990), 42, 74. Ricoeur places a great deal of confidence in von Rad's thesis in *The Problem of the Hexateuch and Other Essays* and *Old Testament Theology*, vol. 1 that the "proliferation of originary events" that make up earlier and contemporary traditions of Israelite salvation history sets up a number of stages in a theology of redemption that culminates in a theology of creation in the myth of origins of Gen. 1:1-2:4a (see Ricoeur, "On the Exegesis of Genesis 1:1-2:4a," 129-34; cf. LaCocque and Ricoeur, *Thinking Biblically*, 31-34). That (*Yahweh*) *Elohim* has no celestial rivals and is the creator of the universe and humankind in general is a theological inference based on the conviction that *Yahweh* is the God of Abraham and Moses, of the promises of place, people, and provision. Beginning in the Patriarchal sagas, the continuum of biblical *Heilsgeschichte* shifts thematic focus from redemption to creation "in a concentric fashion," proceeding through hymnic passages such Psalm 136 and 148; Isa. 40:27-28; 44:24-28, then through passages about the act of creation as types or precursors to acts of redemption (Isa. 44:5; Psalm 89 and 74), to the notion that creation as a whole bears witness to divine wisdom (Psalm 8, 19, and 104; cf. Prov. 3:19; 8:22; 14:31; 20:12; Job 38) (Ricoeur, "on the Exegesis of Genesis 1:1-2:4a," 130-32). For von Rad and Ricoeur, Israel infers that (*Yahweh*) *Elohim* is the one who separates the primordial waters because "[t]he One who opened a way in the Red Sea is the same One who cut Rahab in pieces (Isa. 51:9f.]" (*Ibid.*, 131).

While current considerations presuppose the validity of this tradition-historical argument in broad strokes, they cannot afford to evaluate it in detail. Though the theme of creation as redemption and redemption as creation is important to this study, it surfaces mostly in the redactional and canonical

process of theological enrichment and refinement, Ricoeur identifies a hermeneutical “trajectory” (*trajectoire*) which, among other things, relativizes the role of violence in the divine acts of creating something from nothing, order from chaos, and liberation from oppression.²³ Acting as prologue to the Hebrew and Christian scriptures, Genesis 1 confers a vocation to humankind to act creatively and responsibly “in the image” of the creator, indicating the ethical import of the passage’s ideological trajectory.

The question now becomes, can current scientific understanding of human uniqueness also facilitate the emergence of an enriched and enriching understanding of the *image of God* and the *knowledge of good and evil* today? Both the biblical redactor(s) of Genesis and the scientist are asking the same kinds of questions, albeit with very different sets of data, tools, and purposes: “What is the state of things?” “How did they and we get this way?” “Where might this lead?” “Where can we go from here?” Of course, the ethicist, the theologian, the interpreter of Scripture is allowed a further question, for which scientists enable, even demand, new and ever-more intellectually honest responses today: “Where *ought* we to go from here?”

Ricoeur is satisfied to wager that the preeminence of the Adamic myth and the eschatological vision of history will be vindicated by its continued explanatory power concerning the human condition, provided that its theological anthropology is based upon a second naïveté understanding of Christianity’s myth-symbols. However, for Hefner a

relationship of Gen. 1:1-2:4a to 2:4b-3:24 within the historical-cultural context of the Babylonian captivity and/or the period leading up to it. Thus, In Ricoeur’s terms, the soteriological trajectory which aims at the theological cosmology of Genesis 1:1-2:4a sets up an expectation for God’s redemptive activity in the midst of exile. On this development, see chapters 4 and 5 below.

²³ LaCocque and Ricoeur, *Thinking Biblically*, 9; cf. Ricoeur, “Sur l’exégèse de Genèse 1,1-2,4a.,” 70-71, 73.

second naïveté understanding of these symbols must lend itself to a “genuine knowledge of reality” *and* “our wholesome living.”

Theologian Mark I. Wallace sees this ethical aim of biblical interpretation surfacing in Ricoeur’s later works and as “the true telos of a theological hermeneutic of the second naïveté [sic], what Ricoeur calls ‘putting the Word to work.’”²⁴ Effecting tectonic reformations in one’s symbolic worldview can be a bitter-sweet process of intellectual maturation. As Wallace implies, because the theological realism of a second naïveté understanding is “a self-corrective and always revisable realism,” living out of the biblical myth-symbols with integrity means living in constant tension with the symbolic world of the first naïveté and the facile immediacy of belief it once afforded.²⁵ Then again, perhaps the biblical writer(s) already knew this: “Then the eyes of both of them were opened, and they knew that they were naked” (Gen 3:7a). From “the beginning,” humankind has always faced the challenge to discern, test, and construe how powerful sources of wisdom and our abilities to interact with them are the ever-active epicenters of *tov vara*’—good and bad/evil.

There are other potential hazards associated with a second naïveté interpretation. First, in ecclesial settings where biblical language is often used without extensive interpretation, congregants and outsiders alike may mistake an informed teacher’s post-critical (second naïveté) understanding for pre-critical (first naïveté) belief. The danger in this example is to mistake interpretation for univocation. This interpretive pitfall goes by names like “literalism” or “fundamentalism.” Second, and because of this first danger, hearers or readers who are critically-minded may suspect a misleading sleight of hand in

²⁴ Wallace, *The Second Naïveté*, 124.

²⁵ *Ibid.*, 112.

the post-critical reappropriation of biblical language. Would it not be more prudent for scholars and preachers to exchange loaded symbols like *image of God* and *knowledge of good and evil* for something more precise and unambiguous like Hefner's *created co-creator*? The danger in this case is to view interpretation as mere equivocation and, in reaction, to exclude a potentially fruitful dialogue with and through the tradition's ancient and perennial symbols of self-understanding. Making good on Ricoeur's wager means avoiding both of these dangers by stating one's hermeneutical procedure and tracing the development of meaning through the garden of the first naïveté, the wilderness of the critical consciousness, and into the co-created symbolic world of the second, post-critical naïveté.

Convicting preaching and convincing scholarship share another commonality—they often prompt new modes of thinking and action. One can hear echoes of Hefner's intellectual and ethical “challenge”²⁶ to the theologian in the work of theological ethicist James Gustafson, as he issues the following hermeneutical and meta-ethical claim in his monograph exploring the “intersections” of science, theology, and ethics. While Gustafson argues that the natural sciences and theology share criteria for truthfulness that “are basically coherent in [their] internal structures,” theological anthropology and ethics bear an additional burden of truthfulness beyond the coherence and comprehensiveness provided by empirical consistency, predictability, and theoretical adequacy.²⁷ In comparing the relative procedures and approaches of theologian Reinhold Niebuhr with those of anthropologist Melvin Konner, Gustafson concludes that the “bottom-up” insights of the sciences can point to and inform—but not produce or reduce—the “top-

²⁶ Hefner, *The Human Factor*, xv.

²⁷ Gustafson, *Intersections*, 29.

down” explanations of ethics and theology—of ought-ness and of an ultimate reality to which human agency may be accountable.²⁸ Thus, beyond the requirement of explanatory power, and along with Hefner, Gustafson appeals to a second criterion for the truthfulness of an anthropologically- and scientifically-based theological ethics that draws its explanatory power from a rejuvenation of myth-symbols.²⁹ Hefner calls this second criterion “wholesomeness,” while Gustafson employs the term “moral outcome” in like manner:

[Niebuhr’s] main resources for truth-bearing ideas and insights are the Bible and selected figures in Christian theology. Those on which he draws are used often for their mythic qualities, that is, their capacities to disclose fundamentally real and presumably universal aspects of human life and action. Thus, in a sense, they heuristically disclose the realities of experience. We get to the circularity I indicated earlier, namely that faith illumines experience and is in turn validated by experience. Thus “experience” also becomes “data” disclosed by Christian myths and concepts, and the data validate their use. The Bible makes no hard claims for special supernatural revelation, nor for what we might call “empirical studies” of experience. The objective seems to be clear; the persuasiveness of the account is confirmed by its disclosive power as it issues in a deeper understanding of the human and guides human action. *A further test is the moral outcome*—in political, economic, and other effects—of the actions that it guides.³⁰

While creating another avenue for intellectual honesty through critical reflection, this second criterion for truthfulness produces a second potentially vicious hermeneutical circle. The test of moral outcome begs the questions, “What counts as a positive moral outcome? And for whom?” “What is ‘our wholesome living’?” “And who is the ‘we’ of this ‘our’?” The sixth chapter of this study aims to tackle these very questions through a

²⁸ Ibid., 17-29; cf. 86-109, 126-47.

²⁹ Hefner and Gustafson share the conviction that the truth value of normative claims in theological ethics are subject to the twofold criteria of explanatory power and positive moral impact. They make reference to one another’s work in making this point, perhaps implying mutual influence in addition to agreement. See James Gustafson, *Intersections: Science, Theology, and Ethics* (Cleveland: Pilgrim Press, 1996), 7, 102-03, 105, 108, 137-38; cf. Hefner, *The Human Factor*, xvi, xv, 217, 294-95.

³⁰ Ibid., 28-29; emphasis mine.

second naïveté understanding of the *image of God* and the *knowledge of good and evil*, described in terms of negative contrast experience, foundational moral experience, and mimetic desire. Additionally, the concept of “epistemological privilege” and criteria for ascribing it will guide responses to questions of who might provide the most adequate visions of wholesome living and the actions required to promote it equitably.

Present status of the problem

While Hefner proposes “a theory of the created co-creator” aimed at satisfying both of these truth criteria, and while he explicates what he means by both “explanatory power” and “wholesomeness,” he does little more than

suggest that the meaning of [certain] packets of [scientific] information can be understood only in myth. The reason for this state of hermeneutical affairs is clear: Trans-kin altruism is not simply a scientifically puzzling phenomenon, nor a regrettably neglected virtue; it is a central symbol and ritual of what human beings should be doing with their lives, the symbol and ritual which, above all others, governs the behavior of the created co-creator.³¹

In other words, the natural sciences reach the limits of their expertise when encountering the phenomenon that increasing the reproductive fitness of someone who is not a close genetic relative (i.e., a “genetic competitor”) garners social acceptance and admiration, while jealously looking out for the welfare of only oneself and one’s kin is often subject to social disapproval and sanction.³²

Natural scientists, within the limits of their disciplines, cannot offer evaluative or normative claims about human action. Yet for Hefner and Gustafson, both truth criteria of explanatory power and moral outcome are adapted from those operative in the current

³¹ Hefner, *The Human Factor*, 248.

³² *Ibid.*, 198-99.

sciences.³³ Hefner patterns his theory of the created co-creator on a model for establishing scientific theories and paradigms gleaned from the works of Imre Lakatos, Nancey Murphy, Karl Popper, and Thomas Kuhn, offering primary and auxiliary hypotheses, data, and evidence to establish the plausibility of his theological theory and its commensurability with current science.³⁴ Interdisciplinary scholar and Templeton Prize winner Ian G. Barbour summarizes the four criteria for evaluating scientific theories: (1) an agreement with the data which enables predictive success with novel data; (2) internal and external coherence strengthened by conceptual interconnection with other accepted theories; (3) comprehensiveness of scope or generality; and (4) fertility in providing a framework for ongoing research and practical application.³⁵ Together, the first three of these distill into the criterion of explanatory power, the fourth is adapted to that of moral outcome, which Hefner terms “fruitfulness” or the ability to promote “wholesomeness.” The fertility or fruitfulness of created co-creator theory is not that of pure science leading to technological advancement, but of human self-understanding leading to cultural developments proffering and promoting humanizing visions of wholesomeness for all creation.

Since such ethical visions are not self-evident, as “a basis for beginning to reflect upon values,” Hefner states what he calls a “teleonomic axiom,” holding that “[t]he structure of a thing, the processes by which it functions, the requirements for its functioning, and its relations with and impact upon its ecosystem form the most

³³ See *ibid.*, 12-13: “[T]he truth power of the scientific story does not include any firm knowledge about the empirical validity of our personal, social, national, and religious assumptions about the meaning and purpose of human existence.” Cf. Gustafson, *Intersections*, 16-34, 86-96, 102-103.

³⁴ Hefner, *The Human Factor*, 23-51.

³⁵ Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper Collins, 1997), 109-10; cf. 158-61.

reasonable basis for hypothesizing what the purpose and meaning of the thing are.”³⁶

Here is the gateway through which Hefner begins to “lay the groundwork for a pragmatic criterion of truth” for his theory in terms of present and future wholesomeness.³⁷

If “wholesomeness” is defined as that which is “empirically discernible as in some manner beneficial” to nature,³⁸ and if Hefner is correct that working toward wholesomeness is intrinsically human and humanizing, there is arguably a “need for a second naïveté [sic] among contemporary men and women that can appropriate myth and ritual as the first naïveté [sic] did millennia ago.”³⁹ This second naïveté would provide the cultural explanations, motivations, and justifications necessary for engendering ethical behavior, especially when such behavior defies that predicted by natural scientific accounts of human nature and the explanatory power these explanations provide. Further, if Hefner is right in surmising “that altruism beyond kin is transmitted culturally, not genetically, and that religious traditions are the chief carriers of this value,”⁴⁰ then, he asks, are new intellectually and ethically credible myths required to accomplish the cultural functions that religious myth and ritual once did, “[o]r are the old myths to be appropriated through critical analysis and reinterpretation, as Ricoeur and others propose?”⁴¹

According to the second truth criterion of moral outcome, a mythic human self-understanding is falsified if it is unable to recognize, construe, and promote the wholesomeness of human persons and their natural and cultural environments in the

³⁶ Hefner, *The Human Factor*, 40.

³⁷ Ibid., 40, 41; cf. 49-51.

³⁸ Ibid., 60-61; cf. 41-42.

³⁹ Ibid., 204-05; cf. 187-89.

⁴⁰ Ibid., 192.

⁴¹ Ibid., 205; cf. 213-14.

present and future.⁴² In competing for viability, myths or second naïveté understandings of them must be both intellectually and ethically satisfying to the greatest possible degree. A lack in intellectual viability implies a lack in ethical viability and vice versa. In theological terms, this requirement is the mutual entailment of orthodoxy and orthopraxy, involving a hermeneutical circle on which neither aspect is self-evident, and both require constant testing and self-critical assessment within a community of religious adherents—i.e., faith seeking understanding. I share Hefner’s thesis that the Christian myth and some of its most integral symbols are able to produce a theological anthropology and ethics able to satisfy both truth criteria with integrity, plausibility, and commensurability among secular and other religious perspectives alike.

However, Hefner’s created co-creator theory is not, strictly speaking, a second naïveté interpretation of the *image of God*. While Hefner incorporates an understanding of the *image of God* into his created co-creator theory, he does so as a kind of variation on a broader anthropological theme.⁴³ He mentions that his understanding of the human person as created co-creator is an “interpretation of the image of God,” but he does not rely on biblical scholarship to the same extent or in the same way as this study.⁴⁴ Hefner’s relative lack of engagement with exegetical sources may be due in part to the limited aims of his research and in part to the interpretive difficulties presented by Gen. 1:28 and the anthropocentric spirit in which it has traditionally been read.⁴⁵ This verse describes humankind’s God-imaging purpose in terms of “filling,” “subduing,” and “ruling over” the earth, which now faces a state of ecological crisis due mainly to human

⁴² Ibid., 60-61; cf. 18, 23-25, 32, 33-34, 50, 203-04, 242-43, 258, 260-61.

⁴³ Ibid., 237-40.

⁴⁴ Ibid., 273.

⁴⁵ Ibid., 9, 38, 98, 196, 239.

proliferation, pollution, and consumption. Ironically, by taking little time to reframe these biblical commands, Hefner neglects to clarify how his created co-creator theory avoids their seemingly anthropocentric and paternalistic thrust. I engage both of these issues in chapters 4 through 6, arguing that these commands do not support human activity leading to ecological degradation and that the God-imaging co-creation to which Hefner refers is best understood as humankind's non-coercive co-operation with the nonhuman world and one another for the benefit of all people, all other species, and the planet on which we have co-evolved.

While Hefner holds that his understanding of the *image of God* must incorporate the notion that moral knowledge and responsibility, in all their ambivalence, are intrinsic to and co-emergent with this *image*, my analysis goes further, integrating of the myth-symbols of the *image of God* and the *knowledge of good and evil* within a second-naïveté interpretation based as much in biblical scholarship as scientific understandings of human uniqueness.⁴⁶ Additionally, though Hefner hypothesizes that a “concept of ‘wholesomeness’ is both unavoidable and useful as criterion governing the behavior of human beings within their natural ambiance, as they consider what their contribution to nature should be,” he goes little past the point of acknowledging that the concept of wholesomeness is an “ambiguous criterion,” “open to scrutiny,” which “must be forged through consensus.”⁴⁷ Beyond this word of caution, but keeping it ever in mind, I construct an interpretation of the *image of God* and the *knowledge of good and evil* that portrays these concepts as conditions of possibility for constructing and evaluating such a consensus within Christian ethical discourse and among religious and secular ethical visions.

⁴⁶ Ibid., 240-41.

⁴⁷ Ibid., 42.

At the exegetical level, and for historical-critical, literary, philosophical, and sometimes scientific reasons, many biblical scholars and theologians relate the concepts of the *image of God* and the *knowledge of good and evil* by construing the latter as a quintessential aspect of the former. These scholars include J. F. A. Sawyer, Andreas Schüle, Phyllis A. Bird, Douglas John Hall, J. Wentzel van Huyssteen, Philip Hefner and, to a certain extent, William N. Wilder. For some Christian scholars, the *knowledge of good and evil* completes the *image of God* and/or presents a condition of possibility for its continuing completion in history, in anticipation of its eschatological completion in the person of Jesus Christ and the everlasting existence promised by and through him. Because an evolutionary view of humanity supports the inference that the *knowledge of good and evil* is a *conditio sine qua non* for bearing the *imago Dei* with freedom and responsibility, a biocultural understanding of the human condition and our dis-ease with it presents a significant development in the frameworks and frontiers for constructive work in Christian ethics. While much of the scholarship cited in this study acknowledges this trajectory, it does not venture far beyond this point, leaving a waypoint for future explorers.

Many scholars have dealt masterfully with some aspects of this problem, but none yet have ventured to fulfill Hefner's call in his terms or along the trajectory proposed here. For instance, Hefner, biblical scholar John Baker,⁴⁸ and theologians Edward Farley,⁴⁹ Jerry D. Korschmeier,⁵⁰ and F. LeRon Shults,⁵¹ all suggests ways in which the

⁴⁸ John Baker, "The Myth of Man's 'Fall': A Reappraisal." *Expository Times* 92 (1981): 235-37.

⁴⁹ Edward Farley, *Good and Evil: Interpreting a Human Condition* (Minneapolis: Fortress Press, 1990).

⁵⁰ Jerry D. Korschmeier, *Evolution and Eden: Balancing Original Sin and Contemporary Science* (New York: Paulist Press, 1998).

⁵¹ F. LeRon. Shults, *Reforming Theological Anthropology: After the Philosophical Turn to Relationality* (Grand Rapids: William B. Eerdmans Publishing Company, 2003), 189-216.

doctrines of *fall* and *original sin* ought to be reformulated in light of both exegetical and scientifically-informed notions of the *knowledge of good and evil*. Yet none of these scholars develops an understanding of the *knowledge of good and evil* as a fundamental starting point for theological ethics.

Van Huyssteen interfaces theological exegesis pertaining to the *image of God* with contemporary paleoanthropological portraits of human uniqueness. However, he only hints at how the *image of God* relates to the *knowledge of good and evil* in historical-critical exegesis and theological anthropology and does not relate these considerations to fundamental Christian ethics.⁵²

Contemporary biblical scholars Sawyer and Schüle have argued convincingly that the *knowledge of good and evil* mentioned in Genesis 3:5, 22 is part and parcel of the *image and likeness of God* first mentioned in 1:26-28, but they have not brought their exegetical findings into the realm of contemporary theological understanding or interfaced their insights with scientific scholarship.⁵³

None of these scholars mentioned constructs systematic theological portraits of the *image of God* and the *knowledge of good and evil* in terms of second naïveté understanding. Hefner, Van Huyssteen, and Hall produce articles, chapters, or books that fulfill the basic function of developing a second naïveté understanding, but none adopt the term as a guiding hermeneutical principle or fully share or develop the hermeneutical procedure proposed here. Further, these thinkers give relatively little, if any, attention to

⁵² Van Huyssteen, *Alone in the World?*, 123, 135-36, 143, 155, 158, 160, 274, 315, 325.

⁵³ J. F. A. Sawyer, "The Image of God, The Wisdom of Serpents, and the Knowledge of Good and Evil," in *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer (Sheffield: JSOT Press, 1992), 64-73; Andreas Schüle, "Made in the 'Image of God': The Concepts of Divine Images in Gen 1-3," *Zeitschrift für die Alttestamentliche Wissenschaft* 117.1 (2005): 1-20.

the *knowledge of good and evil*, which precludes a systematic integration of this concepts with that of the *image of God*. Responding to Hefner's challenge in the manner indicated adds both new structure and content to constructive theological scholarship addressing the interrelated, pressing, and perennial questions of human uniqueness and how such considerations inform ethics, how the descriptive affects the prescriptive, how our "is" informs our "ought."

Hermeneutics of emergent meaning

This attempt to traverse the thorny path from "is" to "ought" via a second naïveté understanding the *image of God* and the *knowledge of good and evil* takes hermeneutical direction from the field of cognitive linguistics, particularly from the concept of "double-scope conceptual integration" or "blending" found in the works of Gilles Fauconnier and Mark Turner. The integration of natural scientific, biblical-critical, and theological concepts blended to produce a second naïveté interpretation of the *image of God* and the *knowledge of good and evil* can be modeled as a broad-spectrum example of double-scope conceptual integration, in which the conceptual domains of non-reductive evolutionary science and biblically-based theological understanding frame one another "to provide genuine knowledge of reality, for the sake of our wholesome living."⁵⁴

Notably, Hefner also calls this intra- and interdisciplinary connectivity "conceptual integration" or "vertical integration," borrowing these terms from evolutionary psychologists Leda Cosmides and John Tooby.⁵⁵ Hefner's reliance on the work of these scientists is significant for three reasons. First, standing at the forefront of evolutionary psychological research, Cosmides and Tooby's work plays a significant role

⁵⁴ Hefner, *The Human Factor*, 142.

⁵⁵ *Ibid.*, 18, 263.

in the following chapter. Second, the notion of “conceptual integration” is a key term in the hermeneutical procedure adopted here and the uniquely human abilities that make it possible, as theorized by Fauconnier, Turner, and other cognitive linguists.⁵⁶ Third, according to these scientists, the cognitive-linguistic capacity for conceptual integration contributes to the creation of new meanings, allowing for new modes of free and responsible human action—the same host of capacities and activities I argue to be central to any current understanding of the *image of God*.

By weaving careful and intricate interdisciplinary connections of this type, this study represents an “integration” of theological and natural scientific thought tantamount to what Barbour calls a “theology of nature.”⁵⁷ Barbour explains a theology of nature “starts from a religious tradition based on religious experience and historical revelation. But it holds that some traditional doctrines need to be reformulated in the light of current science,” where theological and scientific concerns overlap.⁵⁸ A theology of nature dovetails the disciplines of science and theology, while maintaining a relationship of nonreciprocal dependence. Science is able to inform—though not circumscribe—the course and content of theological scholarship, while divine agency is not a causal factor—a “God of the gaps”—in any scientific explanation of natural phenomena. This interdisciplinary procedure involves consulting non-reductive sources of scientific knowledge as resources for theological and ethical discourse. Yet, the theological concepts that emerge from the synthesis of sacred and secular sources are not reducible to their scientific meanings. The flipside of gaining a second naïveté interpretation of

⁵⁶ While the definition of conceptual integration Hefner gleans from Cosmides and Tooby is not identical to that of Fauconnier and Turner, the former pertains to large-scale examples of the latter, which occur between and among academic disciplines.

⁵⁷ Barbour, *Religion and Science*, 98-105.

⁵⁸ *Ibid.*, 100.

biblical symbols is gaining a theological understanding of scientific data. Here again, interpretation must distinguish itself from both univocation and equivocation. The *image of God* is no mere cipher for the epigenetic outcomes of biocultural evolution. The *knowledge of good and evil* is not just another term for the conscientious awareness that many circumstances and behaviors contravene the flourishing or wholesomeness of oneself, other persons, other species, and their environments.⁵⁹

At the same time, the nonreciprocal dependence of theology and ethics upon science in their integration does not preclude the possibility of reciprocal influence. Like mentality emerging from the metabolic activity of the human brain-body, and through this causally efficacious dynamic, values-laden cultural meanings emerge from the “bottom-up” to supervene upon thought and action from the “top-down.” Through blending, novel concepts emerge to constrain behavior. Ethical and sometimes even religious concerns guide the course and conduct of pure and applied scientists and their academic communities who depend on these supervening cultural considerations to give their work purpose, meaning, direction, and accountability. For Cosmides and Tooby, herein lies the reason that conceptual integration among disciplines is “vertical integration.” Information is often only relevant or usable in one direction between disciplines or specialties. Biology depends on chemistry, which depends upon quantum physics, which depends upon mathematics. Similarly, when integrated with scientific understandings of human

⁵⁹ While avoiding any conflation of the theological and scientific disciplines, I also heed Barbour’s advice to the non-expert in the natural sciences to draw from broad and widely accepted features and sources of science. This practice safeguards against the danger of building a proverbial house upon the sand, where scientific data or theories are not fully comprehended or are at risk of losing credibility within the scientific community (*Religion and Science*, 101). At the same time, my research appeals to scholars in the scientific fields conducting firsthand peer-reviewed research, including evolutionary biologist Francisco Ayala, evolutionary psychologists Leda Cosmides and John Tooby, Edward Hagan, and John Skoyles, cognitive linguists Gilles Fauconnier, Mark Turner, George Lakoff, and Mark Johnson, and paleoanthropologist Ian Tattersall.

uniqueness, new ethical and theological meanings emerge from the bottom-up, changing the landscape and horizons of thought and action for people of faith.

More technically speaking, conceptual integration or blending projects and merges meanings from two or more packets of conceptual information Fauconnier and Turner call “mental spaces,” in order to frame and fill a new mental space called a “blend.”⁶⁰ This cognitive activity is creative, in that blended mental spaces often display emergent structure—conceptual relations, and thus meanings, which are not available in any of the input mental spaces, and are not predictable from them.⁶¹ The creation of new meanings is a dynamic mental process of composing, completing, and elaborating blends. According to Fauconnier and Turner, “composition” is the result of projecting conceptual meanings from input mental spaces, “completion” is the act of structuring and constraining conceptual relations through “independently recruited frames and scenarios” extrinsic to the input spaces, and “elaboration” is the result of “running [the blend] imaginatively according to the principles that have been established for the blend.”⁶² At the cognitive level, the emergent structure of conceptual blends is the neurologically-based dynamic domain of all semantic meanings, including the generative grammar which relates them. Meaning is a dynamic mental process which words serve to prompt, not a property of words, symbols, sentences, or objects themselves.

⁶⁰ Gilles Fauconnier and Mark Turner, *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities* (New York: Basic Books, 2002), 40, 47.

⁶¹ Ibid., 42-49; cf. “The Origin of Language as a Product of the Evolution of Modern Cognition,” in *Origin and Evolution of Languages: Approaches, Models, Paradigms*, edited by Bernard Laks et al. (London; Oakville: Equinox, 2008), 133-35; “Principles of Conceptual Integration,” in *Discourse and Cognition: Bridging the Gap*, edited by Jean-Pierre Koenig (Stanford, Cal.: CSLI Publications: 1998), 269-73, 278-82; “Rethinking Metaphor,” in *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs (New York: Cambridge University Press, 2008), 53-55.

⁶² Fauconnier and Turner, *The Way We Think*, 48.

Fauconnier and Turner have identified four types of blending capacity which yield the conceptual integration networks that transform the material universe into our symbolic universe: “simplex,”⁶³ “mirror,”⁶⁴ “single-scope,”⁶⁵ and “double-scope.”

Because complex single-scope and double-scope blends often project meanings from very different kinds of behavioral domains, the act of conceptual integration often involves various levels of compatibility and clash among projected meanings.

Remarkably, however, our brain-minds accomplish a smooth running of these blends by deleting or even modifying ill-fitting elements, usually without any conscious effort.⁶⁶

⁶³ According to Fauconnier and Turner, simplex networks are those for “which human cultural and biological history has provided an effective frame that applies to certain kinds of elements as values, and that frame is in one input space and some of those kinds of elements are in the other input space” (*The Way We Think*, 120). The statement, “Jason is the father of Quinton” represents a simplex network of family relations which frames the two male values, “Quinton” and “Jason,” according to the projected roles of father and son. The projection of framing elements and values is direct and reflects the kind of truth-conditionality often expressed in the supposedly prototypical semantic form of first-order Fregean logic (*ibid.*). However, simplex conceptual integration networks are not always so simple in their meaning. Recall that completing a blend often involves recruiting framing and building materials from other mental spaces. The simplex networks represented in the statements, “Joseph was the father of Jesus,” “The Pope is the father of all Catholics,” “The Pope is the father of the Catholic Church,” and “George Washington is the father of our country” all involve running more than one kind of blend simultaneously, with little or no conscious thought (140-41).

⁶⁴ In mirror networks all mental spaces involved share a single organizing frame (*The Way We Think*, 47). Sharing this organizing frame is how the input spaces mirror one another in achieving a blend (123). To illustrate this type of blending, Fauconnier and Turner recount a riddle in which a “Buddhist Monk begins at dawn one day walking up a mountain, reaches the top at sunset, meditates at the top for several days until one dawn when he begins to walk back to the foot of the mountain, which he reaches as sunset” (39). They go on, “Make no assumptions about his starting or stopping or about his pace during the trips. Riddle: Is there a place on the path that the monk occupies at the same hour of the day on the two separate journeys?” (*ibid.*). Fauconnier and Turner suggest discovering the solution by imagining the Monk taking both journeys on the same day (122-26). With both journeys framed by this albeit impossible scenario, the solution emerges in the blend. One does not know where it would happen, but one knows that at some point along the path, the Monk would have to run into himself, as it were.

⁶⁵ Fauconnier and Turner define single-scope blending as integrating “two input spaces with different organizing frames, one of which is projected to organize the blend” (*The Way We Think*, 126). Many metaphors utilize single-scope blends to prompt inferences across domains of meaning that are more and/or less well-known. As Fauconnier and Turner suggest, “The scenario of two men boxing gives us a vibrant, compact frame to use in compressing our understanding of two CEOs in business competition. We say that one CEO landed a blow but the other recovered, one of them tripped and the other took advantage, one of them knocked the other out cold” (*ibid.*). One input space is that of economic competition; the other is of a boxing match. The identities involved are projected from the CEO space, but the relations of role and causation are framed only by the boxing space. Without delving into the perhaps unfamiliar terminology of corporate transactions, the blend achieves the intended meaning via a more concrete conceptual domain.

⁶⁶ Fauconnier and Turner, *The Way We Think*, 125.

For example, the metaphor, “We’re getting over a hurdle” represents a single-scope blend in which two people’s relational difficulties and their efforts to surmount them are framed by a track and field domain. In making sense of this deceptively simple metaphor, one generally negates the aspect of competition from the framing material and disregards that fact that racers do not clear hurdles in pairs. Without realizing it, we compress the identities of the partners into a single hurdler intent on reaching a goal quickly, though not necessarily before others do.

Conceptual clashes occur even more frequently in double-scope blending, which involves two or more “inputs with different (and often clashing) organizing frames as well as an organizing frame for the blend that includes parts of each of those frames and has emergent structure of its own.”⁶⁷ An example of double-scope conceptual integration operates in the metaphor, “This surgeon is a butcher.” As Fauconnier and Turner note, to make the inference that this is a pejorative statement, one must be able to blend automatically the neuro-cognitive structures involved in the conceptual frames of both surgery and meat-carving. The metaphor “underscores the clumsiness of the surgeon and its undesirable effects.”⁶⁸ However, neither clumsiness nor undesirable effects are found the conceptual frames of either meat-carving or surgery. Both butchers and surgeons can be quite skillful, organized, and sanitary, producing desirable results through their efforts. Both professions involve the cutting of body tissue in precise ways, implementing sharp steel instruments, and wearing similar clothing when doing so. Yet when the blended space of the metaphor is framed by the setting, characters, and purposes of surgery along with the tools, methods, and purposes of butchery, clumsiness and its detrimental

⁶⁷ Ibid., 131.

⁶⁸ Fauconnier and Turner, “Principles of Conceptual Integration,” 279.

(perhaps even fatal) consequences emerge in this double-scope blend.⁶⁹ This integration of concepts creates meaning that is distinct from and not reducible to any meaning contained in or predictable from the originating conceptual frames.

At the same time, emergent meanings like these are dependent upon pre-blended meanings and do not negate or re-signify these concepts within their original cognitive domains. By analogy, theologians are able to reframe scientific and theological concepts by means of one another, though not in a manner which projects theological meanings into scientific discourse (or natural scientific meanings into biblical narrative). A theology of nature perspective which introduces second naïveté understandings of theological formulae reframes doctrinal concepts scientifically and scientific concepts theologically. Another way of describing the relationship of nonreciprocal dependence in this kind of large-scale double-scope blending is that natural scientific understandings gain theological significance within theological discourse, not scientific discourse.

Double-scope blending is a powerful hermeneutical tool in the present case for at least three reasons: (1) its explanatory power for analyzing the creation of new meanings at the cognitive-linguistic level;⁷⁰ (2) its ability to facilitate this analysis across vastly different conceptual domains such as the natural sciences, biblical studies, and Christian theology, anthropology, and ethics; and (3) its ability to locate an empirically testable locus of human uniqueness with potentially monumental implications for biblically-based Christian anthropology and ethics. If double-scope conceptual integration is vital to the

⁶⁹ Ibid.; cf. Lakoff, “The Neural Theory of Metaphor,” 32-33.

⁷⁰ As the lynchpin of a scientific theory for understanding the origin and operation of uniquely human forms of symbolization, including language, the concept of double-scope conceptual integration is testable by all four criteria of theoretical adequacy or truth listed above—agreement with the data and predictive success with novel data, internal and external coherence strengthened by conceptual interconnection or integration with other accepted theories, comprehensiveness of scope or generality, and fertility in providing a framework for ongoing research and practical application.

human ability to create new meanings, and if there is any viability to Hefner's insight that human beings image God as free and responsible creators of meanings, this way of accounting for *Homo sapiens*' meaning-making capacities may also be a very fruitful way of understanding the origins and development of the image of God and the knowledge of good and evil as our shared human condition and the myth-symbols aimed at helping us to understand it.

Furthermore, a hermeneutical procedure for constructing second naïveté understanding of myth-symbols that is grounded in conceptual integration theory is well-suited for both the synchronic and diachronic aspects of such an endeavor. Hermeneutical analysis in terms of (double-scope) conceptual integration can locate and evaluate ways of bringing together sources from multiple contemporary disciplines and the findings of historical-critical scholarship in order to construct a second naïveté understanding of the *image of God* and the *knowledge of good and evil* as an anthropological framework with the ability to reframe ethical discourse, as well.

The following illustration is adapted from Fauconnier and Turner's "basic diagram" for visualizing the cognitive process of conceptual integration.⁷¹ I have added explanatory notes in parentheses to label the elements of Fauconnier and Turner's diagram on the left. On the right I have filled out conceptual integration diagram to show in simple terms how Hefner's created co-creator theory may be interpreted as a blended, second naïveté understanding of *Homo sapiens*' bioculturally-constituted uniqueness. Chapter 4 below contains more detailed diagrams illustrating some of the salient conceptual elements that go into explaining what it might mean to emerge in the image of God with a knowledge of good and evil.

⁷¹ Fauconnier and Turner, *The Way We Think*, 46.

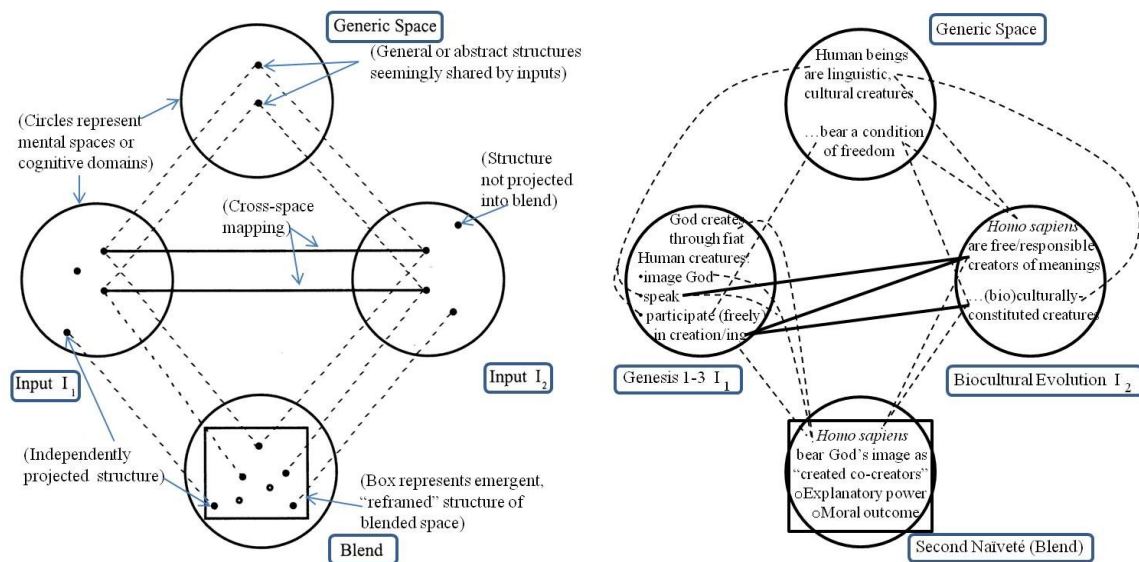


Figure 1: (Double-Scope) Conceptual Integration "Basic Diagram"

In a sense, the hermeneutical procedure illustrated in figure 1 has been around as long as language itself and is just as transparent—and opaque—as linguistic ability. Though double-scope conceptual integration is the most complex form of blending Fauconnier and Turner have identified, they propose that without this mental capacity, our species would never have developed language, not even a “simple” language utilizing only less complex forms of blending capacity. By extension, they hypothesize that the related cultural singularities of “art, music, science, fashions of dress, dance, mathematics,” ethics, politics, economics, religion, etc. would never have emerged, because these all “precipitate as products of Double-Scope conceptual integration.”⁷² With these behaviors emerge everything considered to be unique about human-being. Because the concepts of the *image of God* and the *knowledge of good and evil* are, in part, statements about human uniqueness, a relatively detailed cognitive linguistic

⁷² Fauconnier and Turner, “The Origin of Language,” 133.

account of the origin, evolution, and operation of linguistic ability over the next several pages is warranted for several reasons.

First, an evolutionary account of the emergence of blending capacity situates human uniqueness within the developmental continuum shared by all life on earth, implying that the image of God and the knowledge of good and evil are of a piece with the rest of the creation. Second, as an explanation of how language and its meanings emerge and evolve, conceptual integration theory constitutes a general hermeneutic applicable across disciplines, including the natural sciences, biblical studies, theology, and ethics. Third, the biblical concepts of the *image of God* and the *knowledge of good and evil* and any interpretation of them are the results of conceptual integration. And fourth, as I argue in various way throughout each of the following chapters, the human ability and necessity to create and live together responsibly within a symbolic world of meanings resides at the heart of what it means and has always meant for *Homo sapiens* to bear the image of God with a knowledge of good and evil.

Evolutionarily speaking, the emergence of these self-defining and self-directing capabilities that would come to be associated with bearing the image of God developed rather suddenly and recently. According to Fauconnier and Turner, double-scope blending capacity accounts for why language is “an all-or-nothing” behavior, why it is not present in any other species, why if it is present at all it is present in abundance:

If the species has not reached the stage of Double-Scope blending, it will not develop language at all, since the least aspects of grammar require it. But if it has reached the stage of Double-Scope blending, it can very rapidly develop a full language in cultural time because it has *all* the necessary prerequisites for a full set of grammatical integrations.⁷³

⁷³ Ibid., 146; emphasis original.

The rapid development of linguistic ability in toddlers may illustrate this very phenomenon in the evolution of our species on a microcosmic scale. In their hypothesis for the origin of language, Fauconnier and Turner argue that double-scope conceptual integration is uniquely and constitutively human in that the emergence of this cognitive ability is intrinsic to the advent of behaviorally modern *Homo sapiens*.⁷⁴ If this cognitive ability is not afforded by the neurological infrastructure of the brain, the capacity for other forms of conceptual integration will not simply produce truncated systems of symbolization such as language. Why not? In Fauconnier and Turner's understanding:

There is every reason to think that some species are able to operate efficiently in separate domains of, say, tool use, mating, and eating without being able to perform these abstractions and integrations. If that is so, then grammar would be of no use to them, because they cannot perform the conceptual integrations that grammar serves to prompt. But couldn't they just have a simpler grammar? The only way they could have a simpler grammar and yet have descriptions in language for what happens would be by having separate forms and words for everything that happens in all the different domains. But the world is infinitely too rich for that to be of any use. Trying to carry around 'language' of that size would be crippling.⁷⁵

The ability to apply a relatively small vocabulary to a potentially limitless number of situations has a great deal to do with what is so astoundingly unique about human beings, especially because nearly all of us do it so effortlessly. This effortlessness can be illustrated in rereading the final sentence of the above quotation. Its eleven words prompt an efficient blending of many concepts from very different behavioral domains—language and carrying and object. Framing this blend requires projecting an imagined attempt to carry around a large, heavy object, which results in the “crippling” of the

⁷⁴ Ibid., 144-47; cf. 140-44. The following chapter offers further explanation concerning the distinction between “anatomically” and “behaviorally” modern *Homo sapiens*, especially where behavioral modernness stands as the threshold marking the advent of the single species van Huyssteen deems to be “fully human” (*Alone in the World*, 47-48, 60-67).

⁷⁵ Fauconnier and Turner, “The Origin of Language,” 144.

would-be carrier—an inability to either bear the object or move with it. Yet the object at issue is not a physical object at all, but “language.”

Another salient feature of this blend is that the framing cluster of concepts belongs to the domain of a physical activity. Conceptual thought and language are functions of the embodied human brain. Cognitive linguist George Lakoff even defines conceptual blends as “neural bindings across distinct structures.”⁷⁶ The most basic concepts, as the raw materials for forming conceptual blends, refer to commonplace sensory-motor phenomena that span all cultures. For Lakoff, certain blends belong to a class he calls “primary metaphors,” which are able to appertain to a number of more abstract and complex situations and expressions. One such primary metaphor is that “Difficulties are Impediments to Motion” toward a “destination,” which is the purpose or goal of the motion.⁷⁷ For Fauconnier and Turner, without double-scope blending, it would be impossible to compose and comprehend the statement, “Trying to carry around ‘language’ of that size would be crippling.” Containing an example of single-scope conceptual integration, this concise and clever turn of phrase makes a powerful case in point for the hypothesis that myriad concepts supposed to have literal or univocal significance in verbal representation are actually metaphors stemming from more basic sensory-motor experiences.

Lakoff and colleague Mark Johnson argue persuasively that from the most basic and intimate of human interactions to the most intellectual of discourses, many irreducible speech forms do not have domain-specific meanings, or their contextual meanings are unavailable apart from a projection of meaning from more basic domains of

⁷⁶ George Lakoff, “The Neural Theory of Metaphor,” in *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs (New York: Cambridge University Press, 2008), 23.

⁷⁷ *Ibid.*, 26-27.

experience and behavior. Much of human thought and language is made possible by broad-spectrum metaphors like “more is up,” “love is a journey,” and “affection is warmth.”⁷⁸ While many of these “metaphors we live by” could be described as single-scope blends, Fauconnier and Turner argue convincingly that the capacity for double-scope conceptual integration is a kind of top-down requirement for developing language and its regulatory grammar.

In double-scope blends, multiple input spaces play a role in framing the blend, giving shape and structure to new conceptual relations within the blended mental space. While not all blends are as complex as those involving double-scope conceptual integration, the criteria for assessing the truth value of any blend are the same. The meaning generated by its concepts and their relations must be found to be semantically proper, logically valid, and in accord with what is understood to be the case.⁷⁹ The new conceptual relations seeming to make sense of the reality construed by the conceptual integration are preserved in the blend. Those that do not are discarded or ignored. For Fauconnier and Turner, these conceptual relations constitute the grammar of the blend.⁸⁰

The reasons for depicting grammar in this way are many. For one, the definition of grammar as the *in vivo* cognitive relations among meanings in brain-based conceptual integration networks is testable by the four criteria of theoretical adequacy—explanatory and predictive power, internal and external coherence, comprehensiveness, and fertility or fruitfulness. That is, one can test (1) whether this construal of grammar fits and

⁷⁸ See George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago, 1980; with a new afterword, 2003); cf. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999).

⁷⁹ See Robert Masson, *Without Metaphor There Is No Saving God* (Leuven: Peeters Publishers, in press), 6, 66, 91.

⁸⁰ Fauconnier and Turner, “The Origin of Language,” 134, 144, 146-47, 150.

extends the data characterizing linguistic performance as an embodied cognitive function; (2) whether it coherently describes (within and among scientific disciplines) ways in which meanings arise and gain their structure, flexibility, and strength in the synaptic interconnections of the brain's neurons and neuronal regions, as in Lakoff's neural theory of metaphor;⁸¹ (3) whether conceptual integration theory and its typology of networks are able to apply this cognitive-linguistic definition of grammar to the simplest grammatical constructions as well as the most complex instances of analogy, metaphor, and metonymy, including those in science, art, and religion; and (4) whether conceptual integration theory is ripe for application in hermeneutics, interdisciplinary dialogue, and ethical and theological discourse.

The hermeneutics of constructing a second naïveté understanding of the *image of God* and the *knowledge of good and evil* developed here are designed to test these possibilities heuristically, by engaging in large-scale double-scope conceptual integration across disciplinary and historical-cultural distances and exploring the novel anthropological, ethical, and theological meanings and inferences that emerge from these efforts. To speak of human uniqueness in terms of bearing the image of God with a knowledge of good and evil as a natural result of biocultural evolution is to frame the findings of evolutionary sciences and related disciplines by the theological concepts of createdness, purpose, and wholesomeness. To speak of the myth-symbols of Genesis 1-3 as a fruitful interpretation of the results of biocultural evolution is to frame the concepts

⁸¹ Lakoff, "The Neural Theory of Metaphor," 17-38; cf. Lakoff and Johnson, *Metaphors We Live By*, 256-64. See n.193 below for an outline of the basic tenets of the neural theory of metaphor as an explanation of how the physical brain gives way to mindful and cultural meanings and how the mind and its meanings can affect the physical makeup and activity of the brain.

of the *image of God* and the *knowledge of good and evil* by concepts such as genetics, indeterminacy, emergence, natural selection, and adaptation.

In Fauconnier and Turner's conceptual integration theory, the projected and emergent meanings brought about by blending these conceptual frames do not result in mere equivocation or the erasure of original meanings. In this exercise of interdisciplinary conceptual integration toward a second naïveté understanding of biblical myth-symbols, scientific meanings remain, while gaining novel, organically related, and irreducible emergent meanings in theological anthropology and ethics. Likewise, ancient near eastern meanings remain, while gaining novel, organically related, and irreducible emergent meanings in contemporary Christian anthropology and ethics. As emergent, these new meanings are able to exert a whole-part or top-down influence, not in the sense of interdisciplinary conflation or anachronism, but to the extent that they present new conceptual frames for the perennial Christian symbols of human self-understanding and the beliefs and actions—the faith, hope, and love—that follow suit. The novel meanings that emerge from these newly-integrated conceptual frames open up new conceptual horizons for several areas of systematic theology—not only Christian anthropology and ethics, but also interrelated theological loci to which this study can only allude, such as doctrines of creation and divine action, Christology, “fall” and original sin, soteriology, and eschatology.

Whether in the creation of new meanings or the advent of new and more complex living structures and capacities, creation through “emergence” is integral to understanding what it means to have emerged in the image of God with a knowledge of good and evil. This statement resonates harmoniously with Hefner's suggestion that

“what is at the core of this analogy [of the *image of God*] today is the character of *Homo sapiens* as a free creator of meanings, one who takes action based on those meanings and is also responsible for those meanings and actions.”⁸² Amplifying this harmony means applying the concept of *emergence* to theological anthropology and ethics in both its ontological and epistemological-hermeneutical forms. Relating these two types of emergence through a biocultural model of human development means highlighting the additional point that these emergent realities are coadaptive. That is, the evolutionary emergence of the human brain-mind itself emerges into a conditioned but open-ended world of uniquely human meanings, invigorated by the willful creation of linguistic concepts and other forms of symbolic understanding, including scientific and religious understandings.⁸³ Imaging God is ontological and/because it is performative, involving the creation of new meanings that allow and call for genuinely novel, unpredictable, and irreducible forms of knowledge and agency. As a species of defined self-definers, human creatures are blessed and cursed with the task of deciding what our role in the world is and what its future will hold. For better or worse, constructing a second-naïveté understanding of the *image of God* and the *knowledge of good and evil* as mutually entailed symbols which frame what it means to exist and act as a free and responsible person is an exercise of created co-creation—of God-imaging agency and its dynamic, open-ended, and participatory nature. *Homo sapiens* have emerged with the unique

⁸² Hefner, *The Human Factor*, 239.

⁸³ If it is the case that the human brain-mind is the result of emergent complexification through natural selection, and if language and the conceptual integration processes allowing for it occur along interconnected bundles of neurons, it stands to reason that the ontological emergence of novel functioning and the epistemological emergence of new meanings are not only causally connected but structurally isomorphic in this case. While an intriguing possibility, more firsthand scientific research is needed.

ability to construe, and thereby constitute reality for themselves, in conditioned yet free and responsible ways.

This interconnection of human ontology, epistemology, and agency comes into clearer focus through juxtaposing the works of Fauconnier and Turner and emergentist Philip Clayton. For the former, conceptual blends gain emergent structure “in three (interrelated) ways:”

Composition: taken together, the projections from the Inputs make new relations available which didn’t exist in the separate inputs.

Completion: knowledge of background frames and cognitive and cultural models allows the composite structure projected in to the Blend from the Inputs to be viewed as part of a larger self-contained structure in the Blend. The pattern in the Blend triggered by the inherited structures is ‘completed’ into the larger, emergent structure.

Elaboration: the structure in the Blend can then be elaborated. This is “running the Blend.” It consists in cognitive work performed within the Blend, according to its own emergent logic.⁸⁴

This definition of emergent neuro-cognitive structures is parallel to Clayton’s outline of the features that define emergent physical and biological structures and the properties they display:

- 1) *Ontological physicalism*: All that exists in the space-time world are the basic particles recognized by physics and their aggregates.
- 2) *Property emergence*: When aggregates of material particles attain an appropriate level of organizational complexity, genuinely novel properties emerge in these complex systems.
- 3) *The irreducibility of the emergence*: Emergent properties are irreducible to, and unpredictable from, the lower-level phenomena from which they emerge.
- 4) *Downward causation*: Higher-level entities causally affect their lower-level constituents.⁸⁵

⁸⁴ Fauconnier and Turner, “Principles of Conceptual Integration,” 271; cf. 279, 282; “The Origin of Language,” 133-34; “Rethinking Metaphor,” 54-55.

⁸⁵ Philip Clayton, “Conceptual Foundations of Emergence Theory,” in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, edited by Philip Clayton and Paul Davies (Oxford,

According to this fourfold definition, emergent phenomena bear a supervenient causal influence upon the constituent parts, processes, and properties which constitute them. In complex systems, supervenient emergent dynamics like life and consciousness are the causally efficacious properties of the whole which are distinct from the simple sum of the properties of the parts. Irreducible realities require irreducible modes of explanation. Biological explanations transcend those of physics. Cultural explanations transcend those of biology. Theological explanations transcend those of purely empirical inquiry. These ascents in scale require new kinds of meanings to emerge.

In this vein Fauconnier and Turner's theory for the origin of language connects these two types of emergence, as does neuroscientist Terrence Deacon's recent work showcased in chapter 3 below. For these scientists, the creation of new meanings is an emergent phenomenon, a functional "singularity" made possible by the stepwise evolution of the human brain.⁸⁶ New kinds of meanings can emerge because a new kind of being has emerged—human-being.

Behaviorally modern human-being is a result of biocultural evolution. *Homo sapiens* are constituted, remarks Hefner, by two confluent streams of information: "The one streams 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."⁸⁷ In more general terms, traditional arguments over the relative influence of "nature" vs. "nurture" cast a false dichotomy. The emergence of behaviorally modern humanity has afforded a kind of free and responsible

Oxford University Press, 2006), 2; cf. Philip Clayton, *Mind and Emergence: From Quantum to Consciousness* (Oxford: Oxford University Press, 2004), 4.

⁸⁶ Fauconnier and Turner, "The Origin of Language," 141, 142, 146.

⁸⁷ Hefner, *The Human Factor*, 29.

“nature” entailing unprecedented capacities for “nurture,” including the abilities to predict the consequences of human actions, form value judgments, and choose among various courses of action.⁸⁸ Where the embodied and socially embedded human brain-mind is concerned, “More nature allows more nurture,” quip Cosmides and Tooby.⁸⁹

Evolutionary psychology (EP) is a natural-scientific research framework for analyzing the bioculturally evolved brain and its functioning. Much of what scientific and theological anthropology hold to be uniquely human relates directly to these aspects of human-being. For this reason, the following two chapters explicate how a biocultural model of human-being, colored by EP and framed by an emergentist perspective, is instrumental in developing a second naïveté understanding of the *image of God* and the *knowledge of good and evil* as a conceptual framework for guiding anthropological and ethical discourse and the actions they beget.

⁸⁸ See Francisco Ayala, “Evolution and the Uniqueness of Humankind,” *Origins* 27:34 (February 1998): 571. Here, evolutionary biologist Francisco Ayala lists the functional requirements for ethics as “(a) the ability to anticipate the consequences of one’s own actions; (b) the ability to make value judgments; and (c) the ability to choose between alternative courses of action.”

⁸⁹ John Tooby and Leda Cosmides, “Conceptual Foundations of Evolutionary Psychology,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 30.

CHAPTER 2

BIOCULTURAL EVOLUTION AND EVOLUTIONARY PSYCHOLOGY: INTEGRATING CONCEPTS

When evolutionary psychologists John Tooby and Leda Cosmides explain what they mean by their statement, “More nature allows more nurture,” they develop an argument for why and how to integrate the biological, cognitive, and social sciences. Addressing the “nature-nurture” discussion, they stress that the cognitive abilities generally associated with “nurture” are coadapted products or by-products of humanity’s underlying biological “nature” and its development. Evolutionary Psychology (EP) presents a powerful set of tools for relating biology and behavior in non-reductionistic ways, exposing the false dichotomy which many insert between nature and nurture, between biology and culture. Chance, necessity, and freedom, it turns out, are not mutually exclusive. Cosmides and Tooby are able to distinguish between biological and behavioral explanations without divorcing them. In their case, EP is a research framework espousing a nonreductive biocultural model of human evolution. I set out in this chapter to paint a biocultural portrait of human uniqueness able to emerge into a second naïveté understanding of the *image of God* and the *knowledge of good and evil*.

To accomplish this goal, the first three sections of this chapter define the concept of biocultural evolution, highlight the significance of symbolization in a biocultural model of human uniqueness, and present a biocultural definition of “full” humanity. Explored subsequently are the notions of domain specificity in cognition and culture and the “symbolic threshold” as an indicator for the advent of the image of God. The final section delves into specific aspects of EP as a steadily advancing biocultural research

platform able to inform a second naïveté interpretation of the *image of God* and the *knowledge of good and evil*.

Biocultural evolution defined

Defined most succinctly by theologian Philip Hefner:

Biocultural evolution refers to (1) the emergence, within the physical realm, of biological processes of evolution that themselves generate the phenomenon of culture; and (2) to the distinctive, non-Darwinian, dynamic processes by which culture proceeds, while at the same time existing in a relationship of symbiosis with the physical-biological processes in which it emerged and in which it continues to operate.⁹⁰

Many cultural processes have Darwinian aims, in that they pertain, directly or indirectly, to assuring the survival of oneself and one's offspring, thereby securing the passage of genetic material to subsequent generations. In addition, cultural information, like genetic information, is subject to principles of selection which test its ability to foster skills and behaviors suited to present ecological and social contexts. Socially and ecologically appropriate behaviors are more likely to propagate pedagogically across generations.

At the same time, Hefner's definition of culture implies the ways in which cultural processes are non-Darwinian. For him, "Culture is defined as learned and taught patterns of behavior, together with the symbol systems that contextualize and interpret the behavior."⁹¹ These behaviors and symbolic systems of contextualization are non-

⁹⁰ Philip Hefner, "Biocultural Evolution and the Created Co-Creator," *Dialog* 36.3 (1997): 197.

⁹¹ Ibid.; cf. Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 147. J. Wentzel van Huyssteen also lists four elements constituting cultural behavior, which are compatible with Hefner's definition but lack reference to the contextualizing and interpretive functions of culture's symbol systems:

Culture is a system of nongenetic information transfer, which occurs across generations and among individuals of the same generation

1) Cultural behavior is manifested in discrete forms, i.e., specific activities, implements, or systems of belief.

Darwinian because even though human biology and culture are co-adaptive, co-emergent, and co-conditioning, they are not co-determined. As an integral aspect of the human phenotype in its phylogenetic (species-wide) and ontogenetic (individual) development, culture is an expression of the human genotype. Every human being's genetic inheritance confers all the biological information needed to produce a culturally embedded person, but not the cultural information that makes personhood possible. For reasons that become clearer as this chapter progresses, culture and the uniquely human characteristics that make culture possible and necessary are emergent phenomena, involving the conscientious creation, implementation, and evaluation of emergent meanings. I contend that our species has been equipped and called to bear the image of God with a knowledge of good and evil through this unique form of creativity, emerging and evolving through biocultural processes.

Genetic and cultural information are two different *kinds* of information, each with distinct and irreducible dynamics governing their creation, replication, and evolution. The existence, scope, and malleability of cultural information are ontologically dependent on genetic information, but not vice versa, because phenotype arises from genotype. However, cultural information is able to exert a supervening influence on genetic

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- 2) Geographic differentiation in behavior, i.e., differences between separated populations, is an important and distinctive common ground for cultural behavior, and has been well documented in chimpanzees, orangutans, and humans.
 - 3) The potential for change across generations is a final hallmark of primate cultural behavior. In modern humans, cultural variations are cumulative: the inventions of many generations are stockpiled, creating vast repositories of social information. In nonhuman primates there is less evidence for such accumulation (*Alone in the World?: Human Uniqueness in Science and Theology* [Grand Rapids: William B. Eerdmans, 2006], 222).

information, especially trans-generationally, by means of sexual (mate) selection that is influenced by cultural considerations.⁹²

Cultural information such as ethical values and religious beliefs also allows individuals and groups to interpret experiences critically and respond conscientiously. Culturally-informed actions may override biologically primed behavioral responses. Impulsive behaviors and knee-jerk reactions which may have evolved to serve an adaptive function in past environments may encounter social sanction where they conflict with values-laden understandings and the norms they generate. Proceeding according to their own set of rules for selection and expression, the content and course of culture are unpredictable, even in principle, from genetic information and its dynamics. Interdisciplinary theologian J. Wentzel van Huyssteen expresses certainty that “the emergence of culture has been propelled by organic forces, but, however crucial, the biological approach will not be sufficient to explain the complex and peculiar paths of cultural evolution.”⁹³ As an outworking of emergent phenomena, “Cultural evolution exhibits its own characteristics and systems conditions,” notes van Huyssteen.⁹⁴ It involves irreducible dynamic processes, requiring distinct forms of explanation and evaluation.

According to Hefner’s definition, the emergence and development of culture require human forms of symbolization, including language. Cognitive linguists Gilles Fauconnier and Mark Turner present strong evidence that linguistic ability requires the emergence of double-scope conceptual integration and the capacity it affords to create novel meanings, making possible new forms of understanding and agency. These abilities

⁹² Scientific studies concerning ways in which behavior influences gene expression in oneself and others are also relevant here but beyond the scope of this study.

⁹³ J. Wentzel van Huyssteen, 86; cf. 55, 60, 86-87, 89, 95, 97-98, 100.

⁹⁴ *Ibid.*, 86.

to construe the world and its significance symbolically, to evaluate and amend such construals, and to act accordingly entail what Hefner calls “freedom”—“the condition of existence in which humans unavoidably face the necessity of both making choices that govern their behavior and of constructing the stories that contextualize and hence justify those choices.”⁹⁵

Defined this way, freedom includes responsibility vis-à-vis the requirement that cultural meanings find fitness within their ecological and social settings. Generally, people hold one another accountable to those meanings which they and their communities understand to provide the greatest explanatory power and best moral outcomes for the individual and the group. What is more, and as implied in the above chapter, these two criteria for truthfulness—explanatory power and moral outcome—are mutually informative and mutually reinforcing. Wholesome living means thriving in light of (and/or in spite of) *what really is* (understood to be the case). Thus genuine knowledge of reality would seem to be a key component to promoting wholesomeness.⁹⁶ The question at hand is whether (or at least how) concepts such as “creator” and “creation” might remain intellectually and morally helpful references, whether, as Hefner suggests, it is fruitful to transport the myth-symbols of the *image of God* and the *knowledge of good and evil* “into the realm of contemporary, second-naivete [sic] experience, and enable them to coalesce with our experience to provide genuine knowledge of reality, for the sake of our wholesome living.”⁹⁷ What comes to light in the process of engaging these

⁹⁵ Hefner, “Biocultural Evolution and the Created Co-Creator,” 197; cf. *The Human Factor*, 38.

⁹⁶ As mentioned in the previous chapter, Hefner defines wholesomeness as that which is “empirically discernible as in some manner beneficial” to nature, in its living and nonliving aspects, in part, whole, and/or the myriad interactions that constitute the natural world (*The Human Factor*, 60-61).

⁹⁷ Hefner, “Biological Perspectives on Fall and Original Sin,” *Zygon: Journal of Religion and Science* 28 (1993): 99-100; cf. *The Human Factor*, 142.

questions is a proposal that when viewed from the “bottom-up,” the image of God and the knowledge of good and evil are biocultural products of the natural world, which are fully embedded within it, and which confer the response-ability to discern, construe, and enact God’s purposes for the world as the creation. This study aims to illumine an understanding of what it means to emerge in the image of God, to traverse a path from evolution to ethics through a second-naïveté understanding of Christian anthropology.

While biocultural evolutionary models of human origins cannot generate a theological anthropology or fully participate in Christian ethical discourse, they can inform the latter by providing natural scientific explanations for how *Homo sapiens* became self-conscious and self-critical creators, receptors, and transmitters of symbolic meanings. Religious and theological meanings are among the cultural meanings that have emerged, developed, and come to bear a supervening influence on human self-understandings and the actions they motivate and justify. Hefner reflects this biocultural state of affairs in characterizing the *image of God* as both myth-symbol and the onto-epistemological conditions necessary to conceptualize and/or actualize this human condition. Once again, for Hefner, “at the core of this analogy [of the *image of God*] today is the character of *Homo sapiens* as a free creator of meanings, one who takes action based on those meanings and is also responsible for those meanings and actions.”⁹⁸ Hefner’s theory of the created co-creator is not a scientific theory. His is a theological theory dependent upon, but not reducible to, well-founded and ecumenically accessible scientific conceptions of *Homo sapiens* as an active participant in the creation through biocultural processes. According to this religious perspective, human beings and their cultures have emerged in and through the natural world to bear a creative influence upon

⁹⁸ Hefner, *The Human Factor*, 239.

it in ways that reflect an ability to discern, construe, and enact what are understood to be the creator's intentions for the human and nonhuman world.

According to Hefner, "The appearance of culture is directly correlated to the central nervous system, and the dramatic increase in the significance of culture in the human species is correlated with the equally dramatic development of the human brain."⁹⁹ In this vein EP, is an integration of scientific data and disciplines that presents a paradigm for framing biocultural evolutionary theory. EP opens new avenues for systematic cultural analysis, by describing culture as a result of the physically embodied, socially embedded human mind, whose cognitive mechanisms for navigating its ecological and social environments are the adaptational outworkings of the human brain, an organ designed by natural selection "to extract information from the environment and use that information to generate behavior and regulate physiology."¹⁰⁰ For this reason, when framed by an emergentist perspective, EP can be a powerful hermeneutical tool for constructing a second naïveté interpretation of the *image of God* and the *knowledge of good and evil*. As myth-symbols, these theological concepts are (co-created) products of human cognition and culture, examined here for their potential to provide genuine knowledge of what constitutes human-being and how this self-understanding may serve as a starting point for conducting ethical discourse effecting positive moral outcomes.

The ethical results of human self-understanding are coveted and contested territory, because positive moral outcomes are not self-evident or self-producing in biocultural evolution. Yet, the stakes involved in the ongoing development of cultural

⁹⁹ Hefner, "Biocultural Evolution and the Created Co-Creator," 197.

¹⁰⁰ John Tooby and Leda Cosmides, "Conceptual Foundations of Evolutionary Psychology," in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 16.

meanings could not be higher. Hefner notes with an air of warning that the confluent streams of genetic and cultural information that constitute what he calls the “two-natured character of the human”

often appear to be quite different from each other and that they proceed with different sets of dynamics and principles. We also understand that they have been selected to mix sufficiently well to differentiate humanity from other forms of life and that, even though they flow in different channels, these channels merge in the human brain. The relation between them is at times a tense one at best. The cultural reality can easily put the biological to death, just as the latter can apparently withhold its cooperation with the former.¹⁰¹

Yet without this tense relationship between nature and nurture, human-being would not *be* human. Hefner continues:

It is the cultural agency that makes life interesting; culture lifts human existence to its heights, and it also plunges us into the depths. Nevertheless, for humans the genetic agent has both mandated the necessity and provided the possibility for the cultural reality, just as it holds the final cards in the game of life, and if those cards are played in a fatal manner, culture is obliterated. The cultural and the genetic have coadapted to each other and to their common environments so as to coevolve, in a relationship that may be termed symbiotic.¹⁰²

In provisional but plausible ways, EP provides a systemic natural scientific understanding of how the metaphorical symbionts of genes and culture, of nature and nurture, come to cooperate and conflict in the ways Hefner indicates, even if, as he admits, “[w]e are far from understanding adequately how these two dimensions of human life and its evolution are related.”¹⁰³ EP can help explain, for example, how “[w]hat we call freedom is rooted in the genetically controlled adaptive plasticity of the human phenotype.”¹⁰⁴ Within an emergentist perspective, EP can help to indicate the biological

¹⁰¹ Hefner, *The Human Factor*, 29.

¹⁰² *Ibid.*; cf. 102-03, 183.

¹⁰³ *Ibid.*, 29.

¹⁰⁴ *Ibid.*, 30; cf. van Huyssteen, *Alone in the World?*, 81.

roots of cultural values, including those infused with religious and theological significance. According to EP, the cognitive mechanisms involved in religious and theological knowledge are naturally selected, genetically controlled, brain-based mental adaptations or by-products thereof.¹⁰⁵ Whatever the image of God and the knowledge of good and evil are conceived to be, this conception is a cultural product of these systemically integrated neuro-cognitive mechanisms. In various and sometimes disparate ways across the spectrum of Judeo-Christian traditions, all strands of exegetical and theological scholarship interpret these cognitive mechanisms to be involved in bearing the image and likeness of God with a knowledge of good and evil. A biocultural theological anthropology informed by EP and framed by an emergentist perspective facilitates the second naïveté understanding that, along with its systemically integrated, coevolved, and coadapted bodily counterparts and constituents, the emergent human mind and many of its cultural products are the loci of the image of God and the knowledge of good and evil.

Biocultural evolution and symbolization

The socially embedded human mind is a somatically-based conduit and creator of what Hefner terms “extrasomatic information,”¹⁰⁶ what neuropsychologist Warren S. Brown calls “external scaffolding,”¹⁰⁷ or what evolutionary psychologists Pascal Boyer and H. Clark Barrett call an “external database.”¹⁰⁸ That this extrasomatic information is constitutive of human-being in general and human beings in particular is perhaps more

¹⁰⁵ See Tooby and Cosmides, “Conceptual Foundations of Evolutionary Psychology,” 22, 25-28.

¹⁰⁶ Hefner, *The Human Factor*, 29.

¹⁰⁷ Warren S. Brown, “The Emergence of Causally Efficacious Mental Function,” in *Evolution and Emergence: Systems, Organisms, Persons*, edited by Nancey Murphy and William R. Stoeger, SJ (Oxford: Oxford University Press, 2007), 199, 213-16.

¹⁰⁸ Pascal Boyer and H. Clark Barrett, “Domain Specificity and Intuitive Ontology,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 99-100.

well known and less controversial than the claim that this symbolically-borne cultural information takes part in the divine image. Culture enables dynamic modes of being human capable of reflecting, representing, even extending the creator's purposes for the creation beyond the results of biological evolution. The “distinctive, non-Darwinian, dynamic processes by which culture proceeds” have emerged to bear a non-Darwinian *teleonomy* (apparent purposefulness or end-directedness), through the trans-biological functions of ethics and religion among other behavioral domains.¹⁰⁹ Theologically and eschatologically speaking, this non-Darwinian *teleonomy* might properly be called a trans-Darwinian *teleology*, a “goal” of the natural world intended, initiated, and facilitated by its creator to emerge through natural processes.

As symbionts the biocultural streams information that constitute human existence have coevolved to subserve the survival of their host species and its individual members. The extreme degree and singular kinds of social contact that characterizes human life have come about in evolutionary time in order to solve the many evolutionary problems encountered recurrently in past environments—e.g., securing food and water, caring for young, protecting against predators and competitors, etc.

At the same time, large-group dynamics create their own adaptive difficulties. Even if culture proceeds by non-Darwinian dynamic principles, it is, in part, demanded by them, because culture and the cognitive processes undergirding it have emerged and evolved to negotiate between biological and social demands. At bottom, as Hefner argues, cultural staples such as ethics, myth, and religion are necessitated in no small way by the fact that “[h]umans must live cooperatively in large communities of persons who

¹⁰⁹ Hefner, “Biocultural Evolution and the Created Co-Creator,” 197.

are not kin relatives—that is, who are genetic competitors.”¹¹⁰ In order to make the ecological and social environments conducive to human survival and wellbeing, psychosomatic mechanisms have evolved to facilitate the adaptive use of extrasomatic information that occurs naturally in these environments. These cognitive functions also enable us to create, utilize, and revise an open ended web of symbols and technological artifacts which become the external database or external scaffolding of culture. This external scaffolding helps us to navigate life’s demands with unparalleled efficiency.

According to Brown, human beings rely so heavily “on external supports for augmenting mental processing” that “external scaffolding plays a critical role in the emergence of efficacious mental processes,” which in turn create and manipulate novel forms of external scaffolding.¹¹¹ Quoting cognitive scientist and philosopher Andy Clark, Brown suggests, “‘We use intelligence to structure our environment so that we can succeed with less intelligence. Our brains make the world smart so that we can be dumb in peace!’”¹¹² Because external scaffolding has catalyzed the formation of our brains and their mental functioning, and because this mental functioning is responsible for the human forms of external scaffolding comprising culture, Brown proposes with Clark that “[i]t is the human brain *plus* these chunks of external scaffolding that finally constitutes the smart, rational inference engine we call mind.”¹¹³ Accordingly, Brown argues persuasively that “mind is a description of the brain and body operating as one in solving real problems in the field of action.”¹¹⁴

¹¹⁰ Hefner, *The Human Factor*, 198.

¹¹¹ Brown, “The Emergence of Causally Efficacious Mental Function,” 213.

¹¹² In *ibid.*

¹¹³ *Ibid.*; emphasis original.

¹¹⁴ *Ibid.*, 200.

The human “mind” is not a possession of the individual in isolation. Neither is the mind a mere unidirectional expression of him or her *ab intra ad extra*. *Homo sapiens* are biocultural organisms, constituted as persons *in vivo* through the confluence of both streams of information—biological and cultural. Because these streams are coadapted and mutually inextricable, the human phenotype as a bearer of the image of God cannot have sprung from only one of these streams.

As myth-symbols the *image of God* and the *knowledge of good and evil* are able to play an irreducible role in structuring the cultural-linguistic scaffolding of the mind, the self, the person. The unique and characteristically human abilities and activities to which these symbols refer emerge with the ability to appreciate and live by the kinds of meanings they encode. As philosopher Charles Taylor explains:

A fully competent human agent not only has some understanding (which may be also more or less *mis*understanding) of [her- or] himself, but is partly constituted by this understanding. [...] To be a full human agent, to be a person or self in the ordinary meaning, is to exist in a space defined by distinctions of worth. A self is a being for whom certain questions of categoric value have arisen, and received at least partial answer.¹¹⁵

As for the source of these distinctions and values, no one comes by them *ex nihilo* or even *solo ex se*. No person is a recipient or repository of clear and distinct ideas, as if some kind of pure notion could arise unfettered by the forms of life, to use Wittgenstein’s term, out of which all concepts emerge.¹¹⁶ Ironically, Descartes’ “*ego*” is only able to utter its skeptical and solipsistic “*cogito ergo sum*” because that which it doubts—the

¹¹⁵ Charles Taylor, *Human Agency and Language: Philosophical Papers*, vol. 1 (Cambridge: Cambridge University Press, 1985), 3; emphasis original.

¹¹⁶ See *ibid.*, 10, 224-26, 241, 258, 281, 290-91.

cultural-linguistic world supposedly outside the self—has provided it with the symbolic world in which to make such claims.¹¹⁷ For Taylor:

The community is not simply an aggregation of individuals; nor is there simply a causal interaction between the two. The community is also constitutive of the individual, in the sense that the self-interpretations which define him are drawn from the interchange which the community carries on. A human being alone is an impossibility, not just *de facto*, but as it were *de jure*. Outside of the continuing conversation of a community, which provides the language by which we draw our background distinctions, human agency [...] would be not just impossible, but inconceivable. [...] On our own, as Aristotle says, we would be either beasts or Gods.¹¹⁸

Through this line of reasoning, Taylor acts as both philosopher of language and philosopher of science, concluding that reductionist models of human behavior set forth in some strands of natural scientific thought betray the irreducible kinds of agency required to create such self-definitions.¹¹⁹ Epistemologically and (thus) hermeneutically, reductionism and its cousin positivism have very little to contribute to discussions about human nature, according to Taylor, because a species of defined self-definers has no external perspective from which to gain this kind of objectivity: “A being who exists only in [communally-borne] self-interpretation cannot be understood absolutely.”¹²⁰ In addition, the background distinctions and cultural impetuses behind any human self-understanding are values-laden, or they would not be worth the effort it takes to formulate them. Reductive natural scientific explanations of human biology and behavior can be appropriate and complete, according to the methodological exigencies of their respective disciplines. However, these explanations cannot claim comprehensiveness

¹¹⁷ Jason P. Roberts, “Emerging In the Image of God to Know Good and Evil,” *Zygon: Journal of Religion and Science* 46 (2011): 475; cf. Patricia McAuliffe, *Fundamental Ethics: A Liberationist Approach* (Washington, D.C.: Georgetown University Press, 1993), 87-88.

¹¹⁸ Taylor, *Human Agency and Language*, 8.

¹¹⁹ Ibid., 1-4.

¹²⁰ Ibid., 3.

where they cannot account for the supervening cultural values according to which they approach their objects of study.¹²¹

Moving with and beyond Taylor's integration of language, meaning, and human nature, this study argues that emergence and emergent meaning in biocultural evolution are constitutive of human being and agency, and as such, co-constitutive of the image of God and the knowledge of good and evil. Our "full" humanity is a function of our biology *and* its cultural expression.

Biocultural evolution and "full" humanity

So constitutive of humankind are its symbols-laden cultures that many scholars cite paleoanthropological evidence for the rapid buildup of this external scaffolding to date the evolutionary advent of "full" humanity. The term *fully human* encodes one of those person-defining "distinctions of worth" already slipped into Taylor's definition of what it means "to be a *full* human agent, to be a person or self in the ordinary meaning."¹²² Where the *image of God* is coterminous with this distinction, the concept of full humanity gains theological amplification. And where the *knowledge of good and evil* finds its way into the semantic range of this conceptual cluster, there is a word of warning

¹²¹ Taylor attempts to account for this irreducible, supervenient level of reality and explanation by exploring three hierarchic and mutually inclusive theories of meaning as a way of elucidating the relationship between language and human nature (*Human Agency and Language*, 215-47, 248-92). In sum, he argues convincingly that language is in part designative and able to support a truth-conditional theory of meaning for certain propositions (218, 248-55, 274-75, 279, 282-85). In creating interpersonal rapport—the public space in which meanings and meaningfulness are shared—language articulates personal thoughts and emotions and is thereby able to support an expressive theory of meaning (218-19, 255-70). At the same time, and enabling distinctly human forms of these other kinds of meanings, Taylor avers that language "makes things manifest, and in so doing helps shape our form of life" (10; cf. 233-238, 270-92). In Hefner's terms, there is no conscientious created co-creator without this constitutive-invocative dimension of language and requisite theory of meaning. In Fauconnier and Turner's terms, as a *sine qua non* of language, double-scope conceptual blending and its capacity to yield the kinds of meanings that "make things manifest" enable less complex forms of human expression and designation from the top-down, as it were.

¹²² Taylor, *Human Agency and Language*, 3; emphasis added.

that these distinctions of worth might arise to foster positive and/or negative moral outcomes. For these reasons van Huyssteen cautions “that whatever we define as our true ‘humanness,’ or even our human uniqueness, ultimately reveals a deeply ambivalent moral choice, for we are not just biological creatures, but as cultural creatures we have the ability to determine whom we are going to include, or not, as part of ‘us.’”¹²³

Paleoanthropologist Ian Tattersall and archeologist Steven Mithen date the advent of behaviorally modern human beings (*Homo sapiens sapiens*¹²⁴) to about 50,000 years ago, in contrast to the arrival of anatomically modern human species (*Homo sapiens*) 200,000 to 100,000 years ago in Africa. Relying on these findings, van Huyssteen, Fauconnier, and Turner present their own takes on how our species took this biocultural evolutionary step and why it was so significant.¹²⁵ For Fauconnier and Turner the suggestion of this relatively late date for the birth of full humanity stems largely from the choice to define behavioral modernness in terms of the capacity for double-scope conceptual integration and the paleoanthropological evidence for its inception. That is, the designation of behavioral modernness rests on the rare but reliable evidence for a symbol- and language-based external scaffolding of cultural information, revealing the socially-embedded creation, transmission, and evolution of values-laden distinctions—personal, social, moral, and even proto-religious concepts. Van Huyssteen presents the same argument in a more detailed form, citing reasons for calling the behaviorally

¹²³ Van Huyssteen, *Alone in the World?*, 47; cf. 50-51.

¹²⁴ Elsewhere in this study, I use the more term “*Homo sapiens*” to refer to behaviorally modern human beings.

¹²⁵ *Ibid.*, 47-48, 60-67, 169, 176-79; cf. Gilles Fauconnier and Mark Turner, “The Origin of Language as a Product of the Evolution of Modern Cognition,” in *Origin and Evolution of Languages: Approaches, Models, Paradigms*, edited by Bernard Laks et al. (London; Oakville: Equinox, 2008), 139, 148, 151-53; Ian Tattersall, *Becoming Human: Evolution and Human Uniqueness* (New York: Harcourt Brace, 1998), 5-29; cf. 225-35.

modern *Homo sapiens* of the Upper Paleolithic era (ca. 45,000 to 10,000 years ago) “fully human.” As direct descendents of these Cro-Magnon people, this means “us.”¹²⁶

During this time, “we” left evidence of several sudden and interrelated cultural innovations, including the abilities to diversify, complexify, and standardize stone tool making; to carve detailed objects made of bone, antler, and ivory; to manufacture tools by means of others (i.e., compound tool use); to develop technologies much more quickly and with regional diversity; to ornament ourselves, our dwellings, and our dead; to compose pieces of representational and ritual-based art; to specialize and systematize animal exploitation; to increase the size and density of the total and local human populations; and to form organized settlements with well-defined habitable structures.¹²⁷

This period of rapid behavioral advancement coincides with what paleoanthropologists call the “Upper Paleolithic Revolution or the ‘Creative Explosion’” evidenced in the artifacts and images dated to this time, such as those immortalized in the cave “art” discovered in the Iberian Peninsula and adjacent regions.¹²⁸ What these people left behind indicates the presence of a unique form of consciousness emerging from a host of integrated neuro-cognitive and motor operations and their external scaffolding.

This species-defining period in biocultural evolution may indeed signal a kind of creative explosion—the “big bang” of *Homo sapiens*’ symbolic universe (or multiverse). Nestled within the unbounded and ever-expanding symbolic universe of the socially and ecologically embedded human mind lies the lesser infinity of language, comprising many of the most concrete and therefore manipulable objects within this world. This mind-over-symbolic-matter dynamic translates into a qualitatively distinct—though always

¹²⁶ Van Huyssteen, *Alone in the World?*, 66-67; cf. 176-79, 187-93, 246-51, 318.

¹²⁷ *Ibid.*, 201-02; cf. 51, 189, 222-30.

¹²⁸ *Ibid.*, 107, 162-256, 268, 272, 275, 287, 317-19, 324; cf. Hefner, *The Human Factor*, 164-72.

conditioned—creative capacity for construing, crafting, and thereby constituting the self and its environment. Van Huyssteen’s poignant characterization of this biocultural evolutionary development bears repeating:

In a sense we are not simply *more* intelligent than other species, we are also *differently* intelligent: intelligent in a manner that allows us not only to view ourselves and thus be self-aware, but also to manipulate the environment around us in a qualitatively unique way. In both of these forms of self-reflection our linguistic abilities are crucially important, and almost all the literature in [the] field [of paleoanthropology] acknowledges the central role that language plays in human intelligence. As far as we humans go, language is intimately tied up with our complex symbolical capacities, and is in fact the medium through which we explain those capacities to ourselves. [...] Naturally, all this ties in with that most mysterious of organs, the human brain, an organ with its own evolutionary history, which is directly linked with the dramatic evidence for art, music, and symbol very early on in the history of our species. It is precisely this symbolism that lies at the very heart of what it means to be human. In fact, if there is one single thing that distinguishes humans from all other life-forms, living or extinct, it is the capacity for symbolic thought, the ability to generate complex mental symbols and to manipulate them into new combinations. Tattersall correctly argues that this is the very foundation of *imagination* and *creativity*, of the unique ability of humans to create a world in the mind and then re-create it in the real world outside themselves.¹²⁹

Following Mithen, van Huyssteen calls this novel and humanizing form of symbolic intelligence “cognitive fluidity,” signifying humankind’s open-ended ability to combine various behavioral and cognitive domains conceptually through symbolization, yielding qualitatively distinct meanings and myriad cultural artifacts of a potentially limitless variety.¹³⁰ Mithen hypothesizes that the advent of language predates and feeds into the cognitive fluidity that resulted in the Creative Explosion. Also indebted to Mithen, but disagreeing with this facet of his theory, Fauconnier and Turner’s argue more coherently that both language and the Creative Explosion of the Upper Paleolithic “came

¹²⁹ Ibid., 189-90; emphasis original.

¹³⁰ Ibid., 42-43, 105, 193-203, 221, 226, 232, 236-37, 265.

about once the continuous improvement of blending capacity reached the critical level of Double-Scope blending.”¹³¹ This aspect of Fauconnier and Turner’s hypothesis for the origin of language makes sense of the lack of evidence for rudimentary or grammatically simple languages in early humans, isolated tribal groups, or other animal species. While the capacity for double-scope conceptual integration is a result of a gradual, step-wise succession of cognitive developments that were each adaptive in themselves, language emerges explosively as a functional singularity made possible by this critical mass of neuro-cognitive complexity.¹³² Cognitively fluid minds are, to revise Mithen’s hypothesis, the result of the capacity for double-scope conceptual integration.

From the standpoint of evolutionary biology and EP, Fauconnier and Turner’s theory for the origin of language arguably provides the greatest explanatory power, while supporting an emergentist biocultural evolutionary perspective. In broad strokes, by proposing their theory for “the origin of language as a product of the evolution of modern cognition,” Fauconnier and Turner take on the roles of both evolutionary psychologists and emergentists. They preface their theory by indicating that the human “brain is [an] organ” created through natural selection, while “language is a function subserved by it, with the help of various other organs. Language is the surface manifestation of a capacity. It is a singularity of function, and so nothing prevents it from having arisen from a basically continuous and adaptive process of evolution.”¹³³ In the terminology of EP, treated more fully below, perhaps language is not an adaptation, but is a by-product of the neuro-cognitive adaptations for double-scope conceptual integration across behavioral domains. Fauconnier and Turner’s theory is that brain-based double-scope conceptual

¹³¹ Fauconnier and Turner, “The Origin of Language,” 147; cf. 139.

¹³² Ibid., 142, 146.

¹³³ Ibid., 141.

integration is adaptive in a Darwinian sense, allowing language and culture to emerge from this systemically integrated (emergent) capacity and its constituent properties and parts. This line of argument places human symbolization and interrelated functional singularities characterizing “full” humanity within a fully biocultural schema. This hypothesis also addresses lingering questions left by other theorists, such as Mithen and neuroscientist Terrence W. Deacon.

Engaging Mithen, Fauconnier and Turner have extended his thesis by providing terminological precision and a better causal logic for his concept of cognitive fluidity in terms of conceptual integration theory. Turning to Deacon, they argue that his theory of the co-evolution of language and the brain provides fuel for a false dichotomy that sometimes arises when interpreting paleoanthropological data.¹³⁴ This false dichotomy is a seeming impasse between “gradualist” and “punctuated equilibrium” models of evolution, surfacing in the face of peculiar or puzzling data. This false dichotomy arises because of two analytical fallacies, which Fauconnier and Turner call “Cause-Effect Isomorphism” and “Function-Organ Isomorphism.”¹³⁵ The first of these holds that if one encounters a sudden, dramatic effect, one should expect to find a correlatively dramatic or punctuated causal event. The second of these fallacies holds that where a capacity is found to be the function of an organ or organs, the continuous and gradual development of the function(s) and supporting organ(s) proceed at similar rates.

If one characterizes language and cognate forms of human symbolization as an anomalous singularity, cause-effect isomorphism is the interpretive temptation. A seeming leap in brain function might imply a similarly sudden leap in brain size or

¹³⁴ See Terrence W. Deacon, *The Symbolic Species: The Co-Evolution of Language and the Brain* (New York: W.W. Norton & Company, 1997).

¹³⁵ Fauconnier and Turner, “The Origin of Language,” 140-41.

complexity, indicating an extreme instance of punctuated equilibrium. However, such a leap may not be biologically possible, given the genetic jumps necessary to support such a dramatic evolutionary event. Evolutionary biologists generally agree that gradualist models of genetic change account better for the vast majority of the data. And, according to Fauconnier and Turner, “[e]ven ‘punctuated equilibrium’ theories propose only relatively minor jumps—not jumps that produce an eye or language out of nothing.”¹³⁶ The theological implication of gradualism is that human abilities associated with the *imago Dei* may emerge suddenly but not incongruously through evolutionary processes.

However, if the human brain and its complexity developed by a gradual process of accretion and regional arrangement and interconnection, one might expect brain functions like language to develop gradually and leave evidence of primordial and transitional forms. In Deacon’s co-evolution theory of language and the brain, language would have first taken the form of a crude system of symbolic gestures invented to ensure survival and create and maintain social cohesion. With Deacon, Fauconnier and Turner point out that this early kind of symbol system would not have been recognizable as language, except as its germinal form. This means of communication would have been “fragile, difficult to learn, inefficient, slow, inflexible, and tied to ritual representation of social contracts like marriage.”¹³⁷ From here, linguistic forms supposedly became more efficient as ecological and social selection pressures “favored genetic variations that rendered brains more adept at language. Language began as a cognitive adaptation and genetic assimilation then eased some of the burden.”¹³⁸ For Fauconnier and Turner, however, the insurmountable difficulty left by Deacon’s earlier theory is that it demands

¹³⁶ Ibid., 140.

¹³⁷ Ibid., 138.

¹³⁸ Ibid.

a gradual accumulation of both vocabulary and grammar. This type of development would demand the “crippling” kind of language mentioned in chapter 1, because a simple grammar can only support a language bearing “separate forms and words for everything that happens in all the different domains.”¹³⁹ Conceptual integration theory explains how a biological step can facilitate a functional leap.

The theological take-away here is that the emergence of the image of God is nothing unique in terms of genetic and physiological development, even though the advent of “full” humanity represents a relatively sudden qualitative shift in terms of functional capability. By extension, (1) the *imago Dei* and the knowledge of good and evil are borne through the same kinds of processes constituting the bio-cognitive activities of other animal species to which we are genetically related; and (2) there is nothing to rule out the possibility that other species could evolve to bear the image of God in a manner that is supposedly unique to *Homo sapiens*.

Animal research with primates and birds has shown that humans are not the only ones able to invent, teach, and learn meaningful signals useful in multiple behavioral domains. For example, many animals have distinct and identifiable vocal and visual signals for mating, warning, and finding food. However, these “vocabularies” remain restricted because, among other things, they remain relatively domain-specific. Yet, according to Boyer and Barrett, the domain specificity of mental adaptations and the meanings they support are not the issue. The issue is the ability to integrate meanings across domains with what Fauconnier and Turner call “equipotentiality”—the ability to employ a finite number of combinable language forms in literally any situation.¹⁴⁰ Boyer

¹³⁹ Ibid., 144.

¹⁴⁰ Ibid.; cf. 146.

and Barrett note that the “lexicon of a natural language” contains between 15,000 and 100,000 items. However, they insist that “this external database is available only to a mind with complex phonological and syntactic predispositions.”¹⁴¹ In other words, for language to develop at all, it would seem that all its cognitive conditions of possibility and anatomical infrastructure must be in place at the outset. And, according to Fauconnier and Turner’s hypothesis for the origin of language, if a species “has reached the stage of Double-Scope blending, it can very rapidly develop a full language in cultural time because it has *all* the necessary prerequisites for a full set of grammatical integrations.”¹⁴²

Deacon’s co-evolution theory, with its implied function-organ isomorphism, is unable to surmount the theoretical difficulty of explaining how everything human language is and does could evolve in a gradual, step-wise manner. A further problem of the gradualist theory is the lack of empirical evidence for rudimentary or transitional languages among paleoanthropological data, indigenous peoples today, or any other species.¹⁴³ Interestingly, Deacon’s later work on emergence, showcased in the following chapter, provides some of the most precise tools for explaining how “full” humanity and its symbolic capabilities might have co-emerged suddenly as functional singularities produced by the gradual, step-wise evolution of blending capacity in humanity’s biocultural history.¹⁴⁴ In a biocultural conception of theological anthropology, these

¹⁴¹ Boyer and Barrett, “Domain Specificity and Intuitive Ontology,” 99.

¹⁴² Fauconnier and Turner, “The Origin of Language,” 146; emphasis original.

¹⁴³ Ibid., 136-39.

¹⁴⁴ Implying a kind of awareness of the false dichotomy created by cause-effect isomorphism and function-organ isomorphism, van Huyssteen also adopts an emergentist model of the evolutionary advent of the capacities and behaviors constituting human uniqueness, indicating that the “huge” cultural “leap” of our Paleolithic ancestors away from their predecessors need not correspond to an equally dramatic genetic correlate or increase in brain size (*Alone in the World?*, 55, 60, 86, 89, 97-100, 190, 198). He eschews gradualist models for crossing this cognitive-cultural threshold and finds affinity with Tattersall’s

functional singularities and their operation in cognition and culture together constitute the epicenter of the image of God.

Biocultural evolution, domain specificity, and conceptual integration

One of the hallmarks of EP is the concept of domain specificity. The domain-specific brain-mind is not a blank slate, but a computational system capable of storing and running multiple programs, each designed by natural selection for a specific application or adaptive function. Evolution by natural selection produces specialized cognitive competencies, based in specific neural structures which have evolved in response to recurrent evolutionary problems, such as food acquisition, territory

punctuated equilibrium model, in which “the emergence of human uniqueness was achieved in one quantum leap” (187-88; cf. Tattersall, *Becoming Human*, 68, 225-33). And this leap is energized by none other than the emergence of Mithen’s cognitively fluid mind.

One avenue for updating and qualifying Mithen’s cognitive fluidity hypothesis via Fauconnier and Turner’s conceptual integration theory is through making van Huyssteen’s understanding of Mithen’s metaphor characterizing “the mind as a cathedral” more consistent with his emergentist interpretation of it. According to this metaphor, the biocultural evolution of the human mind entered an initial phase of construction focused on a foundational “nave” around and above which more specialized cognitive domains or “chapels” of “language, social intelligence, technical intelligence, and natural history intelligence” are constructed in a second building phase (*Alone in the World*, 195-96). Finally, phase three sees the opening of these spaces to one another with doors and windows, facilitating unobstructed (i.e., cognitively fluid) movement among them (196).

However, this three-stage building metaphor needs a different set of blueprints if the cathedral of the mind is to get off the ground, as it were. The problem arises in phase two, where “language” for Mithen is one “chapel” among others gradually taking shape from the bottom up. How could language be its own cognitive domain if its use is integral to the construction of uniquely human forms of behaviors like social and technical intelligence, which many other species display in their own ways? A cathedral may have to be built from the bottom-up, but its significance as a *cathedral* is constituted from the top-down. A cathedral is distinguishable by its majestic height, interior expansiveness, unique floor plan, and exquisite decoration, all reflecting and facilitating specifically cultural functions transcending the Darwinian goal of reproductive fitness—the survival of oneself, one’s offspring, and so forth. Revising and extending the cathedral metaphor, it would appear that language is not itself a cognitive domain, but a precipitous result of the double-scope conceptual integration that buttresses the human mind with this external scaffolding. If the mind is a cathedral, double-scope blending and the symbolic intelligence it prompts construct the flying buttresses making possible the expansive, grandiose, and intricately interconnected mental spaces within, through which we move with such fluidity. With its stained glass windows, vaulted ceilings, and ornate walls, a cathedral is more complexly open—and closed—to the world outside than perhaps any other structure. It lets in light through a painstakingly wrought translucent array of information-laden images and symbols, while guarding its implements and artifacts against decay. It is a place of memory, speech, self-transcendence, moral instruction, accountability, symbol, and ritual. It is a place where creatures encounter one another and their creator. The cathedral of the “fully” human mind is the mental space where the physical world actualizes its spirituality, its self-understanding, its understanding of other selves.

maintenance, predator avoidance, mate selection, child rearing, etc. However, even these cognitive domains are relatively general. An example of a more domain-specific cognitive adaptation would be the capability of a frog to distinguish visually between the motion of a leafy branch blowing in the wind, a tasty insect on one of its leaves, and the hungry heron behind the bush. Natural selection makes sure that frogs will only evolve to find and fill an ecological niche if they develop this efficient cognitive mechanism, where opportunities and dangers like these remain common.

To give a more human-like example, certain primate species have developed different vocalizations for conveying various meanings. Some signals are specific enough to indicate that a certain kind of predator is approaching. To a vervet monkey, a “leopard” signal means scurry up and look down; an “eagle” signal means the opposite.¹⁴⁵ These vocalizations manifest a host of domain-specific cognitive adaptations capable of generating more than one kind of output. The presence of these adaptations indicates their evolutionary relevance to vervet monkeys and points to the genotypic and phenotypic foundations upon which they had to build over many generations. EP predicts that the brain’s “hardware” and “software” are not installed all at once, and that these components will come to interact in some surprising ways as they compile and coadapt. According to Tooby and Cosmides, “natural selection will ensure that the brain is composed of many different programs, many (or all) of which will be specialized for solving their own corresponding adaptive problems. That is, the evolutionary process will not produce a predominantly general-purpose, equipotential, domain-general architecture.”¹⁴⁶ However, domain specificity does not necessarily compartmentalize cognition.

¹⁴⁵ See Deacon, *The Symbolic Species*, 54-59, 81, 330-31, 338.

¹⁴⁶ Tooby and Cosmides, “Conceptual Foundations of Evolutionary Psychology,” 17.

Homo sapiens and other species are capable of various kinds of complex and abstract thought, not because their cognitive architectures are domain-general, but because they are domain-*integral*. That is, certain kinds of brains are capable of complex conceptual integrations across specific behavioral domains. The equipotentiality language affords in not a matter of *Homo sapiens* being conceptually open to the world in general and parsing out little bits of it. Rather, the human mind is open to specific and evolutionarily relevant aspects of the world and is able to combine or blend them into qualitatively unique symbolic forms, which in turn open up distinctly human behavioral domains like art, science, ethics, and religion. As van Huyssteen suggests, “instead of asking what kind of mind is required to know the world, we should rather ask what kind of world the world must have been to produce the sort of mind we have.”¹⁴⁷

The primate warning signal illustration provides an example of simplex blending capacity (value-role projection) and its adaptive value for promoting survival. Two bits of information are involved—first, that a predator has been detected, and second, what kind of predator it is. The first piece of information indicates a need for alertness and perhaps evasion; the second helps to focus those efforts. This process traverses the cognitive domains of predator detection, vocalization, and danger avoidance in a socially meaningful way. Fauconnier and Turner note that paleoanthropological evidence and studies of other animal species suggest that blending capacity is evolutionarily advantageous and adaptive in and of itself and that ever-more complex forms of blending capacity can accrue in a continuous, gradual manner.¹⁴⁸ According to their hypothesis, that which distinguishes humanity cognitively from other species—linguistic ability,

¹⁴⁷ Van Huyssteen, *Alone in the World?*, 101.

¹⁴⁸ Fauconnier and Turner, “The Origin of Language,” 142, 145.

morality, religiosity, etc.—co-emerges with the capacity for double-scope conceptual integration across domain-specific, neurologically-based centers of semantic information.

Another implication of this theory is that the evolutionary steps along the path to language were taken “not for the function of language itself but for the cognitive abilities that finally led to the precipitation of language as a product.”¹⁴⁹ From the standpoint of EP, language and culture are not adaptations, but the by-products of adaptations. In Fauconnier and Turner’s hypothesis for the origin of language, “Language arose as a singularity. It was a new behavior that emerged naturally once the capacity of blending had developed to the critical level of Double-Scope blending.”¹⁵⁰ The data suggest to Fauconnier and Turner that language and other “human singularities: art, music, science, fashions of dress, dance, mathematics [...] precipitate as products of Double-Scope conceptual integration.”¹⁵¹

Similarly, for evolutionary biologist Francisco Ayala, cultural behaviors like language and ethics display a kind of *pleiotropy*. Pleiotropy occurs when a single gene is expressed in multiple phenotypic traits. Consequently, the epigenetic consequences of genotypic change can be many and diverse. In cognitive linguistic terms, language and the host of other cultural capabilities of which it is inextricable was not the foreseeable target of blending capacity and its development. Rather, in Ayala’s estimation:

Literature, art, science, and technology are among the behavioral features that may have come about not because they were adaptively favored in human evolution but because they are expressions of the high intellectual abilities present in modern humans: what may have been favored by

¹⁴⁹ Ibid., 142.

¹⁵⁰ Ibid., 146; cf. 150.

¹⁵¹ Ibid., 133.

natural selection (its “target”) was an increase in intellectual ability rather than each one of those particular activities.¹⁵²

With this principle in mind, Fauconnier and Turner conclude that when provided with the tools to rid itself of an implicit function-organ isomorphism, Deacon’s theoretical framework for the co-evolution of language and the brain is basically right. They note simply that “his theory is missing an explanation of the mental operations underlying [the] relational ability” behind the biocultural emergence of behaviorally modern *Homo sapiens* through a novel but not evolutionarily unprecedented development.¹⁵³ For Fauconnier and Turner, “conceptual blending is a good candidate for a continually evolving mental ability that could produce the singularity of language. This opens up new possibilities that Deacon could not have considered” when he developed his theory in *The Symbolic Species* (1997).¹⁵⁴ More recently, however, Deacon has incorporated blending theory into his understanding of the emergence of uniquely human cultural behaviors and the meanings they convey.¹⁵⁵ Conceptual integration theory may therefore hold the key to what Deacon calls “the symbolic threshold.” This functional threshold is arguably indicative of the image of God, in part, because the *image of God* and the *knowledge of good and evil* are themselves myth-symbols indicating heuristically the realities to which they refer.

Following philosopher Charles Sanders Pierce, Deacon differentiates three hierarchical categories of referential associations: iconicity, indication, and

¹⁵² Francisco Ayala, “Human Nature: One Evolutionist’s View,” in *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature*. Edited by Warren S. Brown et al. (Minneapolis: Fortress Press, 1998), 40.

¹⁵³ Fauconnier and Turner, “The Origin of Language,” 150.

¹⁵⁴ Ibid.

¹⁵⁵ See, for example, Terrence W. Deacon, “The Aesthetic Faculty,” in *The Artful Mind: Cognitive Science and the Riddle of Human Creativity*, edited by Mark Turner (New York: Oxford University Press, 2006), 40-52.

symbolization. Each association is a type of mental interpretation. An *icon* is a sign interpreted to resemble an object; an *index* is interpreted to indicate or point to a physical and/or temporal connection, contiguity, or correlation between sign and object; a *symbol* references an object or concept, not by any perceived resemblance or spatio-temporal contiguity, but in relation to other symbols, indices, and icons.¹⁵⁶ For example, a rattlesnake is *iconic* of its surroundings to the extent it blends in with them; its vibrating rattle is *indicative* of the snake's proximity and the danger it poses; and its image is *symbolic* of the "don't tread on me" spirit of the American Revolution.

Contributing much of the architectural support for humanity's external scaffolding, symbolic relationships among words and concepts allow inferential and imaginative creativity. This kind of cognitive competence supports unique understandings of those things which reach our senses and, perhaps more importantly, those things which do not or cannot, like "angels, unicorns, and quarks," not to mention *God, image of God, and knowledge of good and evil*.¹⁵⁷ All symbolic associations and

¹⁵⁶ Deacon, *The Symbolic Species*, 70; cf. 76-91. On the one hand, the connection of symbol to object is the most tenuous cognitive association of the three, because symbols, such as words, are the relatively arbitrary products of social agreement and convention. On the other hand, symbols are the most stable form of reference because their referent does not need to be present or proximal in order to accomplish the desired mental association. Conversely, indices and their associations are highly domain-specific and require reinforcement. The vervet monkey's mental association of the "leopard" index with the presence of a certain class of predator and the requisite behavioral response will fade if this index is either overused or underused. Overuse of an index was the downfall of The Boy Who Cried Wolf, whose false alarm calls eventually dissociated "Wolf!" with the presence of actual danger (82). Underuse of the "leopard" index over a generation or more among a group of vervet monkeys might lead to its deletion from individual and corporate memory. However, because "wolf" is a symbol, even though it lost part of its indicative significance for the villagers in the fable, it did not lose its symbolic significance. Icons and indices require environmental support and stability; symbols require and provide mental and cultural support, stability, and flexibility. Symbolic association means that words and other symbols gain significance in terms of one another as a function of the kinds of mental associations allowed by neuro-cognitive processes. For example, dictionary entries and the concepts they encode are situated vis-à-vis all the others according to grammatical rules of association.

¹⁵⁷ Ibid., 82.

their grammatical regulations are made possible, according to Fauconnier and Turner's hypothesis, by the evolutionary emergence of double-scope blending.

Seeming to anticipate this theoretical development, Deacon argues that symbolic interpretation

is one kind of competence that grows out of and depends upon a very different kind of competence. What constitutes competence in this sense is the ability to produce an interpretive response that provides the necessary infrastructure of more basic iconic and/or indexical interpretations. To explain the basis of symbolic communication, then we must describe what constitutes a symbolical interpretant, but to do this we need first to explain the predication of iconic and indexical interpretants and then to explain how these are each recoded in turn to produce the higher-order forms. [...] What one knows in one way gets recoded in another way. It gets *re-presented*. We know the same associations, but we know them also in a different way. You might say we know them both from the bottom up, indexically, and from the top down, symbolically.¹⁵⁸

This “bottom-up,” “top-down” language is common in emergence scholarship, including Deacon's later work in this field. In terms that gain more clarity in the following chapter, symbolic ability *dynamically supervenes* on indexical and iconic awareness. These competencies develop and accumulate from the bottom-up, from part to whole. In turn, these mental abilities are causally efficacious from the top-down, from whole to part. As Hefner has alluded, this uniquely human form of psycho-somatic causality and others with which it is systemically integrated embody those “distinctive, non-Darwinian, dynamic processes by which culture proceeds” as an outworking of humanity's biological nature.¹⁵⁹

This emergentist schema of the accumulation of competencies and the precipitation of singularities coincides with Fauconnier and Turner's conceptual integration theory for the origin of language. The gradual evolution of double-scope conceptual integration might have yielded an explosive propensity for symbolic

¹⁵⁸ Ibid., 74, 89; emphasis original.

¹⁵⁹ Hefner, “Biocultural Evolution and the Created Co-Creator,” 197.

association when blending capacity reached this critical mass of complexity. If there is but one species who has evolved this cognitive capacity, such an anomaly would explain why other species may show rudimentary symbolic ability, but none develop language, and why humans are, in van Huyssteen's terms, "alone in the world," with the ability to define ourselves as be(ar)ing the image of God with a knowledge of good and evil.

Biocultural evolution, the "symbolic threshold," and the image of God

The most biologically similar species to *Homo sapiens* seems to be on the cusp of the symbolic threshold. Under controlled experimental conditions, chimpanzees have demonstrated the ability to interpret non-iconic lexigrams symbolically, according to simple adjective-noun-verb rules of association. When the chimps entered the appropriate lexigrams in a particular sequence, they obtained a reward associated with that specific sequence. Over thousands of trials, indexical associations formed, some of which were also symbolic. Experimenters changed the relative positions of lexigrams, their colors, and shapes, ruling out these variables as indexical cues. Next, when the experimenters added more lexigrams, the chimps were able to incorporate the new "vocabulary" items by the same semantic logic known to govern the others, sometimes in a single try.¹⁶⁰ As Deacon explains, "They had discovered that the relationship that a lexigrams has to an object *is a function* of the relationship it has to other lexigrams, not just a function of the correlated appearance of both lexigrams and object. This is the essence of a symbolic relationship."¹⁶¹ In Fauconnier and Turner's terms, this behavior is a relatively complex display of blending capacity or conceptual integration.

¹⁶⁰ Deacon, *The Symbolic Species*, 84-88; cf. Tattersall, *Becoming Human*, 58-69, 225-26.

¹⁶¹ Deacon, *The Symbolic Species*, 86; emphasis original.

This accomplishment is truly remarkable. However, there is a qualitative cognitive break between these highly contrived, rudimentary instances of symbolic behavior among chimps and human symbolization and language. According to Brown, the symbolic threshold reached by our species and its children at a young age presents “one exception” to the general correlation between the gradual development of nervous system complexity and the presence and sophistication of mental properties.¹⁶²

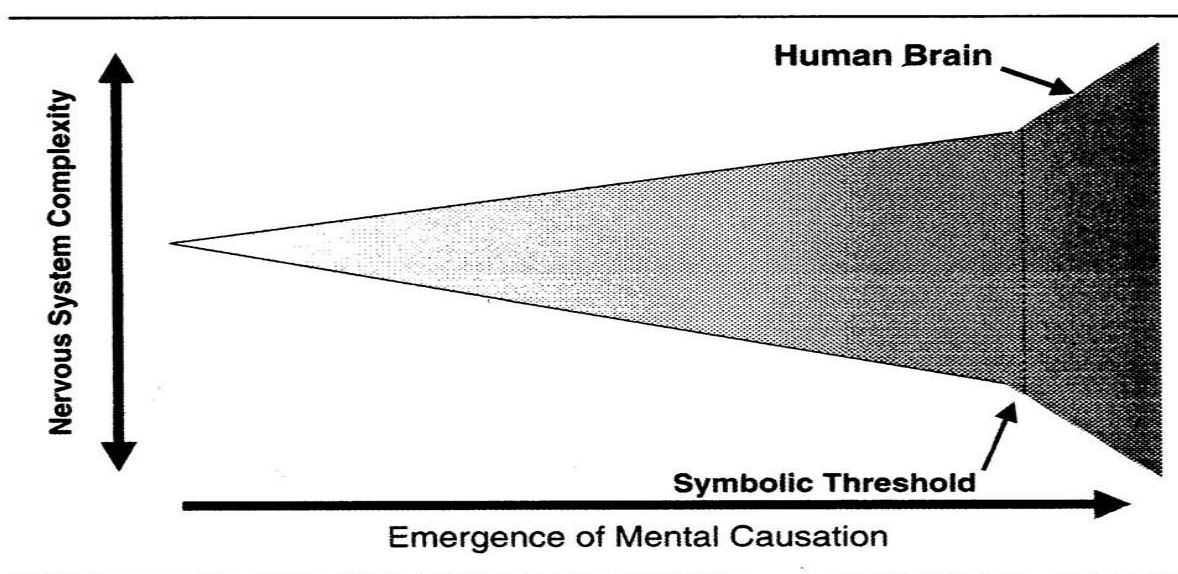


Figure 2: Warren S. Brown, “A Phylogenetic Model of Mental Causation”¹⁶³

In the image provided above, Brown illustrates the emergence of human mentality as a cone. The width of the cone represents nervous system complexity among species. The density of shading within the cone represents the presence or absence of cognitive function. At its point of origination, the cone lacks any shading, and the width of the cone and its shading increase constantly and gradually from this point. The cone bells slightly at a line designating the symbolic threshold, and its shading quickly grows darker.

¹⁶² Brown, “The Emergence of Causally Efficacious Mental Function,” 202.

¹⁶³ Ibid., 201.

Brown's illustration represents another way of reconciling Deacon's gradualist co-evolution theory with the rapid precipitation of uniquely human singularities as functions of the cognitive adaptations underlying them. This simple figure also implies the need and ability to integrate evolutionary biology and developmental psychology among other disciplines, which is one of EP's purposes. Incidentally, and in a manner similar to Fauconnier and Turner's theory for the evolutionary origins of language, Brown's insights avoid the fallacies of cause-effect isomorphism and function-organ isomorphism. In his emergentist model, the advent of behaviorally modern *Homo sapiens* required no unprecedented genetic/physiological leaps or a simple/stepwise accretion of cognitive functionality. One small step for biology; one giant leap for behavior.

At the level of Christian anthropology, this biocultural evolutionary perspective means that whatever the image of God and the knowledge of good and evil are taken to be, they have emerged from the natural world and are fully embedded within it. As concepts and as the constitutive elements of the human condition to which these terms refer, the *image of God* and the *knowledge of good and evil* may in turn point beyond the world of nature. However, to suggest that certain aspects of human life intimate the supernatural is not to say that these existential-behavioral structures and capabilities have an immediate supernatural origin or cause. Likewise, Hefner concludes "that since humans emerged within the processes of nature's evolutionary history, nature itself participates in the image of God."¹⁶⁴ Hefner is correct that "[t]his is a novel interpretation" of this myth-symbol, one which supports the second naïveté interpretation proposed here.¹⁶⁵ Van Huyssteen shares Hefner's inference, suggesting:

¹⁶⁴ Hefner, *The Human Factor*, 273.

¹⁶⁵ Ibid.

Theologians are now challenged to rethink what human uniqueness might mean for the human person, a being that has emerged biologically as a center of embodied self-awareness, identity, and moral responsibility. This notion of personhood, when reconceived in terms of embodied imagination, symbolic propensities, and cognitive fluidity, will now enable theology to revision its own notion of the *imago Dei* as emerging from nature itself, an idea that does not imply superiority or greater value over other animals or earlier hominids, but might express, from a theological point of view, a specific task and purpose to set forth the presence of God in this world.¹⁶⁶

Interpreting the image of God as a reality which has emerged through natural processes, van Huyssteen argues that belief in the supernatural is natural. That is, a propensity for mythic and religious belief finds its origins and purposes in the biocultural evolution of humankind.¹⁶⁷ Again citing Hefner, he proposes that the images left in caves by our Paleolithic ancestors almost certainly reveal that “ancient myths and rituals must have organized the kind of information that was necessary for survival through elaborate cultural systems.”¹⁶⁸ Van Huyssteen infers that in the course of confronting the ecological, social, and existential crises of human life and death, “[n]ot just the use of myth, but also the contents and messages of particular myths must have greatly influenced the behavior of the our ancestors, as they still do for us today.”¹⁶⁹

While biocultural utility is no guarantor of a myth’s truth value, the cultural necessity to contextualize and justify behavior means that the human central nervous system has evolved what Hefner and sociobiologist E. O. Wilson call “mythopoetic requirements.”¹⁷⁰ For Hefner, these mythopoetic requirements are an entailment of the human condition of freedom, “of both making choices that govern [...] behavior and of

¹⁶⁶ Van Huyssteen, *Alone in the World?*, 215; cf. 147.

¹⁶⁷ *Ibid.*, 93-106, 203-15.

¹⁶⁸ *Ibid.*, 104

¹⁶⁹ *Ibid.*

¹⁷⁰ Hefner, *The Human Factor*, 185-86, 203. This citation of E. O. Wilson does not reflect an endorsement of the scientific subfield of sociobiology, which he helped to establish.

constructing the stories that contextualize and hence justify those choices.”¹⁷¹ While this is not to say that *Homo sapiens* are somehow hardwired for religious or theological beliefs, one can justifiably borrow a principle from theologian Paul Tillich to support the claim that trans-humanistic or trans-naturalistic conceptions of *being* or *reality* are able to provide efficient and perhaps insuperable visions of humankind’s *ultimate concern*.

Yet the endurance of theological beliefs is no more a guarantor of their truth value than their biocultural utility. Therefore, well short of performing impossible apologetic (proof-oriented) and ecumenical (unity-oriented) tasks on behalf of “Christianity” or “Christian beliefs,” this study makes the relatively modest proposal that a second naïveté reinterpretation and reappropriation of some Judeo-Christian myth-symbols is able to provide increased explanatory power and positive moral outcomes from a particular faith perspective informed by current science. While the human central nervous system may display something like mythopoetic requirements, the narratives by which human beings frame their actions need not be explicitly religious or theological. Nonetheless, by enabling and requiring qualitatively distinct and irreducible characterizations of reality as guides for human behavior, a myth-based theological anthropology is able to support what Paul Ricoeur calls “a qualitative transformation of reflexive consciousness”—an otherwise unavailable orientation or end-directedness of human-being.¹⁷²

If, as Ricoeur argues, myth really “has the purpose of providing grounds for the ritual actions of [people] today and, in a general manner, establishing all the forms of action and thought by which [humanity] understands [itself] in [its] world,”¹⁷³ then, “in this broadest sense of the word,” as van Huyssteen explains, “religion co-emerged with

¹⁷¹ Hefner, “Biocultural Evolution and the Created Co-Creator,” 197; cf. *The Human Factor*, 38.

¹⁷² Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 356.

¹⁷³ *Ibid.*, 5.

humanity itself.”¹⁷⁴ Myth, ritual, and the actions they require and enable are constitutive of human-being because they provide the “distinctions of worth” without which the genetic and cultural symbionts comprising *Homo sapiens* might perish. According to Hefner’s definition, culture provides the information required to accomplish “the three tasks of interpreting the world in which humans live, guiding human behavior, and interfacing with the physical-biogenetic-cultural systems that constitute the environment in which we live.”¹⁷⁵ In serving its cultural functions, religion and myth provide an understanding of reality itself and as a whole—of “*what really is*” or “*how things really are*.” Religious visions of *what really is* may always remain underdetermined by our experience of/in the world, but they may also provide plausible and fruitful conceptions of human significance and purpose vis-à-vis the rest of the world and a reality beyond it.¹⁷⁶ The background concepts belonging to the symbolic universe of *what really is*—including theological concepts—provide and infuse those distinctions of value which intimate, motivate, interrogate, and justify actions that lead to our wholesome living or lack thereof. Presenting a comprehensive vision of *the way things really are*, myth and religion are able to propose the *is* designed to inform the *ought*.

Hefner calls this dynamic process of religious and ethical discourse and action the “myth-ritual-praxis complex.”¹⁷⁷ This complex is a way of relating the indicative to the imperative, of moving from *how things really are* to *what ought to be done* in response. In light of Ricoeur’s phenomenological and hermeneutical insights, paleoanthropological interpretations of Paleolithic cave images, along with biblical scholarship concerning the

¹⁷⁴ Van Huyssteen, *Alone in the World?*, 205.

¹⁷⁵ Hefner, *The Human Factor*, 148.

¹⁷⁶ *Ibid.*, 100-01, 146-47, 156, 161, 175, 185-86, 191, 196, 203-04, 210; emphasis original.

¹⁷⁷ *Ibid.*, 147, 156, 167, 172, 202, 205-06, 209, 224-25, 227, 243, 252.

communal function (*Sitz im Leben*) and historical-cultural context (*Sitz im Welt*) of the creation account(s) in Genesis, Hefner infers that ritual translates “myth into symbolic action, which in turn is to be expressed in the praxis of ordinary life. The ritual serves as a means of approaching the central realities of the world and also as a resource and norm for daily behavior.”¹⁷⁸

This hermeneutical circle coincides with Ricoeur’s “essentially Anselmian schema” of theology—of lived faith seeking understanding.¹⁷⁹ Conceiving theological discourse in terms of a myth-ritual-praxis complex makes of theology and ethics what liberationist scholars since Gustavo Gutiérrez have called them for more than half a century—critical reflection on historical praxis. The circularity of this complex is a function of its self-critical component, irrupting when the conceptual premises and/or practical outcomes of myth-ritual-praxis are no longer intellectually and/or morally satisfying. In other words, if Christian anthropology is to retain the myth-symbols of *image of God* and the *knowledge of good and evil* as indispensable data of self-understanding and behavioral motivation/justification, Hefner cautions that

we may recognize the wisdom of the myths, but we cannot believe them naively. We are critical; we can entertain the myths only as proposals, as hypotheses. We can believe only through what Ricoeur terms the second naiveté [sic], which requires critical philosophical analysis and interpretation.¹⁸⁰

Hefner’s own hermeneutical endeavor of “revitalizing” or “revivifying” a given myth-ritual-praxis complex follows a three-stage process, which he describes generally as “retrieval, testing, and restatement.”¹⁸¹ He claims that this kind of effort has become the

¹⁷⁸ Ibid., 202.

¹⁷⁹ Ricoeur, *The Symbolism of Evil*, 357; cf. 308, 352-57.

¹⁸⁰ Hefner, *The Human Factor*, 187; cf. 142, 204-05.

¹⁸¹ Ibid., 225.

task of theologians today—“presenting the resources from their own work of reinterpreting the tradition, offering them up as potential contributions for the overwhelming task of cultural revitalization that faces us.”¹⁸² Hefner takes up this task in proposing his theory of the created co-creator.

For the purposes of this study, *retrieval* of the tradition involves historical- and literary-critical analysis of the Judeo-Christian myth of origins and the kinds of symbolic actions it likely supported. *Testing* means developing a faithful interpretation of this tradition with the potential to satisfy the criteria of explanatory power and moral outcome in today’s intellectual and cultural climate. *Restatement* synthesizes the results of retrieval and testing by constructing a second naïveté understanding of the *image of God* and the *knowledge of good and evil* that is both intellectually and morally fruitful, while also presenting some of the first fruits of this effort.

Another way to describe this second naïveté reinterpretation and reappropriation of these myth-symbols is through Fauconnier and Turner’s concepts describing the “construction,” “completion,” and “elaboration” of conceptual blends. The natural scientific and theological findings explored and integrated in these opening chapters contribute a hermeneutic of emergent meaning tying together the neuro-cognitive emergence of new meanings with the biocultural emergence of “full” humanity. In a theology of nature perspective, this association adds precision and credibility to the claim that the image of God and the knowledge of good and evil are evolved and evolving avenues of biocultural evolution.

In a 21st century symbolic universe, the conceptual constellations of *evolutionary psychology* and *emergence* help to reframe and inform the concepts belonging to these

¹⁸² Ibid.

biblical myth-symbols of Christian anthropology. Together, they help to explain how mind and culture emerge dynamically from their physiological and biological constituents; how these systems of information are able to exert the dynamic “top-down” or “whole-part” causal influence which amounts to human freedom and responsibility; how symbolic meanings are able to transcend the givens of their empirical contexts; how retrieval, testing, and restatement of these kinds of meanings are possible; and how these uniquely human capacities and activities can be as humanizing as they can be dehumanizing.

In theological parlance, emerging in the image of God through biocultural evolution means that as free and responsible creators of meanings, human persons are able to discern, construe, and enact the purposes of God, for the continued goodness of creation. Because it emerges through natural processes, this free and responsible co-creativity is neither absolute nor autonomous, but conditioned by an original and ambivalent knowledge of fulfillment and frustration, cooperation and conflict, good and bad/evil. This contemporary self-interpretation is potentially fruitful for ongoing theological and ethical discourse, commensurable with historical- and literary-critical biblical scholarship, and made possible by a biocultural model of humanity’s origins and ongoing evolution. The interrelated fields of cognitive linguistics, EP, and emergence supply the hermeneutical tools and materials for constructing this self-reinterpretation.

Evolutionary psychology, the image of God, and the knowledge of good and evil

On its own, EP does not have the resources to conceive of humanity in terms of the *image of God* or Hefner’s created co-creator. Yet EP is well equipped to depict *Homo sapiens* as the culturally-constituted creature. Viewed from the bottom-up, the term

creature is not a theological designation but is a descriptor of an animal constituted by (and contributing to) a self-transcending dynamic, namely culture. EP aims to understand how this state of affairs comes about as a result of natural processes and as a function of the physically embodied and socially embedded human central nervous system. At the natural scientific level, EP is a window to human spirituality—the biocultural dynamics through which *Homo sapiens* bear the image of God with a knowledge of good and evil.

EP's potential to inform a renewed understanding of Christianity's anthropological myth-symbols lies in what it is and what it is not. Evolutionary anthropologist John Tooby and psychologist Leda Cosmides have been at the forefront of the metatheoretical subdiscipline of EP since they helped establish it in the latter half of the 1980s. There is perhaps no surer primary source for gaining an accurate description of EP, its conceptual foundations, methodological procedures, and research outcomes and prospects than these scientists. This listing of credentials is necessary because EP is often mistaken for one or more of those disciplines from which it expressly differentiates itself—sociobiology, behavioral ecology, or evolutionary ecology.¹⁸³ While findings from these earlier attempts at integrating biological and behavioral sciences have provided vast amounts of data for EP, especially in its formational years, EP has developed a new theoretical framework by which to interpret these data. Understandably, this new conceptual framework and its corresponding shifts in focus and method have led to hypotheses and conclusions which sociobiology and its cognate disciplines could not attain, anticipate, or even allow. EP overturns many of the assumptions and conclusions of sociobiology, especially the reductionistic, deterministic tenets which made it the

¹⁸³ Tooby and Cosmides, "Conceptual Foundations of Evolutionary Psychology," 8, 13-15, 15-16 n.3.

object of so much scientific, philosophical, political, and religious controversy. Thus, according to Tooby and Cosmides:

Evolutionary psychology is the long-forestalled scientific attempt to assemble out of the disjointed, fragmentary, and mutually contradictory human disciplines a single, logically integrated research framework for the psychological, social, and behavioral sciences—a *framework that not only incorporates the evolutionary sciences on a full and equal basis, but that systematically works out all of the revisions in existing belief and research practice that such a synthesis requires.*¹⁸⁴

The ultimate goal of EP is nothing short of “the mapping of our universal human nature,” i.e., “the construction of a set of empirically validated, high-resolution models of the evolved mechanisms that collectively constitute universal human nature,” which finally ought to “include the neural, developmental, and genetic bases of these mechanisms, and encompass the designs of other species as well.”¹⁸⁵ Such an achievement, while far off, is not out of the question and would constitute a comprehensive biocognitive conception of *Homo sapiens* and its ongoing evolution. Reaching this goal would also establish a comprehensive conceptual basis from which to conduct biocultural analysis able to inform theological anthropology and ethics.

EP’s value for a contemporary discussion on what it might mean to bear the *imago Dei* is encapsulated in Tooby and Cosmides’s comment that “[m]ore nature allows more nurture.”¹⁸⁶ Our biological and psycho-somatic makeup—nature—emerges into our

¹⁸⁴ Ibid., 5; emphasis added.

¹⁸⁵ Ibid., 5-6.

¹⁸⁶ Ibid., 30. This phrase distills the guiding theoretical principles Tooby and Cosmides describe as the following six foundational tenets of EP. First, every bodily organ, including the brain, has evolved to serve a function. The brain’s function is computational—to house and run specialized programs for processing information. The dynamic interactions of these programs *in vivo* comprise the human mind (16-17). Second, the brain’s evolved computational function includes responding to internal and external environmental information by regulating physiology and producing behavior. Understanding behavior is therefore a function of understanding both the environmental factors involved and the cognitive structures and dynamics which produced the behavior. Third, mental programs have developed over evolutionary time because their behavioral outputs promoted survival and reproduction in the face of ecological and

self-defining, self-directing cognitive and cultural activity—nurture. Human creatures bear (and determine what it is to bear) the image of God with a knowledge of good and evil within the dynamic confluence of the co-constraining biocultural dynamics here abbreviated as “nature” and “nurture.”

I hold that the findings of many evolutionary psychologists are able to operate within an emergentist philosophical framework because they are able to differentiate between biological and cultural dynamics in ways that do not reduce the latter to the former. Evolutionary psychologists are able to provide conceptual content to the intuition that *Homo sapiens* and their actions amount to something more and other than the epiphenomenal sum of the information contained in their DNA and the seeming

social selection pressures in ancestral environments (EEA). Because this process is slow, the brain’s current evolved programs are designed to respond to the adaptive problems of our hunter-gatherer ancestors of the Upper Paleolithic era and earlier (17). In order for a given aspect of an organism’s phenotype to qualify as an *adaptation*, it must show that

- (1) it has many design features that are improbably well suited to solving an ancestral adaptive problem, (2) these phenotypic properties are unlikely to have arisen by chance alone, and (3) they are not better explained as the by-products of mechanisms designed to solve some alternative adaptive problem or some more inclusive class of adaptive problem (28).

For example, that blood carries oxygen to body cells is an adaptation; the redness of blood due to the color of oxygenated hemoglobin is a by-product of this adaptation. A “noise” feature that is uncoordinated with any selection pressures is the location of color flecks in the iris (*ibid.*). Fourth, because of the evolutionary time between the evolution of adaptive function and new problems posed to the brain in later contexts, there is no guarantee that the behaviors it has been primed to produce will continue to be adaptive. This principle is especially true of social behavior. At the same time, this principle cuts two ways. The host of integrated mental programs responsible for the creation of rapidly evolving social contexts also afford the abilities to respond in new ways to these changes, though not by deleting the evolved programs that must in some ways be overridden to produce these new behaviors (17). Fifth, natural selection has produced many specialized mental functions, each responding to a small number of recurring adaptive problems. The specificity of selection pressures is not conducive to the evolution of a domain-general cognitive architecture applicable to more specialized problems, but a domain-specific architecture supporting complex interactions and integrations among specialized programs. These dynamic integrations produce behaviors in domains abstracted from and unanticipated by the brain’s individual cognitive mechanisms (17-18; cf. 41-63). Sixth, because the evolved functioning of the brain has created and continues to shape human culture, “descriptions of the computational architecture of our evolved mechanisms allows [sic] a systematic understanding of cultural and social phenomena” (18). EP predicts these descriptions to include “cross-culturally universal frames of meaning that allow us to understand the actions and intentions of others” (*ibid.*). In this sense, EP constructs species-specific and species-wide tools for analyzing and commensurating diverse human cultures at the level of natural scientific research, in a manner suited to postmodern discourse. These kinds of tools are vital to the one planning to venture beyond what is descriptively human to what might be normatively humanizing, daring to blaze new trails on the endless journey from our *is* to our *ought*.

imperative to pass it on. The significance of human evaluations of self, other persons, and their environments, along with the capacity to construct such values with freedom and responsibility, cannot be circumscribed by any understanding, however valid, of the biological ends they serve (e.g., survival and reproductive fitness). “Organisms are adaptation executors, not fitness pursuers,” emphasize Tooby and Cosmides.¹⁸⁷

Through natural selection, on average, adaptive cognitive mechanisms will include an evolutionary (i.e., reproductive) advantage, because those genotypic and phenotypic variations that do not regularly result in greater environmental fitness will be eliminated over generations. However, evolutionarily beneficial adaptations may serve other, wholly unrelated, even counterintuitive functions in the actual life of an organism. Additionally, values-laden social preferences for new modes of behavior are able to exert their own selection pressures. On the one hand, Darwinian dynamics often demand increased cognitive command over evolutionarily relevant environmental information. On the other hand, in order to meet these Darwinian demands effectively, psychological programs must be able to generate consistent and predictable responses to a great number of situations. Given such predictability, how does EP leave room for a theological conception of *Homo sapiens* as conscientious creatures who bear the divine image in their freedom and responsibility? Does EP lead to the conclusion that biology determines behavior? Tooby and Cosmides argue that humankind’s neuro-cognitive

programs and the databases they create *can be called on* in different combinations to elicit a dazzling variety of behavioral responses. These responses are themselves information, subsequently ingested by the same evolved programs, in endless cycles that produce complex eddies, currents, and even singularities in cultural life. To get a genuine purchase on human behavior and society, researchers need to know the architecture of these evolved programs. Knowing the selection pressures will not be

¹⁸⁷ Ibid., 14.

enough. Our behavior is not a direct response to selection pressures or to a “need” to increase our reproduction.¹⁸⁸

In view of Tooby and Cosmides’s argument as a whole, the implication of the italicized phrase in this excerpt is that any number of the human brain’s integrated cognitive mechanisms “can be called on” *at will*, to a greater or lesser degree, because the recurrent dynamics of the brain’s “endless cycles” of cognition are not reducible to the sum of the underlying “functionally specialized learning systems, domain-specialized rules of inference, default preferences that are adjusted by experience, complex decision rules, concepts that organize our experiences and databases of knowledge, and vast databases of acquired information stored in specialized memory systems.”¹⁸⁹

Ironical as it may appear, EP allows and informs a theological discussion of human nature and nurture built upon the seemingly reductionistic principle that the genetic heritage of every organism is determined for it. No one can pick and choose the genes that express themselves in the development of the brains responsible for regulating all behavior and physiology. At the same time, Hefner finds ample reason to argue that “[w]ithin this deterministic evolutionary process, freedom has emerged,” and that “[w]hat we call freedom is rooted in the genetically controlled adaptive plasticity of the human phenotype.”¹⁹⁰ This plasticity does not negate the predictive and explanatory power of EP any more than it represents a subterfuge for a reductionistic research platform.

EP provides predictive (*not circumscriptive*) explanations (*not justifications*) for human behavior, because the discipline’s vast amounts of empirical data show that all human thoughts, meanings, values, and actions are conditioned (*not determined*) by the

¹⁸⁸ Ibid; emphasis added.

¹⁸⁹ Ibid.

¹⁹⁰ Hefner, *The Human Factor*, 30.

interaction of naturally selected, domain-specific, and cognitively biased psychological mechanisms following the circuit logic of the malleable (*not amorphous*) human brain-mind.¹⁹¹ Evolution by natural selection primes our primate brains to interact with the world in species-specific ways. The mind is not a blank slate, contra Locke. It operates according to something like Descartes' innate ideas or Kant's *a priori* categories of reasoning. Yet the brain's genetically controlled array of cognitive programs is not a mental *donum supernadditum*. Cognitive adaptations do not present evidence for a creator God—not in any immediate sense. Rather, they intimate the specific selection pressures present in what scientists call a species' *environment of evolutionary adaptedness* (EEA). In this sense, EP is a fully natural scientific critique of pure reason, because whatever "reason" is held to be, it is not the domain-general musing of the unfettered human intellect, but a bioculturally embedded psychosomatic function of human personhood.

Out of this functioning emerge humankind's symbolic worlds and the symbols, concepts, values, norms, technologies, theologies, anthropologies, ethics, etc. they produce. Therefore, van Huyssteen infers that epistemological-hermeneutical discourse in theology must face the "question [of] whether the nature of this process of complex cognitive evolution, revealed as interactive and epigenetic [...] tells us anything about the realist claims of some religions."¹⁹²

EP and the biocultural model of human development it supports cannot venture so far as to confirm or falsify "the realist claims of some religions," such as the Judeo-

¹⁹¹ See Edward H. Hagen, "Controversial Issues in Evolutionary Psychology," in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 145-72; cf. Pascal Boyer and H. Clark Barrett, "Domain Specificity and Intuitive Ontology," in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 96-118.

¹⁹² Van Huyssteen, *Alone in the World?*, 102.

Christian understanding that we bear the image of God with a knowledge of good and evil. However, EP and cognitive linguistics can offer natural scientific explanations of how these kinds of claims arise and operate on a neuro-cognitive level to generate culture. In this way the natural sciences synthesized in EP equip other disciplines with tools for understanding how human beings construct cognitively and culturally “*what really is*” and how this symbolic world guides perception, cognition, and action *in vivo*.

I mention in chapters 5 and 6 below some evolutionary psychologists’ findings about distinctly human forms of competitive and cooperative behaviors and their relationship to the emergence of cultural singularities like ethics, mythology, religion, and theology. These scientists are discovering how complex and abstract forms of semantic knowledge emerge from our biocultural inheritance to generate the ever-evolving ambit of human behavior, including humanity’s conditioned but conscientious influence over it.

Conclusion

The sections of this chapter have described the emergence of the image of God as a biocultural development marking the advent of “full” humanity in terms of its unique functional capabilities. The natural scientific disciplines of cognitive linguistics and evolutionary psychology help to locate the symbolic threshold launching behaviorally modern *Homo sapiens*’ biocultural evolution. As myth-symbols and the human condition to which they point, the *image of God* and the *knowledge of good and evil* emerge in no small part through our species’ singular capacity to integrate bits of semantic information across diverse behavioral domains. Because “more nature allows more nurture,” our

biocultural nature generates a condition of freedom through which we are responsible to discern, decide, and define what really is and ought to be.

As discussed in chapter 1, cognitive linguist George Lakoff's neural theory of language and metaphor presents a fruitful framework for describing how the symbolic associations which encode *what really is* or *how things really are* are culturally constituted bits of semantic information, emerging from the bottom-up and giving shape to every human apperception and action, from the most limbic of emotions to the most lyric of poems to the most logical of discourses.¹⁹³ This conception of the emergence of

¹⁹³ See George Lakoff, "The Neural Theory of Metaphor," in *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs (New York: Cambridge University Press, 2008), 17-38. The basic tenets of the neural theory of language and metaphor are that semantic information is stored and manipulated in the brain's neurons and their synaptic interconnections. The physical regions of the brain and the integrated nodal groupings of neurons within them are responsible for all of a person's sensations, bodily functions, movements, and thoughts. The body-brain presents all the conditions of possibilities and limitations for human cognition and action. With each neuron connecting with between 1,000 and 10,000 others, and with each significant cluster of neurons similarly connected within and among brain regions, the possibilities open to human cognition are finite, but still astronomically vast and open-ended—a kind of bounded infinity. Meaning is the result of the embodied process of neuro-chemical information traveling among bundles of neurons. The kinds of meanings that transcend those of alarm signals, emotive vocalizations, mating calls, and the like, have similar adaptive origins and functions—they begin and often end in sensory-motor function. For instance, mirror neurons have synapses which co-fire across sensory, premotor, and cerebral areas of the brain associated with memory and speech. Due to the relatively plastic quality of the brain to create and strengthen oft-used neuronal connections by recruiting more neurons and adding more synapses to the informational network, synaptic connections "that fire together wire together" within and among neuronal bundles and regions (19; cf. 19-20, 26). For this reason, regardless of the vocalizations or written symbols used to signify them, the most basic and universal kinds of concepts are constructed directly from sensory-motor experience.

These concepts constitute the raw materials necessary for language through the process of binding and blending them together throughout the brain in order to create every conceivable kind of symbolic meaning. These most basic concepts bind together across neuronal bundles into "primary metaphors," having irreducible significance in their compound structure, and enabling further combination and elaboration for producing ever-new meanings and semantic relations. Some examples of primary metaphors are represented in statements like, "Purposes are Destinations"; "Difficulties are Impediments to Motion"; "A Relationship is a Container (a Bounded Region of Space)"; and "Intimacy is closeness" (26-27; cf. 24-26, 35, 37). These and other primary metaphors enable and inform the more rich and complex metaphor that "Love is a Journey," from which emanate such deceptively perspicuous phrases as, "going too fast," "taking the next step," "going together," "going steady," "reaching an anniversary," "being swept off one's feet," "hitting a speed bump," "getting over a hurdle," "offering support," "being *in* love," "being in over one's head," "getting hitched," "being in it for the long haul," "giving space," "getting close," "being together," "hooking-up." The meanings of these phrases are so obvious for so many because concept-carrying groups of neurons can fire across one another without conscious effort. Neural pathways which fire together across conceptual domains in ways that "make sense" are maintained and reinforced autopoietically, while ill-fitting neuro-cognitive connections remain minimal and unstimulated or become actively inhibited.

meanings implies that even theological understandings of *what really is* begin in domain-specialized neuro-cognitive mechanisms and physical structures for knowing, which ought therefore to be taken into consideration when formulating and articulating the meanings of religious symbols today.

According to Fauconnier and Turner, double-scope blending or conceptual integration is what makes singularly human forms of semantic knowledge possible. Through these somatically-based biocultural processes, *Homo sapiens* construe any and every understanding of *what really is*—that conception of reality for which we are responsible and to which we are accountable. In our symbolization is constituted the semantic knowledge that makes us who we are as those who play a conscientious role in determining *what really is* and *ought to be* for us. Within these non-Darwinian dynamic processes beats the heart of what it means to emerge as a culturally constituted creature, a created co-creator, a bearer of the image of God. The following chapter presents a detailed analysis of how these novel realities emerge.

CHAPTER 3

EMERGENCE: CREATING CAUSES, CREATURES, MEANINGS, MINDS

At the heart of the endeavor to discover what it might mean to emerge in the image of God through biocultural evolution lies the concept of *emergence*. Among the many cross-disciplinary concepts giving shape to scientific understanding and research today, *emergence* has both a relatively long history and a newly enthusiastic following, especially among those engaging in discourse between scientific and religious disciplines. Emergentism has quickly become an attractive and well-established option for scholars dissatisfied with reductionistic perspectives in science and/or dualist perspectives in religion. Among other things, *emergence* seeks to expose and escape the false dichotomy between reducing mentality to physics and attributing cognitive function to the activity of an immaterial substance called “soul” or “spirit.” In this chapter I seek to show how *emergence* dismantles this false dichotomy and provides a great deal of constructive material for Christian anthropology and ethics. Arguably, emergentism is a fruitful framework for gaining a renewed understanding of the myth-symbols of the *image of God* and the *knowledge of good and evil*, for constructing an intellectually honest and thoroughly Christian conception of *what really is* in order to better discern and decide what *ought* to be.

The following sections of this chapter represent the next steps in constructing an understanding of what it is to emerge in the image of God with a knowledge of good and evil. The first section raises the notion that *emergence* is mainly about how to account for different kinds of causes in the cosmos. The second section introduces neuroscientist Terrence W. Deacon’s three-tiered taxonomy for understanding every kind of emergent

causal power. The third section sets about the task of comparing, contrasting, and constructing Deacon's emergentist schema. This section includes three subsections, which explore the false dichotomy of "weak" vs. "strong" emergence, the false equation of reductive and nonreductive physicalism, and the confusion over Deacon and emergentist Philip Clayton's "orders" vs. "levels" of emergence. The fourth section builds upon the crux of Deacon's argument that emerging into something *other*—like a God-imaging person—does not entail the introduction of something *more* in the cosmos, like a new type of force, substance, or law of physics. Included in this fourth section are three subsections delving into Deacon's three cumulative and hierarchic orders of emergence—*homeodynamics*, *morphodynamics*, and *teleodynamics*. The final section addresses anthropologically, ethically, and theologically relevant forms of non-Darwinian teleodynamics and concludes with two subsections on how the emergent dynamics of sentience and consciousness inform what it means to emerge in the image of God with a knowledge of good and evil.

Counting the (emergent) cause

The emergence of person-defining symbolic meanings is a result of the underlying emergence of life and mind. Theologian John F. Haught has observed that the concept "of *emergence* now holds an increasingly prominent place" in framing "the many scientific ideas that seem to support the naturalist worldview."¹⁹⁴ What Haught means by *naturalism* is the suspension or rejection of the appeal to any reality distinct from the natural world as necessary for understanding the existence of the cosmos or any

¹⁹⁴ John F. Haught, *Is Nature Enough?: Meaning and Truth in the Age of Science* (New York: Cambridge University Press, 2006), 77. For Haught's treatment of the concept of *emergence*, see *ibid.*, 77-97, 137, 166, 210.

phenomenon within it.¹⁹⁵ Haught's overarching question in his critical embrace of naturalism is whether this perspective "is enough" to provide responses to ultimate questions of purpose and meaning in the cosmos or whether such questions *are* even meaningful so as to *have* any purpose.

In terms of Aristotle's classic taxonomy of causality, Haught argues that the natural sciences, especially in their more reductionistic strands, confine themselves methodologically to what could be construed as questions of material, formal, and efficient causality—the atoms that make up everything and everyone (material), their intrinsic causal properties in isolation and interaction (formal), and the ways in which they interact to make things happen (efficient).

Haught contends that scientific scholarship ought to restrict itself in most cases to these levels or "layers" of explanation and always avoid appealing to divine activity. These relatively objective kinds of explanation are valid and valuable in themselves, and their impact on other disciplines should not be ignored. The explanatory power and fruitfulness of a naturalist perspective has helped to reframe theological inquiry regarding the nature of all divine activity *ad extra*—creation, providence, revelation, redemption, etc. Differentiating and reintegrating distinct but commensurable levels or kinds of explanation among scientific and religious forms of discourse reshapes what it means to be a part of "the creation," what it might mean "to create," and therefore what it can mean to speak of "a creator." Where natural scientific explanations satisfy the criteria for truthfulness, they can challenge and inform the entire framework of the believer's conception of reality, from gluons to God.

¹⁹⁵ Ibid., 2, 4-20.

Yet for Haught, despite this potential for dialogue, the sciences still seem to display a methodological lacuna for questions of ultimacy, purpose, and meaning in the realm of what Aristotle termed *final causality*—the end or goal for the sake of which something exists and/or (inter)acts. Haught argues convincingly that this teleological layer of explanation is largely inaccessible and irrelevant to many natural scientists because of their underlying (and often unexplored) ontological presuppositions.

Some ontologically reductionistic presuppositions entail the implicit or explicit claim that intentionality and the meanings and values often accompanying it are seeming surds in the natural world or convenient, if illusory, explanatory glosses for causal interactions that are fully explicable in epiphenomenal terms. All modes of causation, in other words, are reducible to the interactions of variously sized bits of matter-energy via the four known fundamental forces.¹⁹⁶ There is nothing going on at the level of biology or psychology for which physics cannot theoretically provide a comprehensive explanation. Haught calls this perspective “scientific” or “evolutionary naturalism.”¹⁹⁷ Perhaps more descriptively, Deacon calls this perspective “eliminative reductionism” or “eliminative materialism.”¹⁹⁸ Another oft-used, though less precise, synonym for this eliminative paradigm is “reductive physicalism.” All of these terms have been generated in order to contrast with nonreductive—yet still fundamentally naturalist, materialist, physicalist—emergentist perspectives.

According to eliminative materialism, appeals to divine agency are doubly redundant because appeals to the human agency through which such notions arise are

¹⁹⁶ The four fundamental forces are the strong and weak nuclear forces, electromagnetism, and gravitation.

¹⁹⁷ Haught, *Is Nature Enough?*, 9.

¹⁹⁸ Terrance W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York; London: W. W. Norton and Company, 2012), 81-82, 138, 179-80, 374, 504, 549.

also redundant. The supposedly misguided appeal to personal causal “agents” lies behind evolutionary biologist Richard Dawkins’s so called “God delusion.”¹⁹⁹ Sociobiologist E. O. Wilson also holds that the projection of intention within and beyond the natural world is meaningful and valuable only in terms of its sociobiological utility in securing a reproductive advantage.²⁰⁰ For Wilson religious faith and ritual are genetically primed and “adaptive in a Darwinian sense” as means of enhancing individual and group survival, ecological control, and social conformity.²⁰¹

As a counterexample to this kind of thinking, Haught highlights how reductionistic scientists betray their own phenomenological common sense. They are able to give more or less complete accounts of phenomena at some levels of explanation, but in ways which cut them off from other kinds of explanation implied in all forms of human activity, including the pursuit of knowledge through natural scientific methods. These scholarly pursuits imply the causal relevance of irreducible “things” like meanings, interests, intentions, values, and persons.

As a test case, Haught draws an analogy using Aristotle’s four forms of causality, supposing that if someone sees a pot of water boiling on a stove and asks why it is boiling, one could respond in a number of equally valid ways. One could accurately say that the water is boiling because the relative velocities of the H₂O molecules in the pot have increased enough to reach a temperature of 100 degrees centigrade, causing them to make their transition from a liquid to a gaseous state (material and formal cause). One could explain that the water is boiling because the burner beneath the pot is alight (efficient cause). However, the answer which one might expect in most circumstances is

¹⁹⁹ Richard Dawkins. *The God Delusion* (Boston; New York: Houghton Mifflin, 2006), 179-84.

²⁰⁰ Edward O. Wilson. *Sociobiology: The Abridged Edition* (Cambridge, Mass.; London, 1980), 284-87.

²⁰¹ *Ibid.*, 284.

also the answer which reductive forms of natural scientific scholarship cannot countenance without reducing and therefore eliminating what is meant by it—“because I want tea” (final cause).²⁰²

From an eliminative perspective the subject “I” and verb “want” in this sentence refer to a causal power that is epiphenomenal of the physics underlying it. Notions of subjects and their intentions are an adaptive, but superfluous, epistemic shorthand or placeholder for more eliminative explanations. The appearance of agency can be understood without remainder as the entailed effects of ultimately unguided material interactions. Only bottom-up or part-whole interactions are really real or causally efficacious; top-down or whole-part explanations are illusory, heuristic, and epiphenomenal. Consequently, so are intention, freedom, meaning, and value.

If this kind of reductionism were valid or complete, its effects on ethics and religion, among other pursuits, would be devastating. These potential effects are among the reasons that “*emergence* now holds an increasingly prominent place” in scientific scholarship and discourse between natural scientific and theological disciplines.²⁰³ While scholars like evolutionary psychologists Leda Cosmides and John Tooby are implicitly non-reductionistic, *emergence* is explicitly *anti*-reductionistic in its ability to frame the findings of evolutionary psychology (EP) and other scientific disciplines. Emergentism does not result in theology or theological anthropology and ethics. However, proponents of *emergence* are able to locate and analyze both quantitative and qualitative distinctions within the natural world. These distinctions give rise to credible, systematic, empirically-based ways of describing human uniqueness that open up scientific modes of explanation

²⁰² Haught, *Is Nature Enough*, 68-70; cf. 16-20.

²⁰³ *Ibid.*, 77.

to conceptual integration with theological ones.²⁰⁴ With their goal of substantiating final (causality) analyses, many emergentists hold that eliminative materialism misses something, because the something it misses is not a materially or energetically present “thing” at all, but the dynamical, diachronic self-organization of that which *is* materially and energetically present and quantifiable.

According to Deacon, the emergence of life and mentality are among the kinds of (id)entity constituting dynamics which are not only absent in terms of an empirically observable and quantifiable material-energetic cause or sum of causes, but which, in being end-directed and consequence-organized, emerge and employ energy for the sake of a reality—a goal, a *telos*—which is no less absent in terms of its incompleteness, intangibility, or spatio-temporal distance.

In these terms, there is perhaps little wonder so many in the natural sciences have been missing the forest for the trees, so to speak. Though cliché, this turn of phrase might help illuminate key concepts in the emergence conversation. Ecologically speaking, a forest is not just a dense localized grouping of arboreal life; it is an ecosystem, which is only present as a function of the interactive dynamics of its geological, climatic, microbial, plant, and animal constituents. These dynamic processes and others like them are something *other* than the simple addition of constituent parts and their interactions, though they are not exactly something *more* than this—a superaddition of new physical laws, forces, or “spirits.” What is missing is a way to account for the generation, preservation, and propagation of energetic physical interactions which involve a degree and kind of causal power “located” in an indissoluble interaction of constituent parts, not

²⁰⁴ See Roberts, “Emerging in the Image of God to Know Good and Evil,” 474, 480 n.5.

in the parts themselves.²⁰⁵ Mereological analysis²⁰⁶ does not overlook any of the material-energetic components present in emergent dynamics, but it does “throw away information about the basis of higher-order causal powers.”²⁰⁷ “There is nothing left out,” Deacon argues, “because there are no components to what is absent. [...] We can summarize the source of irreducibility in such cases in a simple slogan: Absence has no components, and so it cannot be reduced or eliminated.”²⁰⁸ Speaking perhaps less enigmatically, Deacon grants that

[t]here can be little doubt that reductionistic science is fundamentally sound. It has provided unparalleled predictive power for explaining physical-chemical processes across unimaginable ranges of scale and diversity of phenomena. It would be pointless to even imagine that it is somehow misguided.²⁰⁹

At the same time, he points out that where it concerns living organisms, this kind of science

also precisely brackets from analysis what is most relevant: the “organic wholeness.” The life of an organism is not resident in its parts. It is embodied in the global organization of living processes. Moreover, the so-called parts that analysis produces—the individual molecules, organelles, cells, tissues, types, and organs—are not parts in the sense that machine parts are.²¹⁰

Without delving into Deacon’s extensive argument over what qualities differentiate machine parts and the (co)evolved body parts of organisms,²¹¹ one might accomplish the same effect by denoting the concept of *fusion* he gleans from American philosopher Paul Humphreys. *Fusion* means that inclusion within an emergent whole can

²⁰⁵ Deacon, *Incomplete Nature*, 315.

²⁰⁶ For Deacon’s purposes mereological analyses are empirical studies designed to locate part-part and part-whole constitution and interaction at a given moment, which is to day synchronically.

²⁰⁷ Deacon, *Incomplete Nature*, 204

²⁰⁸ Ibid., 204; cf. 1-11, 39, 232.

²⁰⁹ Ibid., 203.

²¹⁰ Ibid., 135; cf. 162, 166, 180, 323.

²¹¹ See especially *ibid.*, 107-42; cf. 497-98.

affect the constitutional properties of a given part. The coadaptation of organs or organisms is one such effect. Summarizing the concept of *fusion*, Deacon explains that “[b]y virtue of their systemic involvement with each other, [dynamically integrated body ‘parts’] are not longer entirely distinguishable. As a result, reductionist decomposition cannot be competed because what were once independently identifiable parts no longer exist.”²¹²

(Id)entity-defining dynamics emerge as the self-orchestration and mutual direction of the pieces in the ensemble. The performance of the ensemble is not merely the sum of each part being played simultaneously. Likewise, life, evolution, information, significance, sentience, consciousness, and personhood all happen because of—and for the sake of—something which for all reductionistic intents and purposes is not there. An ability to account for emergent causes might be instrumental in “locating” human spirituality, the image of God, and the ethical and theological horizons toward which they point.

Three orders of emergent causality

Like Haught, Deacon is interested in reformulating and reappropriating the Aristotelian notion of final causality for the natural sciences today, which he attempts to achieve through the concept of *teleodynamics*. Where some scholars seem to understand *emergence* very generally as an escalating result of self-organizing principles in the natural world, and where others are able to cite nearly thirty distinct levels or types of emergence, Deacon locates three cumulative and hierarchically supervenient²¹³ orders of

²¹² Ibid., 162; cf. 163, 166-67, 178, 199, 550.

²¹³ Because Deacon differentiates three irreducible orders of emergent dynamics, and because each order supervenes dynamically upon the causal dynamics of its subvenient constituents, he effectively constructs

scale for analyzing all instances of emergent dynamics. Deacon now refers to these orders as *homeodynamics*, *morphodynamics*, and *teleodynamics*.

This nomenclature reflects that of Deacon's most recent monograph on emergence, *Incomplete Nature: How the Mind Emerged from Matter* (2012). He has, however, employed various parallel terminologies to denote the same three orders of emergence. Discussions of these three emergent orders and their potential impact on Christian anthropology and ethics occupy the remainder of this chapter:

(1) First-order =	non-recurrent	supervenient	thermodynamic (homeo-) ²¹⁴
(2) Second-order =	simple-recurrent	self-organizing	morphodynamic
(3) Third-order =	hyper-recurrent	evolutionary	teleodynamic

Deacon's three-tiered schema of emergent phenomena is arguably more terminologically precise, comprehensive, and internally and externally coherent than any other framework for emergence scholarship. His decade-long work on the topic of *emergence* has proven influential and fruitful for a number of scholars in the philosophical and theological disciplines who are working to bring current science into dialogue with their respective fields. Thinkers like Christian Philosopher Nancey Murphy, psychologist Warren S. Brown, Philip Clayton, J. W. van Huyssteen, John Hought, and Philip Hefner are just a few who consider the concept of *emergence* to present a viable alternative to the seeming dichotomy between reductive physicalism and

three distinct definitions of "supervenience." The sense of term defined at the end of chapter 1 corresponds most closely to Deacon's conception of teleodynamic supervenience, which is end-directed and involves the diachronic interaction of two or more morphodynamic processes. These hyper-recurrent dynamics exert a "downward" causal influence, affecting the probability structure of thermodynamic activity in a given material-energetic, spatio-temporal region.

²¹⁴ The replacement of "thermodynamic" emergence with "homeodynamics" marks the only significant terminological development of these parallel terms since "Emergence: The Hole at the Wheel's Hub," in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, edited by Philip Clayton and Paul Davies (Oxford: Oxford University Press, 2006), 111-50; cf., "Three Levels of Emergent Phenomena," in *Evolution and Emergence: Systems, Organisms, Persons*, edited by Nancey Murphy and William R. Stoeger, SJ (Oxford: Oxford University Press, 2007), 88-110.

substance dualism in anthropology, especially as it reaches into the realms of ethics and theology. These scholars are not looking for any available dialogue partner who “plays nice” with theology. Rather, they, like Deacon, find eliminative explanations of natural phenomena to be incomplete and inaccurate.

Still, the greater attraction to *emergence* among theologians might well be the implication that if free and responsible intentionality is able to emerge through natural processes, the emergent dynamics resulting in human personhood might intimate the existence and character of a personal, intelligent, dynamic, creative reality transcending the cosmos as a whole. In short, the search for the ultimate conditions of possibility behind such perennial questions as “Why does anything exist?” “Why this reality and not another?” and “Why am I able to ask these questions?” may still point plausibly in the direction of religious faith, theological reflection, and the kinds of meanings and values they enable and require. *Emergence* has become a promising path down which interdisciplinary scholars are pursuing these kinds of questions today.

Along this path, *emergence* also promises to be a fruitful hermeneutical tool by which Ricoeur’s “wager” that a second naïveté retrieval of religious myth-symbols might yet pay off in terms of Hefner’s twofold task of “provid[ing] genuine knowledge of reality, for the sake of our wholesome living.”²¹⁵ Theological meanings may be able to retain an integral and plausible space in the symbolic universe of *what really is*, bearing implications for human visions of what ought to be.²¹⁶

²¹⁵ Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 142.

²¹⁶ See *ibid.*, 100-01, 146-47, 156, 161, 175, 185-86, 191, 196, 203-04, 210; emphasis original.

Comparing, contrasting, and constructing Deacon's emergentist schema

One of the star players on the stage of emergence scholarship and its theological application is Philip Clayton, whose concise listing of the general tenets of emergence are rehearsed at the end of chapter 1 above: (1) ontological physicalism, (2) property emergence, (3) the irreducibility of emergence, and (4) downward causation.²¹⁷ As an emergentist Clayton contributes careful philosophical and historical scholarship, firsthand contributions to dialogue between the natural sciences and theology, and accessible explanations of *emergence*. However, he no more represents a standardized conception of emergentism than Deacon.

Though Deacon is less concerned with theological application than Clayton, one could argue that these scholars' respective characterizations of *emergence* are ultimately compatible, plausible, and profitable for theological discourse.²¹⁸ At the same time, neither thinker is currently working to commensurate or coordinate their efforts. Both place a premium on terminological precision, but they pursue clarity in ways that are *prima facie* incompatible.²¹⁹ Because they have not done much talking *with* one another, they seem to do an unfortunate amount of talking *past* one another.

²¹⁷ Philip Clayton, "Conceptual Foundations of Emergence Theory," in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, edited by Philip Clayton and Paul Davies (Oxford, Oxford University Press, 2006), 2; cf. Philip Clayton, *Mind and Emergence: From Quantum to Consciousness* (Oxford: Oxford University Press, 2004), 4.

²¹⁸ Theologian James W. Haag, for example, argues that the "approaches of Clayton and Deacon are not incompatible." See "Between Physicalism and Mentalism: Philip Clayton on Mind and Emergence," *Zygon: Journal of Religion and Science* 41 (2006), 633-47.

²¹⁹ Deacon, for example, observes that "one persistent problem with accounts of emergent phenomena is that the concept of emergence is both ambiguous and used in different ways in different contexts. Another is that it is often used in a merely negative sense, to point to something missing in reductionistic explanations. [...] These incautious uses allow critics to claim rightfully that it mostly serves as a philosophical promissory note" ("Three Levels of Emergent Phenomena," 92, 93).

Three potential areas of contention between Clayton and Deacon are (1) the relative significance each assigns to the distinction between “weak” and “strong” emergence, (2) the manner in which each understands the term “physicalism,” and (3) whether Deacon’s three orders of emergent phenomena are precise enough to make the same qualitative distinctions as Clayton’s multiple “levels” of emergence, especially among third-order emergent dynamics.

The following three subsections help to construct and defend Deacon’s emergentist schema by tackling these issues. This analysis makes it possible to describe precisely (1) how the image of God and the knowledge of good and evil belong to the dynamic psychosomatic life of the human person ever in the process of becoming, (2) how these theologically oriented realities emerge as natural, physically-based dynamics, and (3) how these uniquely human emergent realities are qualitatively distinct from other types of naturally-occurring phenomena.

The false dichotomy of “weak” vs. “strong” emergence

Clayton contrasts weak and strong conceptions of emergence as follows:

Strong emergentists maintain that evolution in the cosmos produces new, ontologically distinct levels, which are characterized by their own distinct laws or regularities and causal forces. By contrast, weak emergentists insist that, as new patterns emerge, the fundamental causal processes remain those of physics. As emergentists, these thinkers believe that it may be essential to scientific success to explain causal processes using emergent categories such as protein synthesis, hunger, kin selection, or the desire to be loved. But, although such emergent structures may essentially constrain the behaviour [sic] of lower-level structures, they should not be viewed as active causal influences in their own right.²²⁰

He labels this understanding of weak emergence “epistemological emergence,” in that the emergent wholes it identifies embody “the same fundamental causal processes” at every

²²⁰ Clayton, *Mind and Emergence*, 9.

level of organization, though in ways that might currently escape our notice or grasp. Strong, or “ontological emergence,” by contrast, refers to causal properties that are not reducible to any belonging to the constituent parts of an emergent whole or any sum of the interactions among them.²²¹ While Clayton admits that weak emergentism does constitute a break with canonical strains of reductive physicalism, he appeals to contemporary American philosopher Jaegwon Kim in order to propose that weak emergentism stands or falls on its ability to distinguish between reductive and nonreductive physicalism. However, because of the way Clayton and Kim define *physicalism*, they find the reductive-nonreductive classification to be a distinction without a difference, or at least an untenable distinction. They hold that nonreductive physicalism ultimately collapses into either reductive physicalism or some form of ontological dualism.²²² Thus, Clayton argues, weak emergence is left “saddled with the same old dichotomy between physicalism and dualism, despite its best efforts to the contrary.”²²³ If Clayton is correct about physicalism, then perhaps Deacon, as a physicalist, cannot help the theologian give a robust account of the emergence of the image of God.

According to Clayton, weak emergentism accepts “the causal closure of the world and a lawlike, even necessary entailment relationship between supervenient and subvenient levels,” which he calls a “*token-token* relationship.”²²⁴ Causal closure, especially as Deacon employs the principle, refers mainly to the first law of

²²¹ Ibid., 10.

²²² Ibid., 124, 130; cf. Jaegwon Kim, *Mind in a Physical World* (Cambridge, Mass.: MIT Press, 1998), 46-47, 118-20; *Philosophy of Mind*, 3rd ed. (Boulder, Col.: Westview Press, 2011), 13-14, 122-25.

²²³ Clayton, *Mind and Emergence*, 10.

²²⁴ Ibid., 31, 125-26.

thermodynamics, which states that matter and energy cannot be created or destroyed.²²⁵

The second law of thermodynamics—the law of entropy—states, however, that matter and energy can be converted into other forms (including one another). When left to themselves, energetic interactions tend to diffuse as much as possible into their surroundings, becoming more randomized, or in Deacon’s terminology, less constrained.²²⁶ Deacon holds that the laws of thermodynamics entail “a causal closure principle, which is to say that the basic causal laws of the universe also form a closed system—all changes come from within.”²²⁷ Causal closure, couched solely in thermodynamic terms, implies the “bottom-up” determination of emergent phenomena at every level or order. Deacon, however, claims that there are two *kinds of dynamics* within the causally closed cosmos, which are not reducible to the thermodynamic activity through which they emerge, namely morphodynamics and teleodynamics. By this route, explored more fully below, Deacon celebrates the causal closure principle and successfully avoids reducing all forms of causation to their quantum level constituents.

In the process, Deacon, like Clayton, sings the praises of *multiple realizability*. For Deacon multiple realizability means that complex emergent phenomena defy reductive token-token analyses because they “can all be embodied in highly diverse kinds of physical-chemical processes and substrates.”²²⁸ The same adaptive function might be realized in very different ways by different species or individuals.²²⁹ Two identical brain events may be associated with very different mental events; just as two identical mental events may be associated with very different brain events. Avoiding the

²²⁵ Deacon, *Incomplete Nature*, 37-38.

²²⁶ Ibid., 229.

²²⁷ Ibid., 38.

²²⁸ Ibid., 29.

²²⁹ Ibid., 29-30.

epiphenomenalism of token-token entailment presents another way in which Deacon may not fit the bill of the weak emergentism Clayton expects to find in physicalism.

Deacon argues that metabolism does not equal mentality. He holds that while there may be an identifiable micro-physical-chemical correlate to every mental phenomenon, lower-level explanations do not preclude robust accounts of mental causation according to which mind states (emergent mental dynamics) and brain states (subvenient neuro-chemical-physical dynamics) are co-constraining, yet qualitatively distinct. Mental phenomena are causally dependent upon brain physiology from the “bottom-up,” *and* emergent mental dynamics are able to affect/effect these brain states from the “top-down.” Deacon’s dynamical emergentist schema is able to justify the phenomenological intuition characteristic of so much of human experience—that the mind knows what the brain is telling it; and the brain-body does what the mind tells it to do. Emergentism both confirms and qualifies the old adage, “mind over matter.”

Despite these potential inroads to consensus, Clayton remains skeptical of what he is willing to admit “is perhaps the most sophisticated scientific theory of emergence currently available,” because he still finds Deacon’s version to be “weak” in the sense denoted above.²³⁰ What is more, for Clayton, “weak emergence is the position to beat.”²³¹

Deacon, however, denies both claims—that he is a weak emergentist in Clayton’s terms, and that the contest comes down to one between weak and strong emergence. Deacon acknowledges that his own scholarship “might be described as a sort of ‘weak emergence’ or ‘soft reductionism.’” Yet he immediately qualifies this confession by arguing that a “more careful analysis of emergence forces an abandonment of both

²³⁰ Clayton, *Mind and Emergence*, 46; cf. 46-48, 137.

²³¹ *Ibid.*, 32.

caricatures of explanation as simplistic abstractions.”²³² Making only an indirect reference to Clayton, Deacon notes in his latest monograph that

theorists are often distinguished as either being “weak” or “strong” emergentists, referring to their stance on the question of causal discontinuity and whether emergence is compatible or incompatible with reductionism. Strong emergentism argues that emergent transitions involve a fundamental discontinuity of physical laws; weak emergentism argues that although there may be a superficially radical reorganization, the properties of higher and lower levels form a continuum, with no new laws of causality emerging. However, this distinction does not capture many more subtle differences, and the perspective developed in this book is not easily categorized in these terms.²³³

Though the way out of this seeming dichotomy is complex, Christian philosopher Nancey Murphy has developed several terminological distinctions which she finds to operate within Deacon’s work. First, Murphy defines five interrelated types of reductionism: (1) methodological reductionism, (2) epistemological reductionism, (3) logical or definitional reductionism, (4) causal reductionism, and (5) (two types of) ontological reductionism.²³⁴ When denoting and relating these terms, she takes issue with the concept of causal reductionism: “The view that the behavior of the parts of a system (ultimately, the parts studied by subatomic physics) is determinative of the behavior of all higher-level entities; all causation is ‘bottom-up.’”²³⁵ Supplementing her findings with Deacon’s, Murphy distinguishes between “causal forces” and “causal powers.”²³⁶ She prefers the latter term, which follows neatly the etymology of the Greek *dunamis*, most readily recognized in the noun and adjective forms of the English *dynamic*. Even more

²³² Deacon, “Three Levels of Emergent Phenomena,” 95.

²³³ Deacon, *Incomplete Nature*, 159; cf. 558 n.13.

²³⁴ Nancey Murphy, “Reductionism: How Did We Fall Into It and Can We Emerge From It?” in *Evolution and Emergence: Systems, Organisms, Persons*, edited by Nancey Murphy and William R. Stoeger, SJ (Oxford: Oxford University Press, 2007), 23.

²³⁵ *Ibid.*; cf. 24-25.

²³⁶ *Ibid.*, 27; cf. Nancey Murphy, “Emergence and Mental Causation,” In *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, edited by Philip Clayton and Paul Davies (Oxford: Oxford University Press, 2006), 228.

interesting is that Deacon has begun to make ample and consistent use of the term “causal power” in the way Murphy describes it.²³⁷

With this distinction between forces and powers, Murphy and Deacon conclude that emergent phenomena of any type do not involve the creation of new physical “laws,” even though they may introduce irreducible causal “dynamics.” Likewise, emergent phenomena do not create new physical “forces,” even though they may constitute the creation of a dynamically supervenient “causal power,” system, or entity, such as an organism. Life and causally efficacious mental function do not add to or subtract from the four fundamental cosmic forces. Yet life and mentality are not located in the metabolic activity of the body, but in the causal dynamics orchestrating metabolism from part to whole and whole to part. The “parts” are materially-energetically present; their “fusion” is not.

Consequently, the causal closure principle cannot chase the image of God or even God out of the physical universe. Even if “all changes come from within,” as Deacon asserts, “causal powers” and their dynamically supervening influence are not “in” the cosmos in the same manner as “causal forces.” Deacon is not forced to choose between ontological physicalism and causal dualism, as Clayton and Kim presume. Thus, while every aspect of human personhood is wholly immanent to the cosmos, bearing the image of God can neither be reduced to physics nor relegated to the inaccessible realm of the *supernatural*. Theological descriptors like the *image of God* remain defensible because the causal closure principle cannot exclude *a priori* a dynamically supervening causal power acting from within—but not circumscribed by—created reality as a whole. With

²³⁷ See Deacon, *Incomplete Nature*, 141. Because Deacon does not cite Murphy’s development of this distinction, I prefer to think of this terminological convergence as coincidental.

emergence there is room for God, even “in” a closed universe. While in-depth discussion of divine action in a causally closed universe is beyond the scope of this study, this topic is very likely to play a role in my future research and bears further mention in chapter 7.

The false equation of reductive and nonreductive physicalism

Because the image of God must at some level be a physically-borne reality, a second area of potential disagreement between Clayton and Deacon worth analyzing is the manner in which each understands the term “physicalism.” As mentioned above, this second issue relates to the first, in that Clayton draws a correspondence between weak emergentism and physicalism. Citing Kim, Clayton attempts to discredit the supposed “nonreductive physicalism” of Deacon and his supporters, voicing his “serious doubts whether *any* version of physicalism other than reductionist physicalism is in the end coherent.”²³⁸ However, Deacon “evades Kim’s critique” by exposing a problematic assumption underlying Kim’s understanding of ontological (strong) emergence versus epistemological (weak) emergence—the false dichotomy Deacon seeks to overcome.²³⁹

The difficulty in Kim’s position for Deacon lies in the assumption that one can separate the synchronic and diachronic aspects of emergent phenomena.²⁴⁰ For Deacon, “at least for higher-order forms of emergence, the part/whole distinction and the synchrony/diachrony distinction are intertwined.”²⁴¹ The diachronic dynamics of causal powers “contains” the information reductive analysis irretrievably throws away. Emergence is a process, not just a product, and the process is not reducible, because it has

²³⁸ Clayton, *Mind and Emergence*, 124; emphasis original.

²³⁹ Deacon, *Incomplete Nature*, 168.

²⁴⁰ Ibid., 164-69.

²⁴¹ Ibid., 164; cf. .

no components.²⁴² At the same time, these dynamic processes bear ontological implications for the materially-energetically present “components” involved in emergent phenomena. Referring again to Humphrey’s concept of *fusion*, Deacon argues that Kim’s conflation of all forms of physicalism rests on the atomistic assumption that “parts” are fully understandable in isolation from the wholes in which they are dynamically embedded.²⁴³

Deacon’s self-termed “softened reductionism” does not preclude a robust conception of whole-part supervenience, because he maintains that “a synchronic understanding of this relationship is an insufficient basis for the concept of emergence.”²⁴⁴ This is not to say that mereological analysis is useless or unnecessary, only that it cannot avail itself of all information relevant for “locating” personal subjects or the image of God they bear *in vivo*. Analogously, differentiation in calculus is useful for finding instantaneous slopes of nonlinear equations, making available moment-to-moment information such as the velocity or acceleration of an object, but only by reducing time and distance (i.e., space-time) to nothing—to zero.²⁴⁵ This kind of synchronic analysis is important, but the methodological reductionism of finding the instantaneous slope of a zero-dimensional point on a curve yields a quantity that is only identifiable and significant because it is in flux—a “part” of dynamic, diachronic function.

As a proponent of Deacon’s emergentist perspective, Murphy argues convincingly that the first type of ontological reductionism she defines is a key ingredient of *nonreductive* physicalism, because it does not entail causal reductionism. The form of

²⁴² Ibid., 204.

²⁴³ Ibid., 166-67.

²⁴⁴ Ibid., 168.

²⁴⁵ Ibid., 11.

ontological reductionism conducive to emergentism “is the view that as one goes up the hierarchy of levels, no new kinds of metaphysical ‘ingredients’ need to be added to produce higher-level entities from lower.” According to Murphy, for higher-order forms of complexity to emerge, “No ‘vital force’ or ‘entelechy’ must be added to get living beings from non-living materials; no immaterial mind or soul needed to get consciousness; no *Zeitgeist* to form individuals into a society.”²⁴⁶ Murphy then defines a second kind of ontological reductionism in terms of the “much stronger thesis [...] that only the entities at the lowest level are *really* real; higher-level entities—molecules, cells, organisms, are only composites made of atoms.”²⁴⁷ She calls this position “atomist reductionism,” and elsewhere, “reductive materialism.”²⁴⁸

In *nonreductive* physicalism, Murphy argues, “It is possible to hold a physicalist ontology without subscribing to atomist reductionism.”²⁴⁹ With the emergence of novel and irreducible causal powers, one is able to “say that higher-level entities are real—as real as the entities that compose them—and at the same time reject all sorts of vitalism and dualism.”²⁵⁰ By rejecting atomist reductionism, Murphy also rejects what she calls causal reductionism. Deacon accomplishes the same by differentiating morphodynamics and teleodynamics from their underlying thermodynamics.

The theological significance of this principle is that from atom to “Adam,” emerging in the image of God is a natural process which is not reducible to physics. At the same time, the dynamical emergence of human uniqueness bears a traceable kinship

²⁴⁶ Murphy, “Reductionism: Falling into and Emerging from It,” 23; cf. Nancy Murphy, “Nonreductive Physicalism: Philosophical Issues,” in *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature*, edited by Warren S. Brown et al. (Minneapolis: Fortress Press, 1998), 129-39.

²⁴⁷ Murphy, “Reductionism: Falling into and Emerging from It,” 23; emphasis original.

²⁴⁸ Murphy, “Nonreductive Physicalism, Philosophical Issues,” 129.

²⁴⁹ Murphy, “Reductionism: Falling into and Emerging from It,” 23.

²⁵⁰ *Ibid.*, 24.

to all other life and the matter-energy out of which it emerges. In this light a contemporary interpretation of the image of God is a statement about humankind's functional uniqueness *among* other species, not its metaphysical uniqueness *above* other species. A dynamical physicalist ontology allows for robust qualitative distinctions among species that do not mistakenly place *Homo sapiens* outside or above the rest of the natural world as the creation.

Interestingly, Murphy's position seems identical to the way in which Clayton defines the first general feature of emergence—"ontological physicalism: All that exists in the space-time world are the basic particles recognized by physics and their aggregates."²⁵¹ However, Clayton adds that for all its anti-dualistic accuracy, this basic tenet is not precise—it "is poorly formulated." Rather than *ontological physicalism* he prefers the term *ontological monism*, according to which, "Reality is ultimately composed of one basic kind of stuff. Yet the concepts of physics are not sufficient to explain all the forms that this stuff takes—all the ways it comes to be structured, individuated, and causally efficacious."²⁵² Up to this point in the definition, Clayton proposes nothing at odds with the nonreductive physicalism advocated by Deacon and Murphy. He continues however, explaining:

The one 'stuff' apparently takes forms for which the explanations of physics, and thus the ontology of physics (or 'physicalism' for short) are not adequate. We should not assume that the entities postulated by physics complete the inventory of what exists. Hence emergentists should be monists but not physicalists.²⁵³

²⁵¹ Clayton, *Mind and Emergence*, 4.

²⁵² *Ibid.*

²⁵³ *Ibid.*; cf. Arthur Peacocke, *Paths from Science towards God: The End of All Our Exploring* (New York: Oneworld Publications, 2001), 50. Peacocke's suspicion, like Clayton's, is that nonreductive physicalists "seem [...] not to attribute causal powers to that to which higher level concepts refer." I intend to show this concern to be misplaced where Deacon is concerned.

This distinction may provide a helpful working definition for Clayton's treatment of *emergence*, but it also includes a misleading conception of physicalism. For Clayton "the ontology of physics" is necessarily that which Murphy defines as "atomistic reductionism," in contrast with "ontological reductionism." The atomism Murphy and Deacon readily avoid is the same atomism Clayton and Kim presume to be endemic of physicalism and "weak" emergentism.

Clayton holds that "causality should be our primary guide to ontology."²⁵⁴ Deacon does not disagree. Like Clayton, he finds "serious inadequacies in our conceptions of matter, order, life, work, information, representation, and even consciousness and conception of value." Deacon's way of remedying this situation "requires reframing the way we think about the physical world in thoroughly dynamical, that is to say, process, terms, and recasting our notions of causality in terms of something like the geometry of this dynamics, instead of thinking in terms of material objects in motion affected by contact and fields of force."²⁵⁵ In the case of many higher-order emergent phenomena, "their causal power is not located in any ultimate stuff but in this dynamical organization itself."²⁵⁶

This concept is already a theological doctrine. In orthodox Christianity the one God is a dynamic Trinity of "persons." To borrow a term from patristic theology, this emergentist conception of ontology-causality implies that the image of God and the knowledge of good and evil are borne out in the ongoing *perichoresis*—the mutual interpenetration—of everything that goes into forming a culturally-constituted creature, from the (dust of the) ground up. Given a trinitarian theology of the creator God, one

²⁵⁴ Clayton, *Mind and Emergence*, 5.

²⁵⁵ Deacon, *Incomplete Nature*, 44.

²⁵⁶ *Ibid.*, 45.

could contend that this creaturely *perichoresis* emerges in response to and in the image of the eternal, self-constituting emergent dynamic “in” which all created reality lives and moves and has its being. Perhaps creation though evolution produces this dynamical kind of analogy of the divine life—an *analogia entis*, an *imago trinitatis*. Chapter seven below notes the potential impact of this concept on my future research.

“Orders” vs. “levels” of emergence

Finally, and to begin a more systematic treatment of Deacon’s three-tiered taxonomy of emergent phenomena and its implications for Christian anthropology and ethics, Clayton expresses doubts as to whether Deacon’s three “orders” of emergence are precise enough to include and distinguish all the phenomena Clayton identifies as the many different “levels” of emergence. Once again, with a little translation, this apparent terminological problem becomes a nonissue. Clayton even admits that there may be a way through the apparent difficulty.²⁵⁷ Expressing his ongoing reservations, however, Clayton recounts that Deacon

describes thermo- [now “homeo-“], morpho-, and teleodynamics as three “orders” of emergence. Deacon and I agree that thermodynamics and the dynamics of form are necessary but not sufficient for explaining biological and psychological phenomena. Two main differences seem to divide us: exactly when teleodynamics first occurs and whether there are additional distinct orders of emergence in the natural world.²⁵⁸

As a response (albeit indirect) to these two interrelated issues, Deacon has since coined a term to characterize all teleodynamic phenomena—*ententional*. Deacon coins the term “ententional” to convey the “lack a single term in the English language (and others that [he knows] of) that captures [the] more generic sense of existing with-respect-

²⁵⁷ Philip Clayton, “Emerging from Physics to Theology: Toward a Panoramic View,” *Zygon: Journal of Religion and Science* 41 (2006), 680.

²⁵⁸ *Ibid.*; cf. Clayton, *Mind and Emergence*, 46-48, 137.

to, for-the-sake-of, or in-order-to-generate something that is absent that also includes function at one extreme and value at the other.”²⁵⁹ *Entention* combines (or blends) the prefix *en-* (meaning “in” or “within”) with the adjectival form of *intend* to denote a state of being intrinsically and dynamically “inclined toward” something extrinsic or absent.²⁶⁰ Maximally, teleodynamic structures and functions emerge through the indissoluble interaction of multiple teleodynamic processes. Minimally, teleodynamic structures and processes emerge through the “co-creation, complementary constraint, and reciprocal synergy of two or more strongly coupled morphodynamic processes,” which are propagated through their underlying homeodynamics.²⁶¹

For Clayton *teleodynamics* implies teleology, which implies life. The emergence of life from nonliving processes makes a very attractive candidate for locating the phase transition from form to function. Yet for Deacon, teleodynamics can and must occur pre-life. The term *ententional* solves this first-occurrence problem and provides a common thread to all teleodynamic phenomena. The concept of ententionality differentiates teleodynamics from morphodynamics and homeodynamics, with great precision. By contrast, Clayton’s “family resemblances” between perhaps “more than two dozen levels” of emergent phenomena do not establish the same kinds of qualitative distinctions among emergent phenomena as Deacon’s three orders.²⁶² Deacon’s orders are able to accommodate any of Clayton’s levels as occurring within them. These orders do not

²⁵⁹ Ibid., 26.

²⁶⁰ Ibid., 27.

²⁶¹ Ibid., 552.

²⁶² Clayton, *Mind and Emergence*, 61.

ignore the qualitative distinctions of Clayton's levels. They add another layer of distinction to them.²⁶³

The significance of each of these interrelated terms—homeo-, morpho-, and teleodynamics—becomes clearer below. The present reason for highlighting the cumulative and hierarchic relationships among Deacon's orders of emergence is to emphasize that teleodynamics describes from the bottom-up the emergence of the human body-brain-mind and its functioning from matter. From the top-down, this functioning is describable in terms of the *image of God* and the *knowledge of good and evil*.

The emergence of the *imago Dei ex absentia* via homeo-, morpho-, and teleodynamics

In the Christian doctrine of creation, God creates *ex nihilo*—out of nothing. Integrating Christian and Deconian concepts, the *imago Dei* emerges *ex absentia*. The divine image is not located in any physical or immaterial substance but “in” what Deacon calls a “constitutive absence” dynamically fusing the matter-energy of the cosmos into a human person *in vivo*.²⁶⁴ From this perspective, whatever is uniquely and characteristically human, and thus whatever belongs to the image of God, is can be described—*on a natural-scientific level*—in terms of Deacon's teleodynamics and the intentionality these dynamics entail.

On a theological level, when divinity and divine *intentionality* are understood to be the ultimate concern and only necessary constituent of *what really is*, then entention in creation—existing with-respect-to, for-the-sake-of—takes on new, emergent meaning. Blending an emergentist understanding of end-directedness (i.e., teleodynamics) and the

²⁶³ In fact, Deacon argues that there are “level-specific” distinctions among kinds of teleodynamic phenomena, especially in view of the final level he investigates—“consciousness” (Deacon, *Incomplete Nature*, 508-09, 524).

²⁶⁴ Ibid., 27.

theistic concept of *creatio ex nihilo* supports the inference that the cosmos as a whole and all creatures emerging within it exist with-respect-to the creator God who is distinct (and thus absent) from the physical universe, but in whom all creatures live, move, and have their being. Where ententional dynamics reach the complexity of conscientious intentionality through biocultural evolution, human beings are able to exist and act freely and responsibly with-respect-to and for-the-sake-of theologically motivated goals, values, and norms.

Using Deacon's terminology, emerging in the image of God is a teleodynamic development involving the interrelated and variously complex teleodynamic processes of consciousness (including religious awareness), selfhood, sentience, significance, value, evolution, and life. As an ententional development, the emergence of the image of God can be described as the natural process by which the creation evolves all the conditions of possibility to point beyond itself in faith, hope, and love.

This naturalness of the image of God relates to van Huyssteen's point concerning the naturalness of religion mentioned in the previous chapter. However, to point to this relationship is not to say that the embodiment of the image of God is contingent upon religious belief. Still, as van Huyssteen puts it, "in this broadest sense of the word, religion co-emerged with humanity itself."²⁶⁵ According to van Huyssteen, Deacon also subscribes to this "emergence and naturalness of religious imagination" thesis, in the strong sense of being

open toward the specific emergence not just of a propensity for religious belief, but of spirituality, [which seems] to leave room for the possibility that the symbolic human mind, because of its vast neural complexity, might be an emergence of newly integrated capacities for perception,

²⁶⁵ J. Wentzel van Huyssteen, *Alone in the World? Human Uniqueness in Science and Theology* (Grand Rapids; Cambridge, U.K.: William B. Eerdmans, 2006), 205.

knowledge, and awareness that go beyond the biological nature of the brain.²⁶⁶

“In fact,” van Huyssteen suggests, “for a scientist like Terrence Deacon the capacity for spiritual experience can be understood as an emergent consequence of the symbolic transfiguration of human cognition and emotions.”²⁶⁷

Many EP scholars are also pursuing nonreductive scientific research about human uniqueness open to emergentist analysis. Turning to fields related to Deacon’s neuroscientific research, van Huyssteen notes that although EP cannot itself evaluate the rationality or irrationality of specific religious beliefs, it is among the many scientific disciplines making arguments “that support the emergence of the cognitive, fluid, symbolic human mind; of imagination and religious awareness; and of the crucial role of language in the process.”²⁶⁸ Van Huyssteen finds Deacon, paleoanthropologist Ian Tattersall, archeologist Stephen Mithen, and many evolutionary psychologists to be among the scientists who “see the cognitively fluid human mind as blending and recombining templates of understanding used for other purposes and domains of cognition” in order to beget cultural singularities like ethics and religion.²⁶⁹

On this point, the interrelated constructs of a number of scholars converge and combine, indicating the range of fields fruitful for constructing a second naïveté interpretation of the *image of God* and the *knowledge of good and evil*. According to this integration of sources, the evolutionary *emergence* of our *symbolic species*²⁷⁰ and its

²⁶⁶ Ibid., 265.

²⁶⁷ Ibid., 267.

²⁶⁸ Ibid.

²⁶⁹ Ibid., 265.

²⁷⁰ See previous discussion of Terrence Deacon and Philip Clayton.

singular capacities for conceptual *blending* across diverse cognitive *domains*²⁷¹ has marked the emergence of a *created co-creator* of person-constituting cultural meanings and values.²⁷²

These person-constituting distinctions belong to a *symbolic* universe—an external scaffolding physically absent from the *material* universe, but instrumental to cultural, cognitive, and thus cosmic change. Anticipating the role this type of constitutive absence plays in Deacon’s description of teleodynamic-intentional phenomena like spirituality, van Huyssteen argues that

the heights of all human imagination, the depths of depravity, moral awareness, and a sense of God also must depend on this human capacity for symbolic coding of the “nonvisible.” This “coding of the nonvisible” through abstract, symbolic thought enabled also our early human ancestors to argue and hold beliefs in abstract terms. In fact, the concept of God itself follows from the ability to abstract and conceive of “person.”²⁷³

If Deacon’s dynamical conception of emergent causal powers is adequate, then “persons,” whether human or divine, are “not there” in the sense of being materially-energetically present as the interactional sum of internal and external constituent parts. Rather, as mentioned above, the *perichoresis* of the “parts” is itself the person. In Christian parlance, this understanding of emergent dynamics might provide powerful tools for constructing the logic of how the tri-personal God must also be conceived as one “Person,” “personal,” or as theologian and biochemist Arthur Peacocke words it, “*at least personal, or supra-personal.*”²⁷⁴

²⁷¹ See previous discussion of cognitive linguists Gilles Fauconnier and Mark Turner, George Lakoff and Mark Johnson, Terrence Deacon, and evolutionary psychologists Pascal Boyer and H. Clark Barrett, John Tooby, and Leda Cosmides.

²⁷² See previous discussion of Philip Hefner and philosopher Charles Taylor.

²⁷³ Van Huyssteen, *Alone in the World?*, 225.

²⁷⁴ Arthur Peacocke, *Paths from Science towards God: The End of All Our Exploring* (New York: Oneworld Publications, 2001), 42; cf. 114.

This theological development, which cannot be explored here, is especially relevant for developing the theological and anthropological insights of scholars at the crossroads of theology and the natural sciences such as Karl Rahner, Ted Peters, Denis Edwards, John Polkinghorne, Arthur Peacocke, and Robert John Russell, to name a few.²⁷⁵

While van Huyssteen is surely correct that a compound abstraction of the concept of *person* is what makes theistic awareness possible, Rahner, for example, follows generations of theologians when arguing that while the analogy of personhood must proceed epistemologically from human to divine, the analogy of personhood (the *analogia entis*) can only proceed ontologically from divine to human, from infinite to finite, from necessary to contingent, from (Ground of) Being to beings, from eternal to temporal, from creative (*ex nihilo*) to created (*ex absentia*), from intrinsic-immaterial person-constituting emergent dynamics to extrinsic-material person-constituting emergent dynamics.²⁷⁶ In this development of Rahner's theology, *God*, as concept and as

²⁷⁵ See chapters by Ted Peters and John Polkinghorne, in *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, 2nd ed., ed. Robert John Russell et al. (Vatican City State: Vatican Observatory, 1996; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1996), 263-89, 429-40; chapters by Arthur Peacocke, John Polkinghorne, and Denis Edwards, in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert John Russell et al. (Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995), 123-43, 147-56, 157-75, 263-87; John Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-Up Thinker* (Minneapolis: Fortress Press, 1996), 54-55, 64-69, 76-82; Denis Edwards, *The God of Evolution: A Trinitarian Theology* (New York: Paulist Press, 1999); Denis Edwards, "A Relational and Evolving Universe Unfolding within the Dynamism of the Divine Communion," in *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World*, ed. Philip Clayton and Arthur Peacocke (Grand Rapids; Cambridge, UK: William B. Eerdmans, 2004), 199-210; Peacocke, *Paths from Sciences towards God*, 57-58, 108-15, 138-43, 146, 163-68; Robert John Russell, *Cosmology: From Alpha to Omega* (Minneapolis: Fortress Press); Robert John Russell, *Time in Eternity: Pannenberg, Physics, and Eschatology in Creative Mutual Interaction* (Notre Dame, Ind.: University of Notre Dame Press, 2012).

²⁷⁶ For Rahner the immanent capacity for the creation to emerge into genuinely novel forms of dynamic being and becoming is an analogy (the *analogia entis*) for the self-transcendence immanent to the divine life in the eternal emergence of God as a Trinity of "persons"—Father, Son, and Spirit. Created emergent dynamics freely self-generate "within" and because of the supervening trans-cosmic, eternal emergence of "being as such" as a unity-in-plurality and plurality-in-unity. Following Rahner's famed axiom that the immanent Trinity (God *in se*) is the economic Trinity (God *ad extra*) and vice versa, the natural creativity of the cosmos is a manifestation of grace, an economic mediation or self-revelation of God. As Rahner puts it, the emergent dynamics of the immanent Trinity play out in a "quasi-formal" manner through nature and

“person,” is the constitutive absence or “mystery” which gives existence and significance to all of created reality, dynamically supervening on the material cosmos from within, albeit across the so-called infinite qualitative distinction between creator and creation. *Homo sapiens* are able to conceive of this physically absent, yet causally relevant condition for existence as a motivator of moral action and other behaviors and hopes oriented to/by a reality and a futurity transcending those of the material cosmos.

From this type of vantage point, Christianity and other theistic faiths have come to construe a potentially valid concept pertaining to a qualitatively insuperable reality able to relate to the world—i.e., *God*. This religious awareness has become inextricably woven into the teleodynamic processes that constitute and individuate persons vis-à-vis one another and their environments. In other words, through human agency, whatever “God” is understood to be exerts a personal causal influence in the world. While the verdict of whether theological awareness has an actual referent is ultimately a matter of faith, from a Christian perspective, the emergent dynamics which make possible this self-transcendence might be identified as those biocultural processes through which we bear the image of God with a knowledge of good and evil.

its evolution under this form of grace. The evolutionary advent of personhood on this planet (and perhaps others) marks the co-creation of a qualitatively unique living analogy or image of divine *perichoresis*, borne through the evolved capacity of the cosmos to reflect self-consciously on its immediate and ultimate origins and destiny with freedom and responsibility. See Karl Rahner, “Christology in the Setting of Modern Man’s Understanding of Himself and of His World,” in *Theological Investigations*, vol. 11, *Confrontations*, translated by David Bourke (New York: Crossroad, 1982), 123-25; “Christology Within and Evolutionary View of the World,” in *Theological Investigations*, vol. 5, *Later Writings*, translated by Karl-H. Kruger (Baltimore: Helicon Press, 1966), 157-92; *Foundations of Christian Faith: An Introduction to the Idea of Christianity* (New York: Crossroad, 1978; reprint, New York: Crossroad, 2005), 71-75; “Natural Science and Reasonable Faith,” in *Theological Investigations*, vol. 21, *Science and Christian Faith*, translated by Hugh M. Riley (New York: Crossroad, 1988), 35-37; “Theology and Anthropology,” in *Theological Investigations*, vol. 9, *Writings of 1965-1967, 1*, translated by Graham Harrison (New York: Herder and Herder, 1972), 28-45; “The Theology of the Symbol,” in *Theological Investigations*, vol. 4, *More Recent Writings*, translated by Kevin Smyth (London: Darton, Longman & Todd, 1966), 221-52; *The Trinity*, translated by Joseph Donceel, with introduction, index, and glossary by Catherine Mowry LaCugna. New York: Crossroad, 1997.

To elucidate this theological point, however, requires a deeper understanding of the most humble beginnings of biocultural development. Homeodynamics, according to Deacon, is where it all begins. The following subsections provide detailed summaries of Deacon's three orders of emergent phenomena, highlighting how the cosmos has co-created the image of God with each ascent in scale. Borrowing a phrase from Peacocke, to explore the theological implications of homeodynamics, morphodynamics, and teleodynamics is to explore how the creator "makes things make themselves."²⁷⁷ For Haught, Clayton, Deacon, and others wishing to reformulate and reappropriate Aristotle's taxonomy of causality for contemporary ontology, to explore the dynamic supervenience of teleodynamics upon morphodynamics upon homeodynamics is to explore the ways in which final and formal causes emerge and direct the matter-energy (material and efficient causes) of the cosmos toward specific ends, including ethical and religious goals.

Homeodynamics and efficient causality

In one sense, *homeodynamics* refers to a class of emergent phenomena, but in another sense, argues Deacon, it "is the engine of emergence" of every kind.²⁷⁸ In a word, homeodynamics are the source of all efficient causality in the cosmos—the thermodynamic interactions by which higher-order morpho- and teleodynamics emerge (from the "bottom-up") and effect change (from the "top-down").

Because Deacon's three orders of emergent dynamics are cumulative and hierarchic, teleodynamics are also morphodynamic are also homeodynamic, but not necessarily the other way around. This taxonomy might seem reductionistic, since the concept of homeodynamics is no more or less than a reaffirmation and restatement of the

²⁷⁷ Peacocke, *Paths from Science towards God*, 75.

²⁷⁸ Deacon, *Incomplete Nature*, 234.

two laws of thermodynamics—(1) that matter-energy cannot be created or destroyed and (2) that it tends toward an equilibrium state which is organized as diffusely and randomly—entropically—as possible. Yet how could entropy fuel emergence? What does thermodynamics have to tell theologians about the image of God? How might homeodynamics take part in the divine image and likeness?

At first glance, thermodynamics would seem to make the spontaneous emergence of high-order complex system dynamics about as likely as falling up. But as a “law,” entropy is not as iron-clad as, say, gravity. It is more a rule of thumb with built-in loopholes. The law of entropy is a statistical likelihood characteristic of matter in interaction, not a property of matter itself, like gravity. Thus, any intrinsic or extrinsic property which alters the nearly certain probability that physical interactions will reach a maximally randomized equilibrium state over time, can lead to otherwise unexpected organizational regularities among substrate particles. The particles do not “fall up” so much as they “fall in line,” by way of an attraction caused by some factor entailing new interactive probabilities. Deacon parses this notion of *attraction* with three other interrelated terms. The first is ubiquitous to the concept of *emergence*; the latter two are original to Deacon: *constraint*, *orthograde*, and *contragrade*. As “the expression of an asymmetric statistical tendency,” an attractor correlates to one or more constraints.²⁷⁹

Deacon defines *constraint* and these other terms as follows:

Constraint: The state of being restricted or confined within prescribed bounds. Constraints are what is not there but could have been. The concept of constraint is, in effect, a complementary concept to order, habit, and organization because something that is ordered or organized is restricted in its range and/or dimensions of variation, and consequently tends to exhibit redundant features or regularities. A dynamical system is constrained to the extent that it is restricted in degrees of freedom to change and exhibits

²⁷⁹ Ibid., 547.

attractor tendencies. Constraints can originate intrinsic or extrinsic to the system that is thereby constrained.²⁸⁰

Orthograde: Changes in the state of a system that are consistent with the spontaneous, “natural” tendency to change without external interference.²⁸¹

Contragrade: Changes in the state of a system that must be extrinsically forced because they run counter to orthograde (aka spontaneous) tendencies.²⁸²

Some common examples of what Deacon would call homeodynamic emergent organization are the orthograde (entropic) properties of most liquids, such as laminar flow, surface tension, and viscosity.²⁸³ Liquid molecules display these properties when they are brought together in sufficient quantity within a certain range of temperature and pressure. These properties are emergent because they do not belong to the liquid molecules in isolation and they dynamically supervene upon—constrain—the motion of the constituent molecules. Yet, at this first order of emergence, Deacon notes, “Statistical dynamics and quantum theory have provided a remarkably complete theory of how” these properties arise. “Thus in one sense they are considered to be fully reducible to relational molecular properties.”²⁸⁴ In a minimal sense, these properties are “*formally* caused” by environmental factors—they are inherent relational properties of individual molecules interacting thermodynamically under certain boundary conditions.²⁸⁵

However, this homeodynamic interaction of liquid molecules is far from the far-from-equilibrium (i.e., contragrade) dynamics constraining a liquid serving the function of, say, blood, sweat, or tears; and there is no indication at this point of how to get to the

²⁸⁰ Ibid., 548-49; cf. 182-205.

²⁸¹ Ibid., 551; cf. 223.

²⁸² Ibid., 549; cf. 223.

²⁸³ Deacon, “Emergence: The Hole at the Wheel’s Hub,” 126; “Three Levels of Emergent Phenomena,” 97.

²⁸⁴ Ibid.

²⁸⁵ Deacon, *Incomplete Nature*, 212; emphasis original; cf. 230-34.

latter from the former. Homeodynamics of this first-order involve the bare minimum of constraint. In terms of thermodynamics, then, Deacon proposes, “We can thus describe the increase in entropy as a decrease in constraints, and the second law can be restated as follows. In any given interaction, the global level of constraint can only decrease.”²⁸⁶

At the same time, as the engine of emergence, homeodynamics are no less integral to the emergence of the image of God and the knowledge of good and evil than the teleodynamic biocultural processes they fuel.

Morphodynamics and formal causality

How, then, does a spontaneous transition from simple homeodynamics to morphodynamics take place? How do causally efficacious (id)entities or (w)holes begin to “take shape,” as it were?²⁸⁷ How does formal causality become an internal principle of constraint? How is it that every snow crystal is alike in certain macro aspects of configuration but unique in other macro aspects of form? In thermo-/homeodynamic terms, morphodynamics occurs when “contragrade dynamics at one level produce orthograde dynamics at the higher level.”²⁸⁸ Simply put, unlikely things can only happen at the lower organizational level if they play a constitutive role in the most likely things happening at the higher level. Technically speaking, “A contragrade change must therefore derive from two or more orthograde processes, each in some way undoing the other’s effects. [...E]ach must *constrain* the other.”²⁸⁹ That is, the lower level process is only contragrade in appearance, because the overriding orthograde tendencies of the higher level “force” (i.e., constrain) the lower level dynamics to take on new, previously

²⁸⁶ Ibid., 229.

²⁸⁷ The term “(w)holes” comes from the title of the chapter 1 in *ibid.*, 18-45.

²⁸⁸ Ibid., 225.

²⁸⁹ Ibid.; emphasis original.

improbable orthograde tendencies. Morphodynamics make interactions less likely to become more random.

At the same time, in a morphodynamic transition, there is no decrease in energy dissipation. In fact, there is a net increase in entropy accompanying the net increase in dynamical order or complexity.²⁹⁰ Materially-energetically, everything taking place at the higher level is accounted for at the lowest level, except for the new (morpho)dynamics themselves. Mutual constraint means that these new dynamics are as bottom-up/part-whole dependent as they are top-down/whole-part influential. The contragrade tendencies of lower-level interactions induced by constraint at the higher level require the constant homeo-/thermodynamic “work” of particles bumping into each other in chaotic ways.²⁹¹ In short, absolute zero is the end of emergence.

Revisiting and reinterpreting Aristotle’s taxonomy of causation, Deacon characterizes thermodynamics as the only source of efficient causality.²⁹² In a manner of speaking, $E = mc^2$ is the only concept one must master to understand literally everything that happens in the universe. This lowest quantum-physical-chemical level is where all causal *forces* come from. Yet these are not the only real or efficacious causal *powers*. All efficient causation resides with the four fundamental forces. However, not all causally efficacious systems and their dynamics are reducible to one another. The morphodynamics constraining and harnessing these forces exerts a formal-causal influence, and in teleodynamics, a final-causal influence. In Murphy’s terms, this state of affairs is why ontological reductionism does not entail causal reductionism or atomist physicalism. In this sense, and contrary to the Clayton-Kim critique, nonreductive

²⁹⁰ Ibid., 235.

²⁹¹ See *ibid.*, 232, 254.

²⁹² Ibid., 230-34; cf. 160-62.

physicalism is indeed tenable. The theological implication of this conclusion is that the *imago Dei* emerges from matter. The natural self-organization of matter bears the image of God. Morphodynamics helps explain how this image begins to take form through natural process.

Deacon analyzes several illuminating examples of morphodynamics, including whirlpool formation, Bénard convection cell formation, directional heat transfer through a contained gas, and snow crystal formation.²⁹³ The final example of snow crystal formation presents a special case of morphodynamics. In this process constraints or boundary conditions are doubly significant over time, and they are the reasons why every snowflake is unique. Every snow crystal takes on a recognizable hexagonal form due to the angled “shape” of the electromagnetic field of the water molecules and the radial symmetry of heat dissipation. The varying temperature, pressure, and humidity conditions the snow crystal encounters as it falls influence the form of the crystal as it grows. Thus, the initial conditions of crystal seeding, in addition to atmospheric boundary conditions over time, have a cumulative effect on the form of the growing snow crystal. Even if two snow crystals share identical initial conditions, the diachronic effects of their divergent boundary conditions will create two very different snowflakes. Likewise, if two snow crystals share even slightly different initial conditions, the diachronic effects of identical boundary conditions can also create two very different snowflakes.²⁹⁴ Perhaps it is no wonder snowflakes have become symbolic of the delicate dance of conformity, divergence, and unpredictability that make realities like life so wondrous.

²⁹³ Ibid., 235-63; cf. “Emergence: The Hole at the Wheel’s Hub,” 130-37; “Three Levels of Emergent Phenomena,” 99-105.

²⁹⁴ In larger weather phenomena, the exaggerated shorthand for this aspect of the increasing unpredictability of a complex system over time is the “butterfly effect” of chaos theory (Deacon, *Incomplete Nature*, 548).

Teleodynamics and final causality

In addition to variability, the characteristic of snow crystal formation most relevant to the qualitative transition from morphodynamics to teleodynamics is crystallization itself—the morphodynamic record-keeping of the diachronic effects of extrinsic boundary conditions, which become, in turn, intrinsic boundary conditions of subsequent growth or decay. In a very real sense, the history of the snow crystal becomes frozen within its form in a potentially preservable way. While semiotic “information” or “memory” might still be an emergent order away, this historical record-keeping of variable morphodynamic processes and products is a precursor to the information-laden teleodynamic processes of life, reproduction, evolution, sentience, consciousness, and culture.²⁹⁵ In these teleodynamic processes, according to Deacon:

[T]hanks to memory, constraints derived from specific past higher-order states can get repeatedly re-entered into the lower-level dynamics which lead to future states. This is what makes the evolution of life both chaotically unpredictable on the one hand, and yet on the other hand also historically organized, with an unfolding quasi-directionality. [...] This is because memory allows every prior morphodynamic relationship itself to become a potentially amplifiable initial condition contributing to any later relationship.²⁹⁶

In its first occurrence, however, the transition from form-creating emergent dynamics (morphodynamics) to end-directed, consequence-organized emergent dynamics (teleodynamics) does not entail semiotic information or memory as a constituent property. Rather, Deacon suggests, because information “is both about something and has normative characteristics,” it is best understood as a function of two or more mutually

²⁹⁵ Deacon, “Emergence: The Hole at the Wheel’s Hub,” 137-39; “Three Levels of Emergent Phenomena,” 105-10.

²⁹⁶ Deacon, “Emergence: The Hole at the Wheel’s Hub,” 137, 139.

constraining teleodynamic processes.²⁹⁷ In this sense, information involves a compound end-directedness. Information directs (constrains, supervenes upon) subvenient end-directed processes and their morpho- and homeodynamic substrates, which may themselves be the physical bearers of the information. In life as we know it, for example, reproduction is a teleodynamic process which depends upon the information-bearing morphodynamic substrate polymer DNA and its teleodynamic effects under certain (thermodynamically rich) conditions.

Yet the first teleodynamic systems from which life in this form likely emerged were what Deacon terms “autogens.” An autogen is “[a] self generating system at the phase transition between morphodynamics and teleodynamics; any form of self-generating, self-repairing, self-replicating system that is constituted by reciprocal morphodynamic processes.”²⁹⁸ Deacon goes to greater lengths than space permits in order to theorize how autogens might emerge, and with them the rudiments of reproduction, evolution, and genetic information.²⁹⁹ The emergence of the first autogens is a watershed moment in biocultural prehistory because their “[t]eleodynamics is the dynamical realization of final causality, in which a given dynamical organization exists because of the consequences of its continuance, and therefore can be described as being self-generating.”³⁰⁰ A teleodynamic process is thus “*a consequence-organized dynamic that is*

²⁹⁷ Deacon, *Incomplete Nature*, 286; cf. 371-91.

²⁹⁸ *Ibid.*, 548.

²⁹⁹ See *ibid.*, 309-17.

³⁰⁰ *Ibid.*, 275; cf. 525-26. Deacon differentiates the teleodynamic self-generation of autogens via *autogenesis* from H. Maturana and F. Verela’s well-known concept of *autopoiesis*. Two features distinguish *teleodynamics* and *autogenesis* from *autopoiesis*. First, *autogenesis* is a minimal species of teleodynamics related to the self-containment, self-repair, and self-replication of an autogen (307). Second, even the more general term *teleodynamics* denotes “a specific dynamical form that can be described in quasi-mechanistic terms” (275). *Autopoiesis*, by contrast, is a much more “abstract description of the properties that living processes exhibit” as “self-forming” (274, 275).

its own consequence.”³⁰¹ In rudimentary form, such a system would not be conscious or living. At the same time, life, consciousness, and concepts—including theological self-definitions—necessarily build upon these first teleodynamic foundations.

Non-Darwinian teleodynamics

What, then, of the more than three billion year transition from autogenic evolution to the emergence of the image of God? Whence the emergence of a personhood capable of formulating this kind of values-laden distinction? According to Deacon, “Beyond explaining the linked contribution of self-organization and Darwinian selection to phylogenetic evolution, [teleodynamic] analysis may also shed light on their interaction in other biological and even *non-biological processes*, such as epigenesis, neural signal processing, and language evolution.”³⁰²

The emergence of teleodynamics also brings with it the emergence of normativity—the possibility of success or failure in achieving the ententional end(s) of complex system dynamics. In a very real sense, benefit and harm—good and evil—emerge with teleodynamics. For Deacon, “even these simple molecular systems [i.e., autogens] have crossed a threshold in which we can say that a very basic form of value has emerged.”³⁰³ Deacon, much in the same vein as Hefner, proposes a thoroughly bottom-up account of the emergence of values.

Recall Hefner’s teleonomic axiom discussed in chapter 1: “The structure of a thing, the processes by which it functions, the requirements for its functioning, and its relations with and impact upon its ecosystem form the most reasonable basis for

³⁰¹ Ibid. 275; emphasis original.

³⁰² Ibid., 320; emphasis added.

³⁰³ Ibid., 322; cf. 543-45.

hypothesizing what the purpose and meaning of the thing are.”³⁰⁴ Interestingly, Deacon finds the term *teleonomic* to be too modest or reductionistic when applied to living functions, coining a new term to get beyond these mechanistic connotations.³⁰⁵ In light of Deacon’s recent work, perhaps Hefner would not object to redubbing his principle the *teleodynamic axiom*. Such an axiom might better preface Hefner’s hypotheses concerning the emergence of freedom—the condition of having to make and contextualize choices based on the wholesomeness (or lack thereof) those choices might produce.

Theologically speaking, emerging in the image of God with a knowledge of good and evil is the arrival in natural history of the conditions of possibility for the emergence of mythology, religion, and consequently, theological anthropology and ethics. Emerging in the image of God with a knowledge of good and evil means gaining the ability to discern and define—to co-create—the constellation of values-laden, person-constituting cultural distinctions and symbols which (teleo)dynamically supervene on our actions.

Citing Hefner, Murphy and coauthor George F. R. Ellis find grounds to critique this thoroughgoing bottom-up account of moral values and theological ethics. However, they do qualify their comments with the caveat that “[t]he differences between Hefner’s system and [theirs] are more a matter of focus than direct disagreement.”³⁰⁶ Hefner argues persuasively that there are valid visions of wholesomeness to be inferred directly from natural scientific study. In Murphy and Ellis’s approach, by contrast, “What is needed is a concept of the good for humankind drawn from an account of *ultimate reality*

³⁰⁴ Hefner, *The Human Factor*, 40.

³⁰⁵ See Deacon, “Emergence, The Hole at the Wheel’s Hub,” 112-13; *Incomplete Nature*, 107-42.

³⁰⁶ Nancey Murphy and George F. R. Ellis, *On the Moral Nature of the Universe: Theology, Cosmology, and Ethics* (Minneapolis: Fortress Press, 1996), 239.

and thus from theology *rather than* from science.”³⁰⁷ In Hefner’s account the *is* which informs our *ought* is not necessarily “ultimate” in the sense of being insuperable. The symbolic universe of *what really is* may include theology or it may not. Theology is not necessary for the emergence of valid moral values and norms. At the same time, theology can qualitatively transform ethics in terms of that-for-the-sake-of-which persons and cultures pursue wholesomeness. In Deacon’s terms, theology is a qualitatively distinct set of potential constraints on culturally embedded intentional phenomena. Theology and theological developments open up novel ways of thinking, being, and acting in the world.

This form of religious awareness has emerged recently in humanity’s biocultural history from the mental phenomena of sentience, which many other animal species display in diverse ways. The following two subsections discuss briefly how various forms of normativity, ethical value, and moral freedom and responsibility have emerged in the cosmos, mentioning that when the capacity emerges for ethical norms and values to take on theological and eschatological significance so emerges the images of God.

Sentience and value

The evolution of nervous systems is a higher-order realization of the high-stakes calculus of teleodynamic success or failure. Emergent neuro-cognitive adaptations persist because they serve an adaptive function vis-à-vis the generation, preservation, and propagation of teleodynamic constraints and their material-energetic substrates. Sentience—“the background ‘feeling of being here’”—is a compound system of teleodynamic constraint generators designed to serve the functions of maintaining and

³⁰⁷ Ibid; emphasis original.

reproducing the organism.³⁰⁸ Although sentience may allow organisms to pursue various kinds of activity, the Darwinian necessities of survival and reproduction ensure that mental adaptations will only persist in a given lineage if they do not greatly hinder these most basic teleodynamic ends.

Built upon autonomic nervous system functions, sentience is a centralized awareness of whether or not an organism's internal and external conditions are conducive to maintaining system dynamics and procuring the ends (and correlative means) toward which they are oriented. An organism feels hungry, so it seeks food, thirsty, so it seeks water. It senses danger, so it seeks refuge, pain, so it seeks escape or relief. In this way Deacon argues that the emergence of sentience is "the emergence of ethical value," because it is the emergence of the ambivalent form of life which includes the possibilities of flourishing and suffering.³⁰⁹ Thus, as Hefner hypothesizes through his created co-creator theory, Deacon proposes that through understanding the emergence of sentience, "we will discover new ways of asking old questions about the relationship between minds and brains, and perhaps even find ways to reintegrate issues of subjective value into the natural sciences."³¹⁰

The compound teleodynamic emergence of sentience is the bridge from *entension* to *intention*. In this transition, Deacon reiterates, "sentience is constituted by the dynamical organization, not the stuff (signals, chemistry) or even the neuronal cellular-level sentience that constitutes the substrate of that dynamics."³¹¹ The causal power of efficacious mental function is not located in (i.e., reducible to) the thermodynamic

³⁰⁸ Deacon, *Incomplete Nature*, 486.

³⁰⁹ Ibid.

³¹⁰ Ibid., 487.

³¹¹ Ibid., 510.

activity on which it depends, but “in” the (teleo)dynamics themselves. The brain imaging technology of fMRI, PET, and MEG can locate the thermodynamics fueling the supervening teleodynamics at work.³¹² Yet this kind of analysis, as Clayton would agree, is not the same thing as pinpointing the physical “tokens” of mental phenomena, let alone the cultural or religious concepts and values they embody.³¹³

Consciousness and morality

According to Deacon, human mentality emerges from “a form of sentience built upon sentience” known as *consciousness*.³¹⁴ In emergentist terms, the hyper-recurrent teleodynamics of wakeful human brain function results in a compound sentience framed by a virtual “world of should and shouldn’t, kindness and abuse, love and hate, joy and suffering.”³¹⁵ To fuse Deacon’s and Hefner’s assessments of the emergence of conscientious thought and action, the values- and symbol-laden world of biocultural normativity generates the condition of freedom lived out by created co-creators. The ongoing creation of humankind’s symbolic universe and its historical consequences are those biocultural dynamics through which the image of God emerge.

At every level of teleodynamic emergence arises a corresponding level of value and normativity, from the pre-living “self-concern” for structural integrity of autogens to the moral concerns of human persons. Illustrated in chapter 2, Brown’s shaded cone depiction of mentality, with its (Deacon-inspired) symbolic threshold, may help to illumine some of Deacon’s concluding remarks about consciousness:

³¹² Ibid., 488.

³¹³ Ibid., 494, 503; cf. Clayton, *Mind and Emergence*, 125-27.

³¹⁴ Ibid., 508.

³¹⁵ Ibid., 525.

Although each is discontinuous from the other by virtue of dynamical closure, neuronal-level sentience is nevertheless causally entangled with brain-level sentience, which is entangled in a virtual-self-level of sentience. And human symbolic abilities add a further, yet-higher-order variant on this logical type-violating entanglement. This latter involves the incorporation of an abstract representation of the self into the teleodynamic loop of sentience. Thus we humans can even suffer from existential despair.³¹⁶

With the emergence of a symbolically constituted phenomenology arrives the condition of freedom through which *Homo sapiens* (co-)create the meanings which make manifest *what really is* and *ought to be* for us. The free and responsible creation of meanings is the wellspring of the person-constituting distinctions of value which give shape and strength to concepts like “good” and “evil” and the norms which precipitate from them.

In an environment harboring myriad threats to wholesomeness, despair and hope often form the poles of the ambivalent symbolic world we traverse with freedom and responsibility. As the condition of freedom has emerged within humanity’s biocultural history from the bottom-up, it has also gained a top-down influence on humanity’s biocultural future. In part the human condition means not having to settle for its givenness. As Peacocke words it, “we are capable of forms of happiness and misery quite unknown to other creatures, thereby evidencing a ‘dis-ease’ with our evolved state, a lack of fit which calls for explanation and, if possible, cure.”³¹⁷ At the theological level, these capabilities for experiencing qualitatively unique “forms of happiness and misery” are part and parcel of the emergence of the image of God.

³¹⁶ Ibid., 533.

³¹⁷ Peacocke, *Paths from Science towards God*, 172-73; cf. Roberts, “Emerging in the Image of God to Know Good and Evil,” 497.

When “God” is experienced or understood to be the ultimate supervening dynamic of *how things are* or *what really is*, “happiness and misery,” “dis-ease,” “explanation,” and “cure” take on new kinds of significance. As Fauconnier and Turner would suggest, these concepts’ theologically blended meanings have emergent structure. What emerges with these new meanings is the implication that perhaps our biocultural capacities and efforts could never accomplish the ethical and existential ends toward which they point. Theology and eschatology may be fruitful guides toward these ultimate teleodynamic horizons. In Ricoeurian terms reframing the biblical myth-symbols of the *image of God* and the *knowledge of good and evil* by means of this emergentist biocultural perspective demands and allows a “qualitative transformation of reflexive consciousness”—a second naïveté understanding of these anthropological, (meta-) ethical, and eschatological symbols of Christian theology.³¹⁸

Conclusion

From “Counting the (Emergent) Cause” to discussing the “Non-Darwinian Teleodynamics” of sentience and consciousness, emergentism paves promising avenues for understanding how qualitatively new causal powers come to bear a dynamically supervening influence in the cosmos. In their respective ways, John Haught and Terrence Deacon argue that the natural sciences ought to open themselves to the idea of distinct and irreducible forms of causality, each requiring its own layer of explanation. From the material and efficient causality of (thermo-) homeodynamics, to the formal causality of morphodynamics, to the final causality of teleodynamics, *emergence* makes room for a

³¹⁸ Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 356.

robust account of conscientious human-being that may yet be open to a theological layer of explanation.

Framed by these conceptual foundations, the following two chapters employ careful biblical scholarship in the construction of a second naïveté understanding of the *image of God* and the *knowledge of good and evil*. The goal of these chapters is to facilitate the emergence of historical-critically “constrained” yet novel meanings of these myth-symbols and renew their ability to inform human-being and action in intellectually honest and humanizing ways.

CHAPTER 4

THE *IMAGO DEI*: WITHIN A BIBLICAL AND EVOLUTIONARY VIEW OF THE WORLD

By establishing a set of construction techniques, tools, and framing materials, the preceding chapters have been building upon a hermeneutical foundation at least as deep as the earliest strands of the biblical tradition. Constructing a second naïveté understanding of biblical myth-symbols in which current science reframes and informs what it means to emerge in the image of God with a knowledge of good and evil involves recapitulating in a post-critical way the general hermeneutical process which resulted in relevant biblical texts and their meanings in context. The primary reference for the *image of God* is Genesis 1:26-27, a passage which has proven as important for Christian anthropology as it is brief and enigmatic. In the face this exegetical ambiguity, the tasks of theological interpretation and reappropriation are made less daunting by Paul Ricoeur and André LaCocque's insight that Genesis 1 follows the "trajectory" (*trajectoire*) of temporally earlier creation tradition, especially Genesis 2-3.³¹⁹ While Genesis 1:1-2:4a may open the biblical canon, this Priestly creation narrative is the culmination and prologue of a written faith tradition in which "the very idea of Creation emerges enriched from [a] proliferation of originary events."³²⁰

This chapter continues the hermeneutical trajectory of Genesis 1, by constructing a second naïveté understanding of the *image of God*, reframed by an emergentist biocultural evolutionary perspective. The hermeneutical lens ground and polished in

³¹⁹ André LaCocque and Paul Ricoeur, *Thinking Biblically: Exegetical and Hermeneutical Studies*, translated by David Pellauer (Chicago; London: The University of Chicago Press, 1998), 9; cf. Paul Ricoeur, "On the Exegesis of Genesis 1:1-2:4a," In *Figuring the Sacred: Religion, Narrative, and Imagination*, translated by David Pellauer, edited by Mark I. Wallace (Minneapolis, Fortress Press, 1995), 132, 134; originally, "Sur l'exégèse de Genèse 1,1-2,4a." In *Exégèse et herméneutique*, edited by Éditions du Seuil (Paris: Éditions du Seuil, 1971), 70-71, 73.

³²⁰ LaCocque and Ricoeur, *Thinking Biblically*, 49.

previous chapters now brings into focus several guidelines for interpreting the meaning of the *image of God* already present in the original text. Through this lens first- and second naïveté formulations of the *image and likeness of God* represent parallel, commensurate, and complementary modes of understanding this human condition. In the following sections of this chapter, I argue that in these pre-critical and post-critical conceptions of the *image of God* (1) the emergence of this understanding and the human condition to which it refers involve double-scope blending—a unique cognitive fluidity evident in linguistic ability; (2) the image of God is a product of nature, wrought of the creation and embedded within it to the same extent as non-human creatures; (3) the image of God is neither a spiritual nor corporeal reality, as if these could be separated, but a function—a vocation—of the living person as a psycho-somatic unity; and (4) the image of God involves a condition of freedom, a conscientious response-ability to discern and respond to God’s invitation to co-create a “very good” world in cooperation with one another and the rest of the creation.

Illustrating the hermeneutical procedure described in chapter 1, each of these four sections begins with a diagram of the (double-scope) conceptual integration at work in generating a second naïveté understanding of the *image of God* and the *knowledge of good and evil*. A fifth diagram in the concluding section combines the other four. These diagrams’ increasing intricacy is not meant to confuse but to draw attention to the developmental nature of interpretation and the wondrous complexity of the meaning-making process.

The emergent meaning of the *image of God* in Genesis and contemporary interpretation

As a way to visualize the argument of this section, figure 3 below employs the components of the conceptual integration diagram modeled in chapter 1. Fauconnier and Turner's illustration is instrumental in picturing parallel processes of meaning-making in ancient and contemporary contexts. The small diagram to the left of the main diagram depicts the emergence of the *image of God* concept in the primeval history as an example

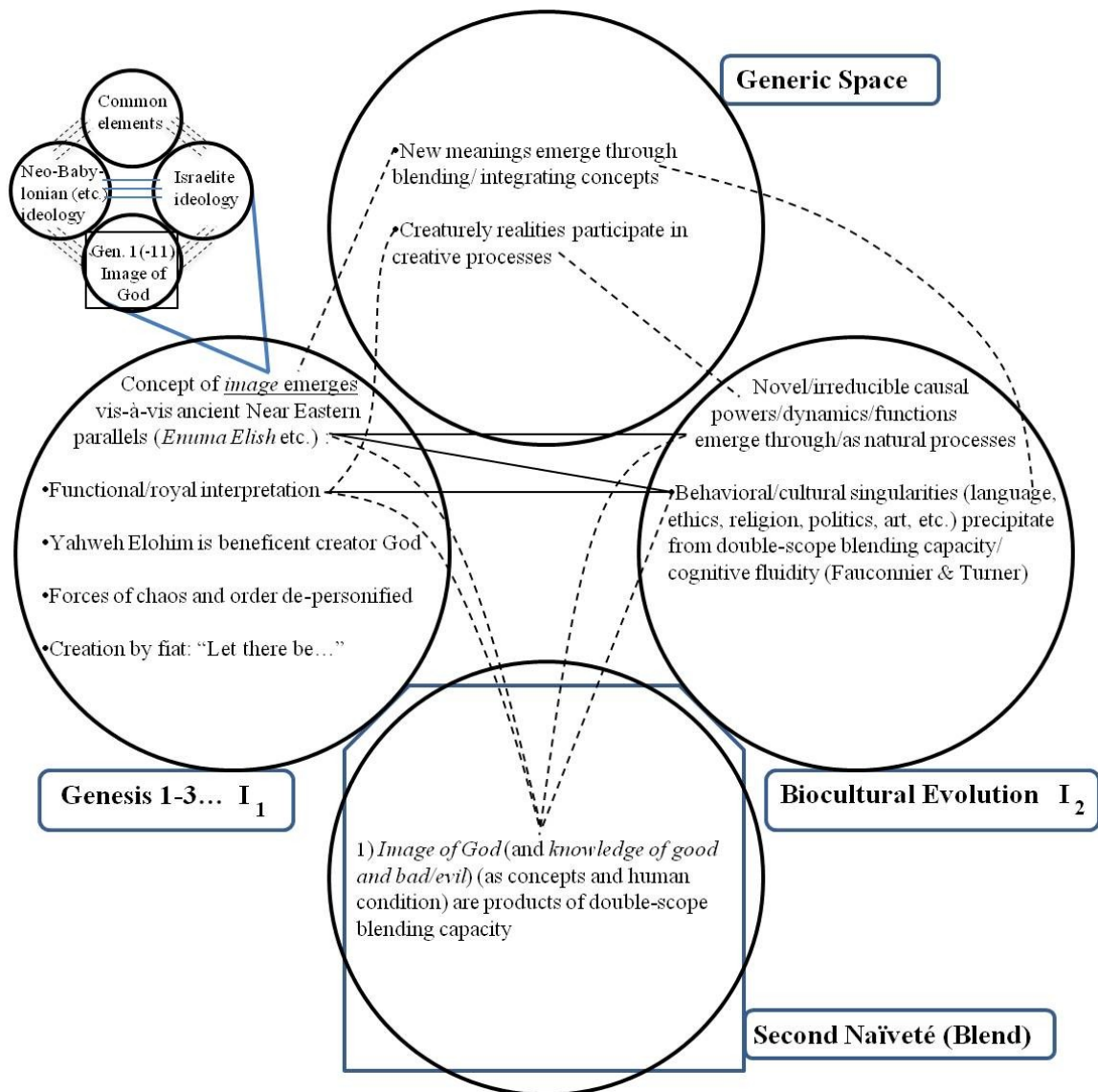


Figure 3: Image, Knowledge, and Blending Capacity

of double-scope blending. In this complex confluence and clash of ancient ideologies, Israelite and Neo-Babylonian concepts frame one another to generate a biblical conception of the image of God.

Following Gerhard von Rad's exegesis, Ricoeur argues that the theological cosmology of Genesis 1:1-2:4a, in which (Yahweh) Elohim has no celestial rivals and is the sole creator of the cosmos, emerges from the conviction that Yahweh is the God of Abraham and Moses, of the promises of place, people, and provision. Beginning in the Patriarchal sagas, the continuum of biblical *Heilsgeschichte* (salvation history) shifts thematic focus from redemption to creation "in a concentric fashion," proceeding through hymnic passages such Psalm 136 and 148; Isa. 40:27-28; 44:24-28, then through passages about the act of creation as types or precursors to acts of redemption (Isa. 44:5; Psalm 89 and 74), to the notion that creation as a whole bears witness to divine wisdom (Psalm 8, 19, and 104; cf. Prov. 3:19; 8:22; 14:31; 20:12; Job 38).³²¹ For von Rad and Ricoeur, Israel infers that (Yahweh) Elohim is the one who separates the primordial waters because "[t]he One who opened a way in the Red Sea is the same One who cut Rahab in pieces (Isa. 51:9f.)."³²² In the end, and thus "in the beginning," the concepts of creator and creation emerging through Genesis relativize even these canonical vestiges of the *Chaoskampf* motif so prevalent in *Enuma Elish* and other ancient Near Eastern parallels.³²³ Within the symbolic universe of the text, the center of gravity around which the Genesis cosmology maintains its orbital trajectory is the religious experience and theological inference that creation can only be understood fully as the realm, and

³²¹ Ricoeur, "on the Exegesis of Genesis 1:1-2:4a," 130-32.

³²² Ibid., 131; cf. Neil B. MacDonald, *Metaphysics and the God of Israel: Systematic Theology of the Old and New Testaments* (Grand Rapids: Baker Academic, 2006), 118.

³²³ See J. Richard Middleton, *The Liberating Image: The Imago Dei in Genesis 1* (Grand Rapids: Brazos Press, 2005), 263-69.

therefore product, of God's loving, gratuitous, and redemptive action. By implication, to be a God-imaging creature is to reenact God's beneficent creativity.

To the extent this exegetical reasoning is tenable, it strengthens Philip Hefner's hypothesis that *Homo sapiens* image God as conscientious created co-creators of meanings, called to discern, construe, and enact God's intentions for the creation and its wholesomeness. Yet even without subscribing fully to von Rad and Ricoeur's exegesis, there is overwhelming scholarly consensus that the theological cosmology and anthropology of Genesis 1 belongs to a late—perhaps the latest—textual and ideological strand of the Hebrew Bible's primary history (i.e., Genesis to 2 Kings), which takes a critical stance toward other ancient Near Eastern ideologies.³²⁴

However, the polemical nature of Genesis 1 takes on a form of myth, ritual, and praxis much more subtle than overt counter-argument. Rather than discrediting competing cosmologies, theologies, and anthropologies directly, the Priestly creation narrative makes a Ricoeur-like “wager” that its mythology provides greater “intelligibility,” “power of reflection,” “coherent discourse,” and “power to raise up, to illuminate, to give order to [...] human experience,” despite any historical contraindications.³²⁵

In cognitive linguistic terms, Gilles Fauconnier and Mark Turner could argue that the emergent meaning of the Genesis cosmology is the product of blending Israelite religious experience and tradition with common but contrary ancient Near Eastern mythology. Through what could be understood as an act of double-scope conceptual

³²⁴ David Noel Freedman, “The Law and the Prophets,” *Supplements of Vetus Testamentum* 9 (1962): 251.

³²⁵ Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 355; cf. Paul Ricoeur, *Philosophie de la volonté: Finitude et culpabilité, II: La symbolique du mal* (Paris: Aubier-Montaigne, 1960), 330.

integration, these symbolic worlds clash and reframe one another in the primeval history of Genesis. While Genesis 1 bears striking similarities to *Enuma Elish* and the *Atrahasis* and *Gilgamesh* epics, its re-signification of Mesopotamian mythology is just as dramatic. This new understanding of *what really is* extends to the concepts of creator, creation, and creaturehood, thereby generating a novel conceptual framework through which to describe and prescribe what it is to bear the image of God.

The biblical myth-symbol of the *image of God* did not emerge in a vacuum; neither is the concept of human beings bearing an image or likeness to a deity unique to biblical literature. Rather, the consensus among exegetes today is that the biblical understanding of what it means to bear a divine image and likeness is likely a complex (double-scope) clash and integration of Neo-Babylonian concepts and uniquely Israelite understandings of divine identity and agency. Through the inferences emerging from this conceptual integration, Genesis 1 is able to convey something qualitatively different about divinity and humanity than its ancient Near Eastern parallels. The writer(s)/redactor(s) of Genesis 1 reframed these concepts in ways that monotheize the concept of deity and democratize the idea that human beings can image or represent divine power and will. These conceptual shifts relativize the power and authority of earthly despots and their heavenly counterparts, elevating the status and function of the ordinary and oppressed vis-à-vis their earthly rulers and human creatures vis-à-vis their creator. The creator God of Genesis 1 has no divine rivals from whom to wrest power and authority. The Lord God—Yahweh Elohim—is not a despotic ruler who creates through violence against other gods, implying a radical restatement of ancient Near Eastern royal ideology. In this new symbolic worldview, the clearest human reflection of divinity may

not be monarchy, its tyranny, or its ability to conquer and subdue other peoples as a god vanquishing a rival.

Biblical scholars like J. Richard Middleton and Richard J. Clifford note that in the royal ideology of the ancient Near East, rulers represented (imaged) their gods by waging holy war against other peoples as a god whose enemies' defeat made way for the establishment of the earth and civilization. Although the idea of creation through struggle against primordial forces of chaos (i.e., *Chaoskampf*) is not fully excised from the cosmology of Genesis (vis-à-vis other textual traditions within and without the emerging primary history of the Hebrew Bible), Yahweh Elohim's lack of personal rivals in Genesis 1 may be interpreted as disclosing an anti-violent ideological trajectory reframing the concepts of creation and the divine image.³²⁶ This study's second naïveté retrieval of the *image of God* and the *knowledge of good and evil* trace this theological, anthropological, and ethical trajectory beyond the symbolic world of the text, seeking to follow its anti-violent thrust as far as a biocultural understanding of the human condition will allow.

From another angle supplementing this nonviolent interpretation, some scholars suggest that Genesis 1 anthropomorphizes the concept of cultic images while de-anthropomorphizing the God imaged. Yahweh Elohim has no physical form to represent or restrict with an idol. While the prohibition to worship images predates Genesis 1 and does not bear explicit mention in the text, there may be some merit to Walter Brueggemann's suggestion that in order to assert the freedom of their God, the Hebrews

³²⁶ See Middleton, *The Liberating Image*, 235-69; Richard J. Clifford, *Creation Accounts in the Ancient Near East and in the Bible* (Washington, DC: Catholic Biblical Association of America, 1994), 132-33, 142-76, 185-97, 202-03; "The Hebrew Scriptures and the Theology of Creation," *Theological Studies* 46 (1985): 507-23; "A Note on PS 104 5-9," *Journal of Biblical Literature* 100 (1981): 87-89.

insisted that “God is not imaged in anything fixed but in the freedom of human persons to be faithful and gracious.”³²⁷ While there is little doubt that specific ancient Near Eastern parallel texts frame the theology, cosmology, and anthropology of Genesis 1, the religious experience and understanding of the Priestly writer(s)/redactor(s) radically reframes the symbolic universe from which the biblical text derives so many of its background distinctions.

While there are no definitive data linking the *image of God* in Genesis 1 to a specific body of source material, geographical location, or historical time period, Middleton defends the “reasonable assumption” that

along with a shared Mesopotamian royal ideology concerning the cultic role of kings and the Assyrian reworking of originally Babylonian compositions, it is quite plausible, even in the absence of written documentation, that the two cultures shared a specific notion of kings as the image of god. If we take this together with the distinctive Mesopotamian background of ideas for the primeval history, it is certainly possible that the biblical *imago Dei* derives from a Neo-Babylonian context.³²⁸

Though no one expects to find a missing link between Genesis 1 and contemporary ancient Near Eastern parallels, the circumstantial and textual evidence support the thesis that the Babylonian poem *Enuma Elish* constitutes a major catalyst and source for the theological cosmology encapsulated in Genesis 1.³²⁹ Historians and exegetes were conducting some of the most in-depth explorations of this connection when Ricoeur first

³²⁷ Walter Brueggemann, *Genesis: A Commentary for Teaching and Preaching* (Atlanta: John Knox Press, 1982), 32; cf. Middleton, *The Liberating Image*, 207-09.

³²⁸ Middleton, *The Liberating Image*, 137.

³²⁹ Like many other biblical scholars since the mid twentieth century, Middleton compares and contrasts *Enuma Elish* with Genesis 1, presuming the likely influence of the former on the latter. In this respect Middleton distances himself from Richard Clifford’s doubts in *Creation Accounts* (1994) concerning the dependence of Genesis 1 on *Enuma Elish*. However, Clifford’s caution appears to be based on the assumption that dependence and parallelism (in both genre and content) should be directly proportional. Yet if the Genesis cosmology contains a critique of Neo-Babylonian ideology, as Middleton argues persuasively, the dependence of Genesis 1 on *Enuma Elish* may not manifest itself primarily in textual parallels. See Middleton, *The liberating Image*, 131 n.141; Clifford, *Creation Accounts*, 140-41, 200-01.

gauged the conceptual distance and relative pull between the Adamic myth and “the drama of creation and the ‘ritual’ vision of the world” found in *Enuma Elish*.³³⁰ While mapping out his metaphorical cycle of myths, Ricoeur assumed that the conceptual distance between the Babylonian and Israelite creation mythologies correlated to a lack of gravitational influence. Yet comparative studies consistently conclude that while “the ‘Adamic’ myth and the ‘eschatological’ vision of history” eventually took up residence in the center of Ricoeur’s mythic solar system, *Enuma Elish* is quite likely its most influential satellite. Genesis 1 is conceptually distant from *Enuma Elish*, but it only became the “star” of Ricoeur’s cycle of myths because it absorbed, fused, and reconstituted so much of *Enuma Elish*’s material.

The specific influence of *Enuma Elish* on the primeval history has been a topic of interest in biblical studies for over half a century. Middleton argues that this clash of symbolic worlds may have influenced the Priestly tradition and its creation account in the seventh century B.C.E or earlier.³³¹ Nonetheless, a vast majority of biblical scholars agree that around or during the time of the Babylonian captivity in the sixth century, the Priestly redactor(s) of Genesis 1:1-2:4a brought this tradition together with that of the older Yahwistic creation account of the Garden Narrative. This composite text formed a new redactional whole at the beginning of the emerging canon of sacred literature that would become the Hebrew Bible.³³² From this historical insight, and beginning in the late

³³⁰ Ricoeur, *The Symbolism of Evil*, 175-210; *SM*, 167-98

³³¹ Middleton, *The Liberating Image*, 140-45.

³³² David Noel Freedman, “Canon of the OT,” in *Interpreter’s Dictionary of the Bible, Supplementary Volume*, ed. Keith Crim et al. (Nashville: Abingdon, 1976), 131-32. According to Freedman, textual and historical evidence place the date of the final compilation and redaction of the primary history during the Babylonian exile in the middle of the sixth century B.C.E. In the traditional documentary hypothesis, this canon would include the early monarchic writings of Yahwist (J) and the Elohist (E), the late monarchic and exilic Priestly writings (P), and those of the Deuteronomist (D). Given the Biblical reference to the discovery of D in 2 Kings 22 (seventh century), scholars estimate with confidence that nearly all of the

1950s, biblical scholars and ancient Near Eastern historians began to draw close conceptual ties between Mesopotamian cosmology and the Genesis cosmology. By tracing this long interpretive history from the seminal works of Alexander Heidel and Gerhard Hasel to today, Middleton has distilled and continued these research efforts in recent years, providing a systematic description and analysis of the original range of meaning of the *image of God*, the social context in which that meaning emerged, and some ethical implications of living out that meaning. In broad strokes, this body of critical scholarship concludes:

- (1) The cosmology of Genesis 1, along with its mention of the image of God, is very likely a polemical ideological critique of the Babylonian cosmology depicted in *Enuma Elish*, in which the god Marduk ascends to power through military and political conquest.³³³ After becoming chief among the gods, Marduk creates the heavens and earth by killing and mutilating the body of Tiamat, the goddess representing the chaos of the deep salt seas. He and his ally Ea create human beings from the blood of Tiamat's consort, Qingu, as a means of punishing this rival and for the purpose of bringing to life human creatures who toil in order to provide the gods with sustenance and occasion to rest.³³⁴
- (2) The order and means of creation and the purposes of created entities are similar in Genesis and *Enuma Elish*. Both Marduk and Elohim create through fiat³³⁵ and separation—light from dark, waters from waters, heavens from earth, and water from land. Heavenly luminaries also bear similar functions in each account. Both cosmologies define the role of the sun, moon, and stars in marking the passage of days and seasons. However, since the Hebrews do not involve heavenly bodies in worship, the luminaries are given a lower status—they “serve” not as divine sources

primary historical texts existed by 587 B.C.E. The addition of further prophetic material in redaction and dissemination of the primary history is supposed to have occurred during the Babylonian captivity itself. This hypothesis coincides with the latest corroborable date referenced in 2 Kings 25:27-30—ca. 561 B.C.E.

³³³ Middleton, *The Liberating Image*, 160-67; cf. Alexander Heidel, *The Babylonian Genesis: The Story of the Creation* (Chicago: University of Chicago Press, 1963). Heidel provides a detailed summary of *Enuma Elish* (3-10). He notes that the oldest fragments of this very popular work were found in Ashur and date back to ca. 1000 B.C.E. However, Heidel finds reason to push the date of the initial composition of the poem to the first Babylonian Dynasty (1894-1595), and particularly to the reign of Hammurabi (1792-1750), during which Marduk became Babylon's national god (13-14). EE has been pieced together by way of several discoveries made between 1848 and 1929. It is written on seven clay tablets and is a little more than a thousand lines in length.

³³⁴ Middleton, *The Liberating Image*, 165; cf. 169-70.

³³⁵ After accepting the challenge to defeat Tiamat on the condition he is declared chief among the rebel gods, Marduk's allies test his potency by placing a constellation before him, which he destroys then recreates by speaking to it. See Middleton, *The Liberating Image*, 66.

of light but as carriers of light to govern the day and night.³³⁶ Further, Elohim does not create by separating the body parts of dead deities.³³⁷ The forces of chaos that Marduk must overcome in order to create are utterly de-personified in the Genesis cosmology. The goddess Tiamat is almost unrecognizable as the *tehom*—the deep sea—over which the breath of God so effortlessly hovers.³³⁸ In *Enuma Elish* Marduk must breathe or otherwise conjure a great wind to disturb the insides of Tiamat, affording him the opportunity to kill her, and only then to create. Yahweh Elohim is not a mere replacement of Marduk. The Hebrew God has no personal rivals, and whatever semblance of primordial chaos can be found in Genesis 1, it is brushed aside by the constitutive utterance, “Let there be...”³³⁹ In Genesis created reality and its purposes come about through acts of divine freedom and generosity, rather than retribution and necessity.

- (3) Finally, both cosmologies call for political and ethical mimesis.³⁴⁰ With *Enuma Elish* the move from myth to ritual and politics is more straightforward than with Genesis 1. Political conquest, such as that of the Southern Kingdom of Judah ca. 593-587 B.C.E, is a reenactment Marduk’s rise to power over the forces of chaos. Captive peoples then provide the labor force on which Babylonian society and its elite depended. In the drama surrounding the annual New Year’s festival, the Babylonian king stood in as Marduk, a representation or “image” of this god on earth, set there to implement divine purposes.³⁴¹

In the Genesis 1 cosmology this royal image concept is democratized. It still bears a functional purpose, but in very different ways. If Genesis 1 is redacted in an exilic setting, it calls the Hebrews in hope against hope to bear the image and likeness of God

³³⁶ Gerhard F. Hasel, “The Significance of the Cosmology in Genesis 1 in Relation to ancient Near Eastern Parallels,” *Andrews University Seminary Studies* 10 (January 1972): 14.

³³⁷ See Middleton, *The Liberating Image*, 164.

³³⁸ Hasel, “The Significance of the Cosmology in Genesis 1,” 5-6; cf. Middleton, *The Liberating Image*, 241-42, 264; Mary C. Callaway, “Canonical Criticism,” in *To Each Its Own Meaning*, ed. Steven L. McKenzie and Steven R. Haynes (Louisville, KY: Westminster John Knox Press, 1999), 150. Building on the work of Heidel and others, Gerhard Hasel notes several recurring motifs in both the Babylonian and Hebrew texts. The notion of the “deep” (*tehom*) in Gen. 1:2 is similar though not identical to the personified Tiamat, who is the goddess of the deep salt seas. Though many have argued for a strong correspondence between these terms, Hasel relies on Heidel’s argument in *Babylonian Genesis* that these cognates merely rely on a common Semitic root. This argument rests largely on the fact that the *tehom* of Genesis 1 is a masculine noun, where *Tiamat* is feminine. Further, there is not as complete a transliteration between these terms as there is with other biblical terms that have been identified as borrowed from Akkadian. While *tehom* might conjure images of *Tiamat*, *ti/e’ama* would be a fully transliterated form of this representation of “the deep.” The notable conceptual difference here is that the impersonal *tehom* of Genesis 1 offers no resistance to the preeminence of Elohim.

³³⁹ See Middleton, *The Liberating Image*, 261, 264-65.

³⁴⁰ *Ibid.*, 177.

³⁴¹ *Ibid.*, 161, 181-84; cf. Nahum M. Sarna, *The JPS Torah Commentary: Genesis* (Philadelphia; New York; Jerusalem: Jewish Publication Society, 1989), 12; Gordon J. Wenham, *Word Biblical Commentary, Volume 1: Genesis 1-15* (Waco: Word Books, 1987), 30-31.

as divinely appointed rulers. In the midst of being “subdued” and “ruled over” in captivity, the exiles are invited to “fill the earth, and subdue it; and rule over” its creatures (Gen. 1:26-30). Yahweh Elohim is able to rest after creating humankind, but not due to the fruits of human labor (Gen. 2:3). Rather, this creator calls humankind to join in this Sabbath rest, as Exodus 20:8-11 records. More thoroughly than a solitary king, a royal statue, or a mute idol, all humankind bears an “image” of God that is a “likeness” unto beneficent divine agency. As D.J.A Clines argues in his classic scholarship on this biblical concept, the image of God in Genesis is representational, not merely representative.³⁴² Or, as Hefner suggests, “humans are, in some manner, created to be an explicit representation and presence of God’s will in the creation. Humans have the created calling to articulate within the natural world what God’s intentionality might be.”³⁴³

Yet what clues does the primeval history give to indicate “what God’s intentionality might be”? If novel meanings emerge from the collision and integration of ancient symbolic worlds, one of Deacon’s readers might search for them in what is constitutively absent from the text—a contextualizing hermeneutical dynamic constraining the meaning of the text and its application. What is conspicuously absent—but hermeneutically relevant—is a positive role for creation through violence in Genesis. Unlike Marduk, Yahweh Elohim does not create through conquest. Being created in the image of *this* God entails strong prohibitions against interpersonal violence (Gen. 9:6). From Cain and Abel (4:5-15) to Lamech (4:23-24) to Noah (6:11; 9:6) to Babel (11:4),

³⁴² D. J. A. Clines, “The Image of God in Man,” *Tyndale Bulletin* 19.1 (1968): 90-92.

³⁴³ Philip Hefner, “Biocultural Evolution and the Created Co-Creator,” *Dialog* 36.3 (1997): 203.

the primeval history condemns the temptation to establish divine favor, political power, and social order through violent means.³⁴⁴

The Genesis cosmology reframes the concept of creation through violence by praising the power of speech, extending an invitation to participate, and thus describing the human condition of freedom to co-create something “very good.” Old Testament scholar Graeme Auld highlights the first of these developments and its theological and anthropological implications:

One of the most remarkable features of the opening of Genesis (1:1-2:3) is the prominence of speech. This is not only a relative judgment, in comparison with chapters 5 and 9. It also emerges from a simple internal examination of the wording of the chapter. No less than 40 percent of the verbs denoting the divine actions are explicitly verbs of speaking: “said” (*'mr*, 10x), “called” (*qr*’, 5x), and “blessed” (*brk*, 3x), eighteen out of a maximum of forty-five relevant verbal forms. But even that is to understate the matter. Because the report of every “day” of creation opens with “and God said” and is followed by the divine fiat, all the making (8x), separating (2x), granting (2x), and sanctifying (1x) were also achieved by divine word. In Genesis 1, God is a God who speaks, and who acts by speaking. It stands to reason, then, that human beings created by, and made very like such a God would be preeminently speakers.³⁴⁵

Coincidentally, the biocultural conception of human uniqueness constructed in the above chapters emphasizes very much the same thing. For good and ill much of what makes *Homo sapiens* qualitatively distinct among species is the conscientious ability to (co-)create the symbolic universe of *what really is* and ought to be.

Hence, cognitive linguistics not only provides hermeneutical insight as to how new meanings might emerge through integrating ancient and current concepts, but also

³⁴⁴ See Middleton, *The Liberating Image*, 219-28. Middleton places himself among the biblical scholars who interpret the “tower” of Babel to be a kind of siege ramp to the heavens and a symbol of centralized earthly power and authority. Since “Babel” is the Hebrew word for “Babylon,” the tale at the close of the primeval history likely evoked images of the royal and cultic structures of this powerful empire.

³⁴⁵ Graeme Auld, “*imago dei* in Genesis: Speaking in the Image of God,” *Expository Times* 116.8 (2005): 161.

that this uniquely human capacity did not escape the notice of the biblical writer(s). Auld gives hints that the Priestly contributor(s) to the Hebrew Bible may have understood, in a pre-scientific way, that humankind's cognitive fluidity, embodied in language, made us unique among creatures and somehow similar to the God before, behind, and beyond the creation. After reading van Huyssteen's 2004 Gifford Lectures,³⁴⁶ Auld "suggested to him that his emphasis on speech as marking off the human from the rest of the world was in fact consistent with a plausible reading of Genesis 1:26-27, and the novel insistence there on humanity created in the image and likeness of God."³⁴⁷ Auld holds that van Huyssteen's "fascinating interdisciplinary account of speech" in *Alone in the World?* could have benefited from greater engagement with Genesis 1 in conjunction with this work's more thorough interdisciplinary exposition of Genesis 3.³⁴⁸

In Genesis 1 the creator invites all constituents of the creation to participate in the process to the utmost of their inherent ability and degree of freedom. Light is called to "be"; waters are called to "be gathered"; the earth is called "to sprout vegetation"; celestial objects are called to "govern" the passage of time and "give light"; waters are called to "teem with swarms of living creatures"; birds are called to "fly above the earth"; the earth is called to "bring forth living creatures"; all life is called to "be fruitful and multiply." Middleton praises "the text's depiction of the process of creation as God sharing power with creatures, inviting them to participate (as they are able) in the creative process itself."³⁴⁹

³⁴⁶ J. Wentzel van Huyssteen, *Alone in the World?: Human Uniqueness in Science and Theology* (Grand Rapids: William B. Eerdmans, 2006).

³⁴⁷ Auld, "Speaking in the Image of God," 162.

³⁴⁸ Ibid., 161-62.

³⁴⁹ Middleton, *The Liberating Image*, 287.

Still, the grammar of Genesis 1 implies that one creature's ability and freedom to fulfill its created role is qualitatively distinct. Until verse 26, God speaks to no one in particular, manifesting and empowering created realities through jussive fiat. Then there is a shift. The participle of verse 22 becomes a direct address in verse 28: "God blessed them, *saying*, 'Be fruitful [...]' " becomes "God blessed them; and God *said to them*, 'Be fruitful [...]' ." As Auld highlights, the formula, "'And God said' is used absolutely nine times in this opening prologue. Only once do we read 'and God said *to* [someone].'" ³⁵⁰ In Genesis 1:28-30 human beings are given a say in the future of the creation, including their own.

Re-reframing the ancient myth-symbol of the *image of God* through an emergentist biocultural evolutionary perspective is no more or less complicated than hearing God "speak" through the natural processes that have resulted in *Homo sapiens* and the conceptions of a "very good" world we are co-responsible for envisioning and establishing cooperatively as culturally-constituted creatures. Of course, this task raises many more questions about how to construct a second naïveté understanding of Genesis 1 within the framework of creation through evolution. One of the more vexing of these questions is how resolve the apparent clash between the theme of non-violent (co-)creation and "nature red in tooth and claw." While no one can claim to have resolved this issue, the next chapter looks for direction in Genesis and the natural sciences for how to reexamine the knowledge of good and evil that makes such questions possible and necessary. The following section explores in greater depth how the creation is called to "bring forth living creatures," including human beings and the image of God they bear.

³⁵⁰ Auld, "Speaking in the Image of God," 260.

The image of God as a product of nature in Genesis and biocultural evolution

The blending diagram in figure 4 below lists a number of concepts in an emergentist, biocultural perspective which bring into focus certain features lying within and behind the text of Genesis 1, its depiction of human creatures, and the image of God they bear. Allowing these biblical and scientifically-informed concepts to frame one another generates the interpretive inference that as God creates through evolutionary

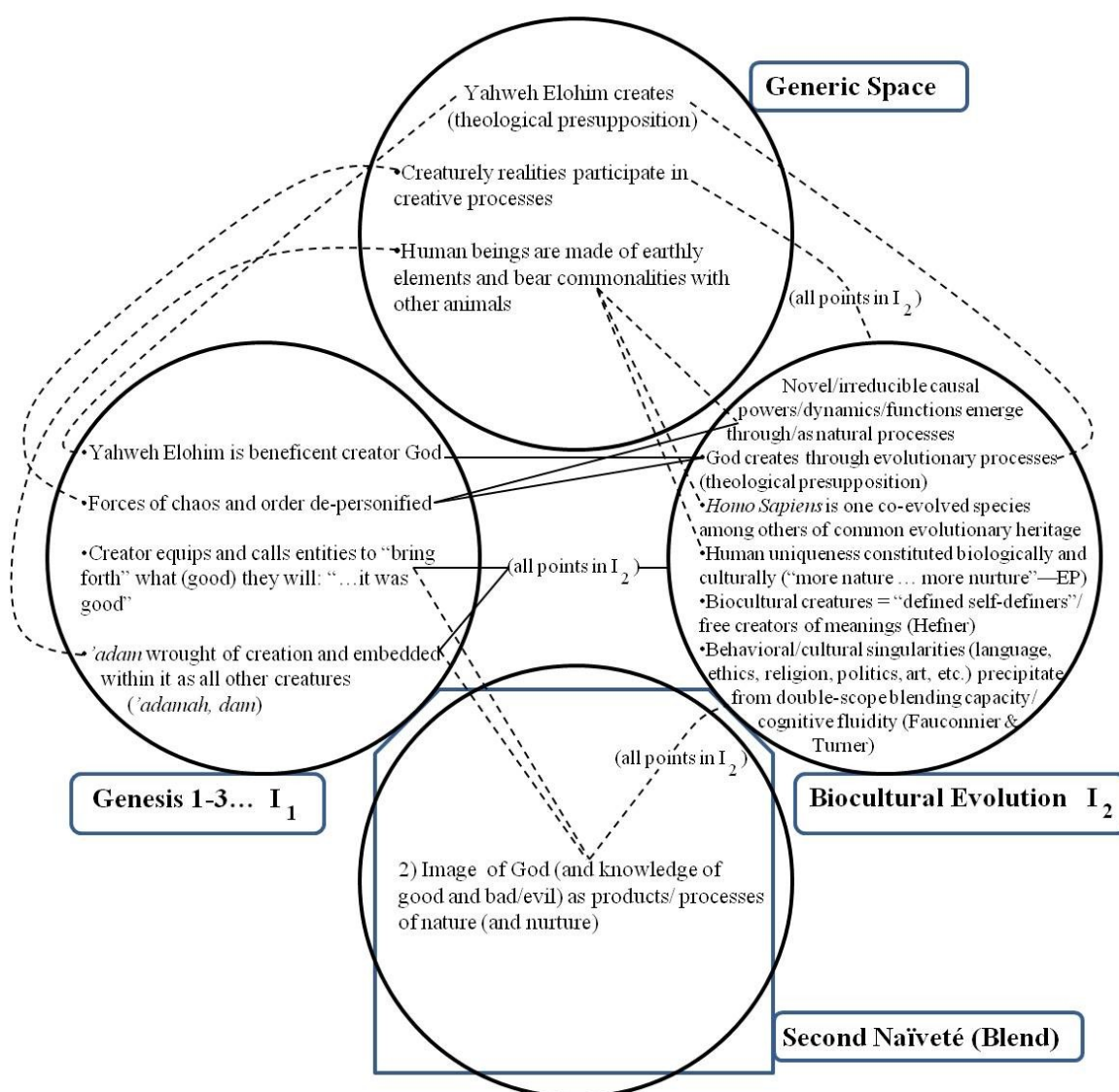


Figure 4: Image, Knowledge, and Nature

processes, bearing the image of God (with a knowledge of good and bad/evil) may be understood as a biocultural product/process of nature (and nurture).

Despite centuries of highly spiritualized and dualistic interpretations of the *imago Dei*, most biblical scholars today agree that the Hebrew terms for *image*—*tselem*—and *likeness*—*demut*—in Genesis 1 refer to a creature wrought of the creation and embedded within it to the same extent as all other animal species. While the primeval history indicates in its own way *that* humankind bears this bottom-up origin and kinship with the rest of creation, emergentism and a biocultural understanding of human uniqueness provide new modes of interpreting *how* this human condition has come about and what it might mean to image God through it.

The human creature, like all other land dwellers, is an animated amalgam of dust, breath, and blood. In Genesis human beings are no less “earthly” than other animal species. Read as a redactional whole, the first two chapters of Genesis recount that humankind and all other land animals are created from the “earth” or the “dust of the ground”—*’adamah* (Gen. 1:24; 2:7, 19). The human hails from the humus. Likely an intentional play on words, *’adam* is created from *’adamah* to bear the *demut*—a likeness to the creator. Likewise, although Gen. 2:7 speaks of a unique inbreathing of life for the first human being, the “breath of life” (*nishmat chayyim*) is not identical to the “spirit” or “breath of God” (*ruah ’elohim*) in Gen. 1:2. According to Gen. 6:16 and 7:22-23 all creatures dwelling or nesting on land are counted among those “in whose nostrils was the breath of the spirit of life.” Even the special in-spiration of Gen. 2:7 causes the human to become a “living creature/being” (*nefesh chayyah*), a designation shared by the animal species called forth from the earth on sixth day (1:20, 24; cf. 2:7, 19).

Another vital element shared by humankind and other animal species is “blood”—*dam*—which bears sacred (even cultic) significance, requiring special attention in meat preparation and retributive justice in cases of human bloodshed (Gen. 9:3-6). Thus, in four interrelated anthropological terms arising in the primeval history of Genesis, the consonants *dalet* (ד) and *mem* (מ, ם—final *mem*) point to a creature whose vital elements and their integration, functioning, and flourishing are consonant and contiguous with the rest of creation. As an animated amalgam of dust, breath, and blood, the human creature derives every aspect of its life from the world in which it is imbedded among the other *nefesh chayyah*.

Even so, and without taking leave of this ontological plain, one of these Hebrew terms signifies a special calling and set of capacities borne for the purpose of discerning and enacting the creator’s intentions for the creation with freedom and responsibility. In this way *’adam* bears a *demut*, a “likeness,” to God.

The visual similarity of these terms is especially apparent in the unpointed Hebrew text:

דם	<i>dam</i>	blood
אדם	<i>’adam</i>	human(kind), Adam
אדמה	<i>’adamah</i>	ground, earth
דמות	<i>demut</i>	likeness

The simplest form, דם, is the common thread among the terms; אדם and אדמה are linked by their initial guttural א (*’alef*); and אדמה and דמות bear a connection through the visual similarity of their final ה (*he’*) and ת (*tav*).³⁵¹

³⁵¹ Note that these noun forms are simplified from those found in Genesis. In the Masoretic Hebrew text many of these terms are prefixed and suffixed with prepositions, the article, and/or pronominal forms. At the same time, the root forms would have been both audibly and visually recognizable, especially in the original unpointed text, which did not contain spaces between words. This lack of spacing might have allowed the common elements among these terms to stand out, despite their various prefixes and suffixes.

One biblical scholar, J. Maxwell Miller, submits evidence that the Priestly redactor(s), and perhaps earlier contributors to the primeval history, were well aware of this visible and audible pun, citing Gen. 9:6: “Whoever sheds the *blood* of *man*, by *man* shall his *blood* be shed; for in the image of God, he created *man*” (נָדָם terms italicized). Conspicuously, this passage points out that humankind deserves this special moral consideration because it is made “in the image”—*tselem*—of God, without any mention of the divine “likeness”—*demut*. This break in consonance, Miller supposes, is to avoid any suggestion that the image of God is created from a divine substance. In *Enuma Elish* and other ancient Near Eastern parallels, human beings are made from divine blood—*dam*.³⁵² However, Yahweh Elohim has no blood and has no need to spill any in order to create. In the final form of the text, the Priestly redactor interpolates, or at least interprets and extends, this anti-anthropomorphic aspect of Israelite theology and cosmology. Through humankind, as through every other living creature, the ground breathes, not God.

Middleton ventures further, arguing that the concept creation from the blood of a lower god is meant to devaluate humankind in *Enuma Elish*:

As the consort of Tiamat and leader of her forces, [Qingu] is one of the arch enemies of Marduk. The text thus attributes to humans, who are created from Qingu’s blood, an essentially rebellious and degraded nature, much as the cosmos contains within it an evil or chaotic principle, constructed as it is out of the dead carcass of Tiamat. [...T]he mythology of *Enuma Elish* proclaimed in no uncertain terms the servitude (even bondage) of humanity, “created out of evil substance,” as cheap slave labor to do the “dirty work” of the lower gods.³⁵³

In *Enuma Elish* creation from blood is a reminder of the violence needed to create and maintain order in the godly and creaturely realms. In Genesis creation in the divine image

³⁵² J. Maxwell Miller, “In the ‘Image’ and ‘Likeness’ of God,” *Journal of Biblical Literature* 91 (1972): 299-302, 304.

³⁵³ Middleton, *The Liberating Image*, 174, 176; cf. 47 n.9, 165.

means that human blood is precious in its own right. As an indication of status and role, Genesis implies that the *image* of God is borne out in the dynamic *likeness* humanness bears to (a singular kind of) godness. Being made from dust of the ground in the image and likeness of Yahweh Elohim is a much more positive job description than being made from the blood of Quingu.

In this vein, many biblical scholars interpret the terms for *image* and *likeness* to overlap semantically and modify one another, in both a negative and positive sense.³⁵⁴ Negatively, *image* may keep *likeness* from becoming a reference to a divine substance running through human veins; *likeness* may keep *image* from becoming a reference to a mute and non-agential conduit of the divine, an object of cultic devotion, or a despotic ruler disseminating the divine will in the socio-political sphere.³⁵⁵ Positively, while many exegetes point out that the definitions of *image* and *likeness* are not self evident, several scholars agree that together the terms portray humanity as not merely representative of the creator, but representational as well—a likeness-bearing image.³⁵⁶

This ideological trajectory of Genesis 1 warrants Hefner's conclusion that fully embedded within the creation is a "created co-creator." Divinity is not the only form of self-conscious intentionality and causality. From the ground has emerged a fully creaturely form of personhood. As a pre-scientific prelude to Hefner's hypothesis that *Homo sapiens* "have the created calling to articulate within the natural world what God's intentionality might be," the primeval history implies that one of God's intentions for

³⁵⁴ See Wenham, *Genesis 1-15*, 29; Clines, "The Image of God in Man," 90-92; Miller, "In the 'Image' and 'Likeness' of God," 293-94, 299-304; Auld, "*imago dei* in Genesis," 259-61.

³⁵⁵ See Brueggemann, *Genesis*, 31-32; Middleton, *The Liberating Image*, 88-90, 176-84; J. F. A. Sawyer, "The Meaning of 'בְּצֶלֶם אֱלֹהִים' in Genesis I-XI," *Journal of Theological Studies* 25 (1974): 420-21; Andreas Schüle, "Made in the 'Image of God': The Concepts of Divine Images in Gen. 1-3," *Zeitschrift für die Alttestamentliche Wissenschaft* 117.1 (2005): 11-20.

³⁵⁶ See Clines, "The Image of God in Man," 90-92; Middleton, *The Liberating Image*, 88; Sawyer, "The Meaning of 'בְּצֶלֶם אֱלֹהִים' in Genesis I-XI," 424-26; Van Huyssteen, *Alone in the World?*, 156-57.

creation is that one of its creatures discerns and enacts the creator's purposes freely, according to their God-imaging response-ability.³⁵⁷ As I argue in greater detail in chapter 5 below, this human condition includes the original and ever-present possibility of getting things wrong—of encountering and effecting both good and evil.³⁵⁸ In parallel, complementary ways, both the biblical and biocultural narratives of human origins indicate that this condition of freedom is the *de facto* necessary and ambivalent result of emerging as an animated amalgam of dust, breath, and blood.

An emergentist understanding of the evolutionary origins of *Homo sapiens* is able to inform a second naïveté Christian understanding of the human person as a unique, God-imaging creature, because the exegetical insight that humankind derives from and is embedded within creation to the same extent as all other *nefesh chayyah* (living creatures/beings) is commensurable with this scientifically-informed conception of human development and uniqueness. For Hefner, “the fact that the co-creator is created through nature’s evolutionary processes justifies the inference that nature itself participates in the image of God. This is a novel interpretation.”³⁵⁹ But is it really novel? And in what ways? As Hefner alludes, what is novel about a conception of human uniqueness which synthesizes exegetical and scientific findings is that it forces present-day theologians to reconsider and reformulate what it means for God to “speak,” “form,” and “breathe” humanity into life, what it means for the natural world to be a “creation” open to the ongoing creative and redemptive influence of the creator.

³⁵⁷ Hefner, “Biocultural Evolution and the Created Co-Creator,” 203.

³⁵⁸ See John Baker, “The Myth of Man’s ‘Fall’: A Reappraisal,” *Expository Times* 92 (1981): 235-37; Jason P. Roberts, “Emerging in the Image of God to Know Good and Evil,” *Zygon: Journal of Religion and Science* 46 (2011): 471-81; J.F. A. Sawyer, “The Image of God, The Wisdom of Serpents, and the Knowledge of Good and Evil,” in *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer (Sheffield: JSOT Press, 1992), 64-73; Schüle, “Made in the ‘Image of God,’” 11-20.

³⁵⁹ Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 273.

Imaging God as an emergent vocation

Figure 5 below illustrates the meaning-making process of defining the *image of God*, which also encapsulates a uniquely human creative capacity through which we might be said to bear the divine image. Following the hermeneutical trajectory evident in Genesis 1, I argue that blending ancient and contemporary understandings of human uniqueness warrants the theological conclusion that bearing the image of God (with a knowledge of good and bad/evil) is the vocation of behaviorally modern *Homo sapiens*.

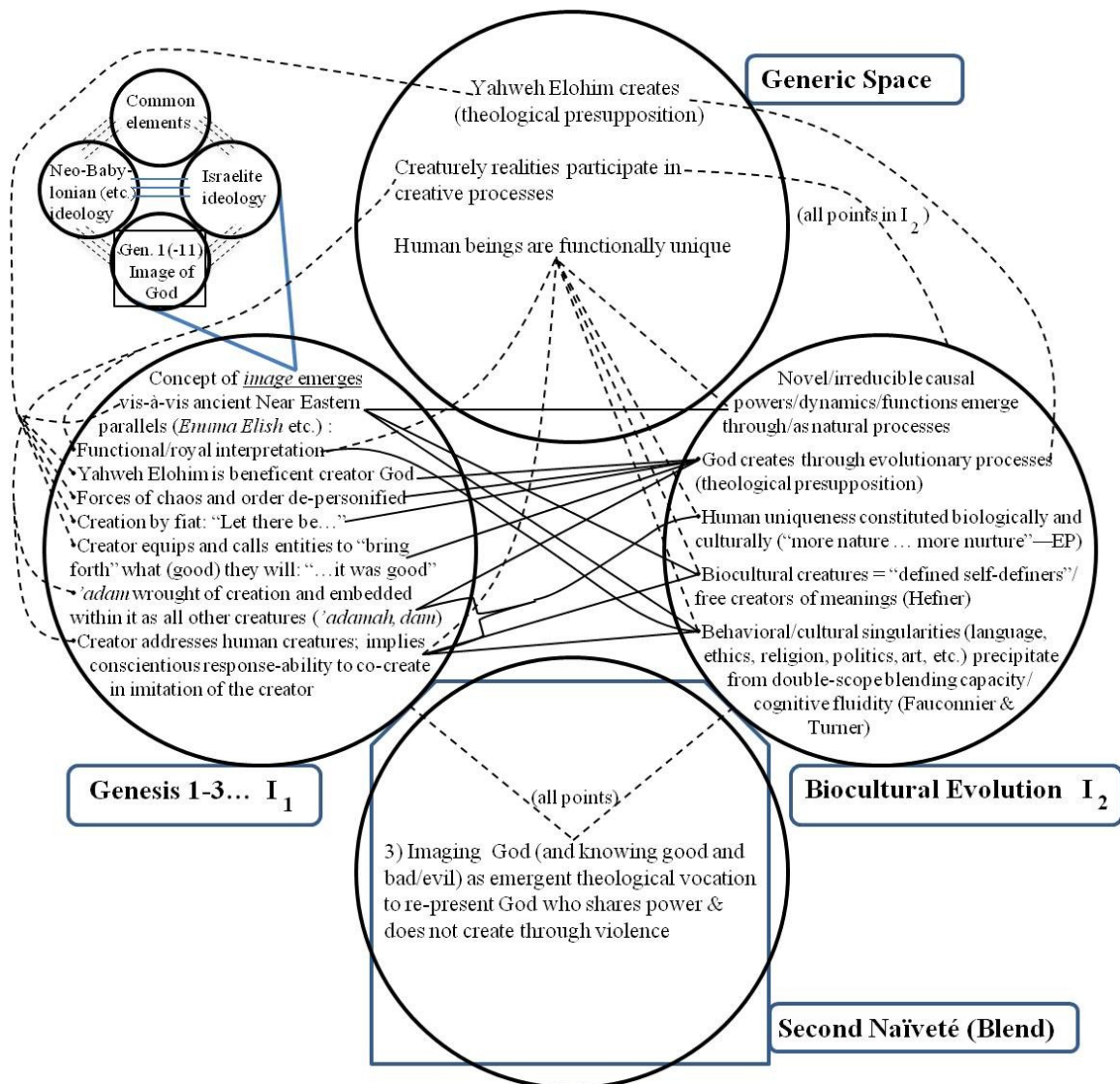


Figure 5: Image, Knowledge, and Emergent Vocation

Through biocultural processes, our species has emerged with the calling to re-present the beneficence of the God who shares power with created entities and does not create through violence.

Any faith perspective which understands *God* to be the insuperable contextualizing element of *what really is* must understand human thought and action as one avenue presumably open to divine influence. Broadly speaking, a theistic conception of deity, such as in Christianity, presume that created reality is valued by its creator, that the creator God wills the wellbeing of creaturely processes and/or entities, that God communicates or reveals divine beneficence and its normative implications, and that humanness affords a singular form of receptivity to divine (self-)communication. Having a theology of this sort cannot but lead to real-world consequences.

To be a culturally-constituted creature is to live out of a particular set of values-laden distinctions. What human persons understand themselves *to be* informs what they find appropriate or imperative *to do* or not to do. Our *is* informs our *ought*. Theistic conceptions of our *is* can be some of the most empowering and relativizing modes of thinking, because they set human existence and activity against a trans-cosmic backdrop. Those who consider themselves to bear the image of God have accepted a calling to discern, construe, and enact the beneficent intentions of the creator for the creation. As the indeterminate future of the cosmos continues to unfold, bearers of the divine image have emerged with the freedom and response-ability to cooperate with one another and the rest of the creation in order to co-create a very good world. Re-presenting the beneficent creativity of God is humankind's emergent theological vocation—a call to bear the image of God with a conscientious knowledge of good and evil.

For good or ill theological motivation for human action means that “God” finds a loophole in the causal closure principle “that the basic causal laws of the universe also form a closed system—all changes come from within.”³⁶⁰ This is not to say that God somehow acts directly on the cosmos from “without.” Indeed, the much more tenable theological view in light of current science is that any divine activity in the creation would come from within. Rather, the seeming violation of the causal closure principle emerges with the concept that a trans-cosmic reality might exist, that its necessary existence is source and constraint of all contingent existence, and that this relationship is relevant to what people ought to think and do. Many look beyond the material world for guidance as to what to do within it. Deacon may be correct that all causal influence comes from within the cosmos. Yet this view does not entail that all causally efficacious emergent dynamics are wholly immanent to the space-time of our universe. The emergence of the image of God is the emergence of a uniquely human behavioral domain in which *Homo sapiens* “hear” the divine—however faintly and faultily—calling across the infinite qualitative distinction between creator and creation.

In every major strain of interpretation, the *image of God* concept denotes a creature able to perceive this ontological disjunct. The way in which believers describe the qualitative ontological distinction between God and the image of God frames—for good and/or ill—how they might live out that reflection of divinity in the world.

Historically, there are at least three major strands of Christian interpretation of the *imago Dei* in Genesis, which I term the *rational*, the *relational*, and the *royal*. The rational conception of the image points to humanity’s psycho-spiritual capacities and/or

³⁶⁰ Terrance W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York; London: W. W. Norton and Company, 2012), 38.

the substantive spirit possessing them as the locus of the image. The relational school of thought looks primarily to interpersonal or God-human interaction to find God imaged in the “I-Thou” existential of personhood. The royal interpretation already outlined is the most tenable of these and depicts humankind as bearing the image of God though its creaturely function and calling to discern and disseminate the rule of God on earth.

The eschatological interpretation of the image of God, based on the New Testament portrayal of Jesus Christ as the quintessential image or icon of divinity, can be read as an extension of the functional-royal interpretation, since “image” passages in the New Testament characterize Christ as the redeeming “Lord” who reveals and inaugurates God’s righteous reign on earth as in heaven.³⁶¹ In both Old- and New- testaments, imaging God as royal representative involves conscientious human participation.

The sections above have outlined much of the evidence supporting the functional-royal interpretation of the *image of God* in Genesis. The bulk of this historical and intertextual evidence lends credence to the conclusion that the *image of God* in Genesis criticizes and democratizes Neo-Babylonian royal ideology.³⁶² In a synthetic study of Gen. 1:26-28 over a hundred years of Old Testament scholarship, Gunnlaugur A. Jónsson has discerned an emerging consensus in biblical studies that the image and likeness of God in this passage pertains largely to the commands given to humankind in verse 28—to

³⁶¹ See 2 Cor. 4:4-5; Col. 1:13-16; Hebrews 1:1-3; cf. van Huyssteen, *Alone in the World?*, 141-45.

³⁶² Another piece of evidence supporting this thesis comes by way of the 1976 discovery at Tel Fakhariya of a ninth century B.C.E. Assyrian and Aramaic inscription using the terms *image* and *likeness*. These terms refer to a statue of king Haddyit’i as an “image” bearing the “likeness” of this king, crafted to be a hypostatic extension of this royal personage, for the purpose of making him present to his god and establishing a continual line of communication, blessing, and provision through this conduit. Since its discovery, this ancient Near Eastern parallel has piqued the interest of biblical scholars looking for intertextual clues for the background concepts behind the *image* and *likeness* of God in Genesis. See Middleton, *The Liberating Image*, 47, 106-07; Sarna, *Genesis*, 12; Schüle, “Made in the ‘Image of God,’” 9-11; Wenham, *Genesis 1-15*, 29.

fill and subdue (*kavash*) the earth and rule over (*radah*) its creatures.³⁶³ In addition to Jónsson and Middleton, eminent commentators such as Gordon Wenham and Nahum Sarna come to the same conclusion.³⁶⁴ Being created in the image and according to the likeness of God means bearing a response-ability to hear and act upon the call of the creator to co-create the future of the cosmos.

Yet, despite the mounting exegetically relevant evidence, Jónsson notes that systematic theologians too often succumb to the momentum of the traditional rational interpretation or the popular relational interpretation. The rational interpretation, which J. Wentzel van Huyssteen calls the “substantive interpretation,” finds humanity to bear a likeness to divinity in its psycho-spiritual capacities of reason, personality, self-consciousness, free-will, intellect, and speech.³⁶⁵ This line of interpretation traces its origins to Philo of Alexandria, Augustine, and other prominent ancient writers. While elements of this interpretation are visible in the text, there are several reasons why the rational-substantive interpretation is incomplete at best, and misleading at worst.

First, these cognitive capacities are not explicitly mentioned in the immediate context of Gen. 1:26-27. Second, a purely spiritual definition of the divine image and likeness would imply a dualist anthropology foreign to the text. Clines is not alone in insisting that the human person is always portrayed as a “psychosomatic unity” in the Hebrew Bible, and that the conceptual background for the *image of God* passages includes the same basic anthropological framework.³⁶⁶ Third, Old Testament scholars like Phyllis Bird rehearse well-founded complaints that this hierarchical spirit-body dualism is

³⁶³ Gunnlaugur A. Jónsson, *The Image of God: Genesis 1:26-28 in a Century of Old Testament Research* (Stockholm: Almqvist & Wiksell International, 1988), 219-25.

³⁶⁴ Wenham, *Genesis 1-15*, 30-31; Sarna, *Genesis*, 12.

³⁶⁵ Van Huyssteen, *Alone in the World?*, 126-32.

³⁶⁶ Clines, “The Image of God in Man,” 85-87; cf. Wenham, *Genesis 1-15*, 30.

intertwined with countless historical instances of humanity-over-nature and male-over-female dualisms contrary to both the letter and spirit of the text.³⁶⁷

These hierarchical dualisms also bear the danger of surfacing in the relational interpretation made especially popular by Karl Barth in his *Church Dogmatics* (III.1, 182ff.). This influential strand of theological exegesis focuses on the plural jussive (“Let us...”) of Gen. 1:26, the creation of *’adam* as male and female, and the capacity for interplay between God and human creatures expressed in the final verses of Genesis 1.³⁶⁸ This interpretation sees human beings as uniquely capable of a God-like “I-Thou” relationality among themselves and between themselves and the divine. The Barthian reading locates the divine image within creative relationality, rather than within the person or a created substance. While this theological development is an encouraging move in the direction of a more dynamic conception of the image of God, Jónsson cautions that this interpretation is a product of the dialectical philosophy of the late nineteenth and early twentieth centuries.³⁶⁹ This philosophical framework may not be the most tenable for theological exegesis today, because natural-scientifically based paradigms for analyzing human cognition and behavior are arguably more coherent and comprehensive than the existential paradigms of dialectical philosophy. By synthesizing

³⁶⁷ Phyllis A. Bird, “‘Male and Female He Created Them’: Genesis 1:27b in the Context of the Priestly Account of Creation,” *Harvard Theological Review* 74.2 (1981): 129-159; cf. Jónsson, *The Image of God: Genesis 1:26-28*, 221-23; Middleton, *The Liberating Image*, 205-06; van Huyssteen, *Alone in the World?*, 132, 134-135, 153-55, 161. The flip-side of the rational interpretation is that the *image of God* refers to humanity’s external form. Herman Gunkel, Theodor Nöldeke, and Gerhard von Rad all proposed that *image* relates to humanity’s physical appearance or external form in comparison to that of Elohim—an interpretation later revived by P. Humbert. This interpretation extends primarily from exegesis on Gen. 5:1-3, where the physical image and likeness of Adam and Seth are surely at issue. The obvious problems with this interpretation are that (1) Clines’s noted insistence on a consistent monistic anthropology in the Hebrew Bible would necessitate that any physical formulation of the image would have to include psychological elements as well; and (2) one of the main thrusts of the final form of the Primeval history and of the Hebrew Bible as a whole is the incorporeality of God. See Jónsson, *The Image of God: Genesis 1:26-28*, 44-54, 101-106; cf. Wenham, *Genesis 1-15*, 30.

³⁶⁸ See van Huyssteen, *Alone in the World?*, 136-38.

³⁶⁹ Jónsson, *The Image of God: Genesis 1:26-28*, 65-76.

data from evolutionary biology, paleoanthropology, and neuroscientific research, evolutionary psychology is a much stronger framework for understanding the human condition today than is the philosophical psychology born out of the Enlightenment. As a result, the second naïveté reappropriation of biblical understandings of human nature is better served today by biocultural conceptions of humankind's evolutionary emergence. Nonetheless, Jónsson finds that the Barthian interpretation remains prevalent in both dogmatic and biblical studies and that it provides the only rival to the recent functional-royal consensus concerning the biblical meaning of *image* and *likeness*.³⁷⁰

Bird adds that regardless of the ethical dangers and opportunities inherent to the sexualized relational interpretation, the divine announcement of blessing and bisexuality in Genesis 1 is most likely a provision for the capacity to “be fruitful and multiply, and fill the earth.” This inherent capability facilitates the functional vocation of rulership. For Bird a reproductive capacity intrinsic to humanity and the rest of the “male and female” creatures (cf. Gen. 6:19; 7:3, 9, 16) also implies the lack of need for a fertility cult, perhaps augmenting the monotheizing thrust of Genesis 1 over against its contemporary parallels.³⁷¹

Still, the rational and relational interpretations are not completely devoid of merit. The functional-royal interpretation certainly entails the understanding that humankind bears unique cognitive and relational capacities. However, against a Neo-Babylonian backdrop and the theme of creation, the *image* and *likeness* language of Genesis 1 seems to point beyond these capacities to the kinds of things people ought to do with them. Though not in Hefner's post-critical sense that human uniqueness emerges through

³⁷⁰ Ibid., 223-25.

³⁷¹ Bird, , “Male and Female He Created Them,” 146-50.

biocultural evolution, Genesis depicts humankind as a created co-creator, able to hear and respond to the direct address of the creator, to detect the movement of God in the world (Gen. 1:28, 2:17, 3:8-13). This unique creature is called to do very creator-like things—filling the earth and ruling (1:28-30), resting on the seventh day (2:2-3; Exod. 20:8-11), naming things (Gen. 2:19, 23, 3:20). Though Yahweh Elohim equips and calls all created things to participate in the creative process, only one creature participates in a manner qualitatively similar to God's own *modus operandi* of "saying," "calling," and deciding for itself whether things are "good" or "not good"/"evil."³⁷² Auld emphasizes that

throughout the days of creation, previously created entities participate as agents in future making. It is consonant with this that the first actions reported of the earthling in the garden are that he "names" (*qr*) those brought to him by the deity (2:19) and "says" (*'mr*) why his new partner should be called "woman" (2:23)—exactly as God's first actions (1:3-5) had including saying and calling.³⁷³

This exegetical observation supports the interpretive inference that bearing the image of God means exercising a singular form of social and environmental responsibility and creativity—to image the creator's beneficent rulership, evoking from the creation and one another whatever "good" each is equipped to produce for their own sakes and the common good. As Middleton concludes, the *image of God* in Genesis is an affirmation of dynamic human agency, rather than "static status or privilege":

Essential to the meaning of the image in Genesis 1 is the dynamic power or agency that God grants humans at creation (signified in the terms *rule* and *subdue*). Although it is not explicitly stated in Genesis 1, it is reasonable to think that this power is to be exercised responsibly, with God's own exercise of power in creation perhaps as the model.³⁷⁴

³⁷² On the point of creator and the human creatures discerning or deciding "good" from "not good" or "evil" in Genesis 1-3, see 1:4, 10, 12, 18, 21, 25, 31; 2:18; 3:6, 22.

³⁷³ Auld, "Speaking in the Image of God," 261.

³⁷⁴ Middleton, *The Liberating Image*, 204.

Implicit but integral to understanding the way in which Yahweh Elohim operates is the constellation of concepts emerging from the clash of symbolic worlds underlying the text. This God does not create through violence but enables and allows the waters and land of the earth to bring forth everything that environs and constitutes humankind. Likewise, and in a unique manner, human beings are invited to make and keep things “very good” throughout the earth.

There is a sense throughout the first chapters of Genesis that God’s invitation to “let there be” informs but does not determine the exact shape nature and culture will take. Bringing the language of emergence into the realm of biblical interpretation, Middleton proposes that “[t]he God who is artisan and maker, reflected rhetorically in the complex literary artistry of the text, does not overdetermine the order of the cosmos. There is a helpful analogy here to what chaos theorists call a ‘strange attractor.’”³⁷⁵ Following the ideological trajectory of Genesis 1, Middleton finds that the text “depicts a creator less like a Newtonian lawgiver and more like a strange attractor.”³⁷⁶ In Deacon’s terms, divine reality acts much like an attractor or constraint, facilitating new orthograde statistical tendencies to be explored in and by the cosmos.

What does this depiction of divine creativity mean for a second naïveté understanding of the *image and likeness of God*? What does it mean to bear the royal vocation of filling, subduing, and ruling over creation as a species of bioculturally-constituted created co-creators in the 21st century? For the tribes of Israel in the sixth century B.C.E., filling and subduing the earth were not the immanent possibilities and problems they are today. For good and ill the scope of humankind’s technological, socio-

³⁷⁵ Ibid., 286.

³⁷⁶ Ibid., 287.

economic, political, military, and ecological impact has increased astronomically over the past few millennia, and especially over the past few centuries. Our species must now collaborate world-wide to develop and articulate the values and norms by which it will exercise and temper its capability to “be fruitful and multiply, and fill the earth, and subdue it; and rule over” its creatures and their environments. The very survival of each and/or every one of earth’s species may depend on our willingness to recast our ability to rule over other creatures in terms of cooperating with them to ensure a sustainable global ecology.

As a message originally addressed to a minority people group, the commands and provisions listed in Gen. 1:28-30 are more a message of hope that the meek will inherit the earth than a warrant to treat and mistreat it as a cache of resources designed for human consumption. For 21st-century believers, the expectation for struggle connoted by the verbs “subdue” and “rule over” must open our eyes to the reality that our earthly home has always presented meaningful challenges to our ability to discern and implement the good intentions of the creator. Read through this interpretive lens, the commands of Gen. 1:28 are not an open invitation to bend the creation to human will, but to bend human will to the creator’s plan for the world to be a “very good” home for all kinds of creatures.

While biblical scholars like Bird and others note that the verbs of dominion in Gen. 1:28 were harsh, even in their original context, these commands to represent and extend the rule of God throughout the earth must be read as an extension of the creator’s “Let there be”—Yahweh Elohim’s invitation to bring forth “good” in all parts of the creation. Today, answering God’s call in Genesis 2 to “name” all living creatures and

“serve” the “garden” in which we have been placed together with them means seeking to know everything we can about the world in which we live and acting to promote the well-being of everything in it. Imaging a God who does not create through violence and who “sees” the “good” in the simplest created entities means identifying, avoiding, and remedying human-created causes of undue harm to ecological, biological, personal, and cultural realities. In emergentist terms, the call to embody the creator God’s beneficence in and to the creation is most urgent where the minimal requirements for teleodynamic constraint propagation are most threatened—among the impoverished and the endangered. Human beings create through violence and ignore their vocation when they knowingly and avoidably seek the perceived “good” of some in ways which systematically restrict or eliminate the ability of other persons, other cultures, or other species to seek and achieve their own well-being.

As creatures who are products of co-evolution, we owe our emergence in the image of God to the interactions of our evolutionary ancestors among themselves and other species in various environments of evolutionary adaptedness (EEA). It stands to reason, therefore, that the vocation to discern, construe, and enact the beneficent intentions of the creator in the world today entails a self-critical and empathetic analysis of the value—the “good”-ness—of every created entity to every other, from the bottom-up, from the least complex to the most. In Deacon’s terminology, the emergence and enjoyment of the image of God has always depended upon the presence of diverse and sustainable boundary conditions, from the proto-biotic emergence of the first autogens, to the biodiversity characterizing the EEA of our earliest behaviorally modern ancestors, and from today into the future.

The emergence of the image of God—of human-being—is the emergence of the response-ability to define, evaluate, and envision our impact on one another and the rest of the creation. The emergence of the image of God is the emergence of the response-ability to “rule over” the creation in a unique way, to cooperate in order sustain and perhaps expand its “very good”-ness. The ongoing created co-creation of the image and likeness of God through biocultural processes will continue to take shape based in no small part on humankind’s ecological and social legacy from each moment to the next. For good or ill, the conscientious choices of *Homo sapiens* constrain the future open or closed to bearers of the image of God, other animal species, our home planet, and beyond.

Imaging God with a condition of freedom

The biocultural perspective outlined in input 2 of figure 6 below focuses attention upon several features of Genesis 1-3. According to Genesis, created entities are called to participate in the act of creation as an actualization of their God-given potential to “be,” to “be gathered,” to “sprout,” to “separate,” to “govern,” to “swarm,” to “bring forth,” to “be fruitful and multiply,” to “fill,” to “subdue,” to “rule over,” to “eat” and/or choose not to eat, to “serve” or “cultivate the ground,” to “name” other creatures and other people, to “know good and bad/evil.” Integrated with a biocultural understanding of human evolution, these aspects of the Genesis cosmology support the theological inference that the emergence of the image of God culminates in an ambivalent condition of freedom emblematic of humankind’s biocultural nature. Described as the human condition of “knowing good and bad/evil,” this ambivalent aspect of bearing God’s image is the topic of the following chapter.

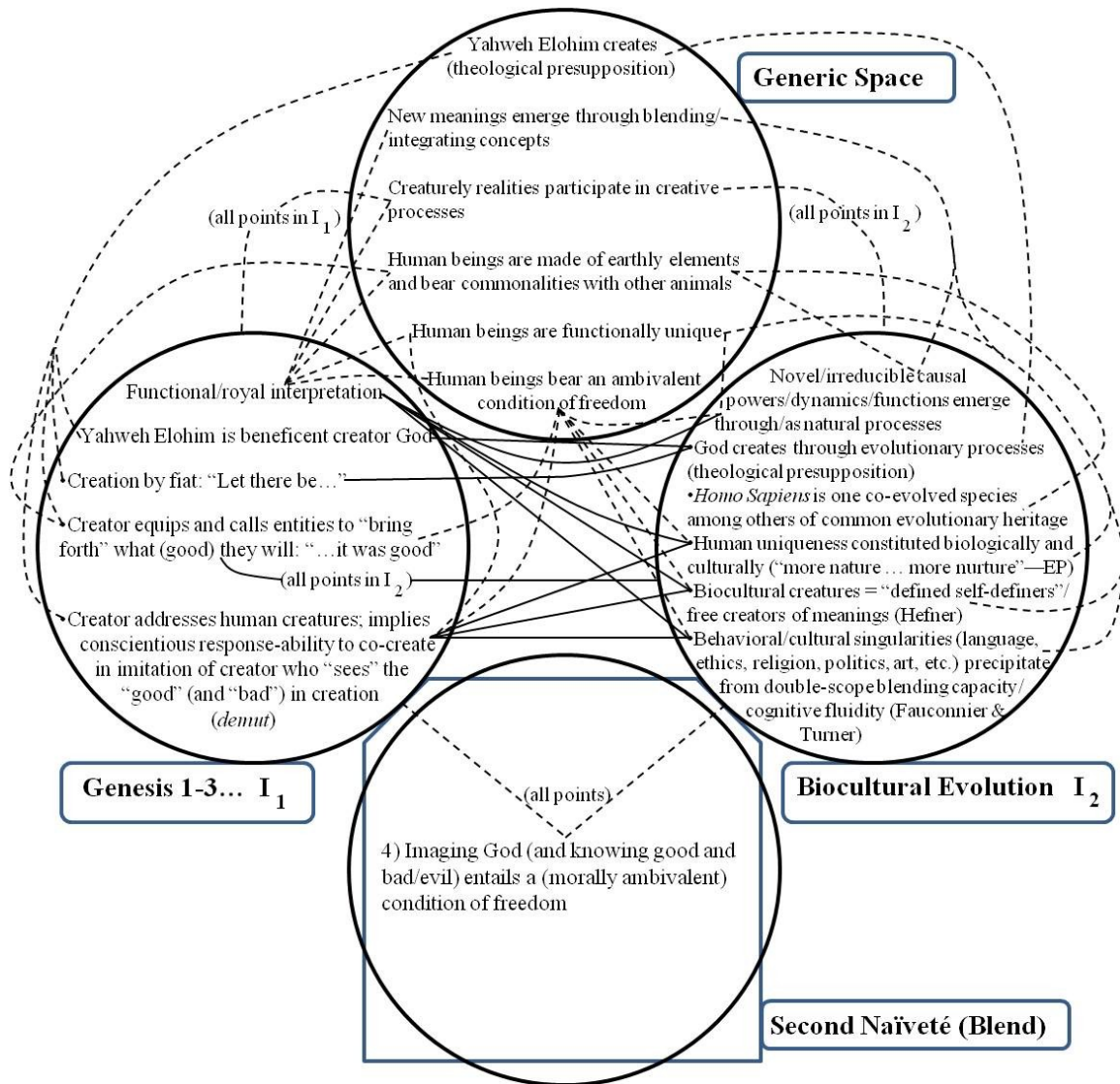


Figure 6: Image, Knowledge, and Freedom

Homo sapiens have emerged in biocultural history to bear the image and likeness of God as free and responsible creators of their symbolic worlds. Our species evolved to become culturally-constituted creatures who embody the kind of freedom Hefner describes as “the condition of existence in which humans unavoidably face the necessity of both making choices that govern their behavior and of constructing the stories that

contextualize and hence justify those choices.”³⁷⁷ Following the hermeneutical trajectory of Genesis 1 and Hefner’s interpretation of the *image of God*, to exercise this condition of freedom as a theological vocation is to take on the role of created co-creator. Affirming this call requires cooperating across cultures and species to strike a harmonious and sustainable coexistence which upholds the value of the creative potential emerging from every person, species, and the world we must learn to share.

While I would not claim that the *imago Dei* is only borne by those who take on this label for themselves, in the strictest sense, the divine image is borne uniquely by that species who has emerged with all the psycho-somatic, biocultural conditions of possibility for developing this kind of person-constituting distinction. In both the biblical and biocultural narratives of human origins analyzed above, the freedom conditioning the creation of the dynamic, living image and likeness of God is such that the *imago Dei* is itself a continually co-created reality. In Deacon’s terminology, one could say that the *imago Dei* emerges diachronically through the ever-changing teleodynamics, morphodynamics, and homeodynamics constraining and constituting humanity’s biocultural existence. As culturally conditioned creatures, we are responsible for many developments in our recent biocultural history and its future. Human-being is dynamic and self-constituting in this strong sense because the cultural singularities of behaviorally modern *Homo sapiens* are not reducible to the Darwinian dynamics through which the much more open-ended processes and results of human cognition and culture emerge. The biocultural future of created co-creation is an open question. The *imago Dei* is still evolving, and its bearers are co-responsible for what it will become.

³⁷⁷ Hefner, “Biocultural Evolution and the Created Co-Creator,” 197; cf. *The Human Factor*, 38.

For good and ill human-being emerges within a matrix of unique behavioral domains, including ethics and religion. By framing this external scaffolding of our culturally-constituted existence, and by allowing its emergent meanings to shape our every thought and action, we open up ourselves to new conceptual, behavioral, and ethical possibilities. We open up ourselves to new ways of discerning and construing God's past, present, and future activity in the world. As an act of created co-creation, we open up ourselves to new ways of imaging God with faith, hope, and love. As a test case, this construction of a second naïveté understanding of the *image of God* is a theological act of created co-creation—of faith seeking understanding. From the “bottom-up” and the “top-down,” human-being, knowing, and doing emerge dynamically as embodied functions of this kind of hermeneutical circle. Bearing a condition of freedom, humankind must continually employ its collective and individual biocultural inheritance to co-create the symbolic university of *what really is* and ought to be for us.

Inspired by Hefner, I seek to rediscover how the biblical myth-symbols of the *image of God* and the *knowledge of good and evil* might “provide genuine knowledge of reality, for the sake of our wholesome living.”³⁷⁸ This journey of rediscovery requires investigating the conditions under which *Homo sapiens* pursue wholesomeness. There are at least three elements in Genesis 1 intimating that the image of God entails a condition of freedom already fraught with the possibilities of both fulfillment and frustration. First, the direct address of Gen. 1:28 indicates that humankind bears a conscious responsibility to obey God's open-ended commands concerning their oversight of the creation. Yet how should humankind respond to the mandates to “fill,” “subdue,” and “rule over”?

³⁷⁸ Philip Hefner, “Biological Perspectives on Fall and Original Sin,” *Zygon: Journal of Religion and Science* 28 (1993): 99-100; cf. *The Human Factor*, 142.

How does humanity respond to these commands in the primeval history? Second, the harsh verbs of dominion in verse 28—“subdue” (*kavash*) and “rule over” (*radah*)—imply that the “very good” creation will nonetheless present challenges to human well-being. Does the inclusion of these verbs negate the apparent departure from Mesopotamian royal ideology outlined above? Third, these first two elements, along with other intertextual connections to biblical and extra-biblical texts, imply that that Garden Narrative of Genesis 2-3 is likely taken up into Genesis 1 as an elaboration of how humankind came to “become like one of Us, knowing good and evil” (Gen. 3:22). It may be that the image of God, in all its ambivalence, is not fully fledged until humankind (*'adam*) is driven east of Eden to cultivate the ground (*'adamah*) from whence it came (3:23).

How does this interpretation challenge popular readings of the primeval history and present new opportunities for contemporary interpretation engaging natural scientific conceptions of *Homo sapiens*’ biocultural emergence? Establishing these connections within the text and integrating this exegetical understanding with natural scientific data concerning the morally ambivalent evolutionary origins of humanity’s ethical wherewithal is the task of the next chapter, which constructs a second naïveté interpretation of the *knowledge of good and evil*.

Conclusion

Figure 7 below combines the blends pictured in the four diagrams above, highlighting many of the main concepts used to integrate biblical and scientifically-informed conceptions of human-being for the purpose of generating a second naïveté understanding of Christian anthropology. The numbered points in the blended space correspond to the four sections of this chapter (and the following), which describe the

image of God (as a concept and/or human condition) in terms of (1) its precipitation from double-scope blending capacity or cognitive fluidity, (2) a product/process of nature (and nurture), (3) an emergent theological vocation, and (4) an ambivalent condition of freedom.

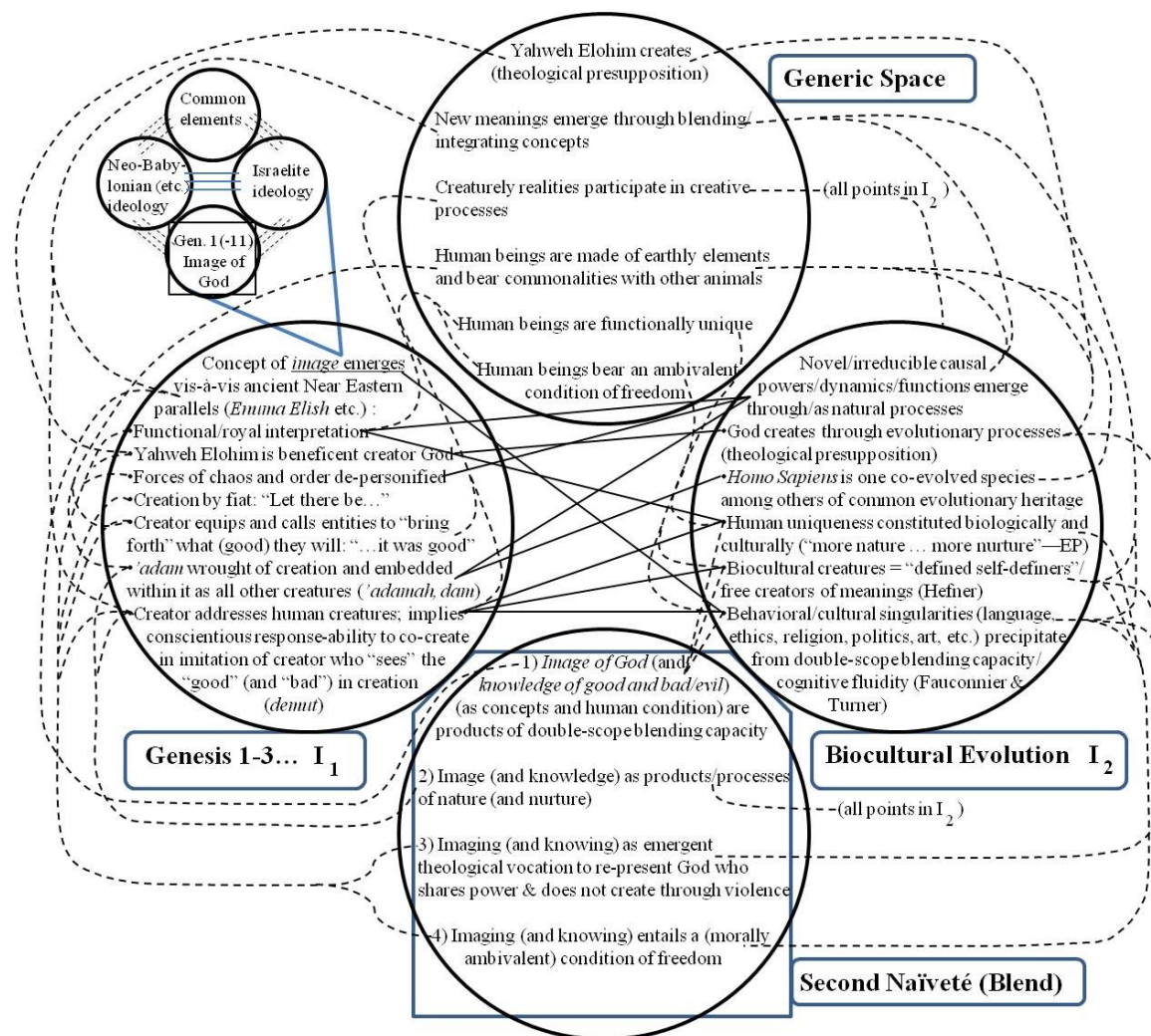


Figure 7: Emerging in the Image of God: A Second Naïveté

The purpose of this chapter has been to blend sound biblical scholarship and current understandings of human uniqueness and its evolutionary emergence in biocultural history. The integration of parallel, commensurate, and complementary ancient and contemporary modes of describing human uniqueness sharpens the interpreter's focus on the surprisingly similar features of these first- and second naïveté

depictions of the image and likeness of God. From this hermeneutical perspective, the subsections of this chapter have drawn the following conclusions.

First, implicit in the pre-critical biblical understanding of the *image* is that theological developments often emerge from a complex clash and integration of conceptual frames or entire symbolic worldviews. The careful exegesis of Middleton and his many sources support the historical and hermeneutical claims that the theological cosmology of Genesis 1 and the primeval history as a whole results from a polemical blend of Neo-Babylonian and Israelite understandings of divine identity and agency. Emerging from this conceptual clash is a symbolic world in which all human beings image a single nonviolent creator. The democratization of the image of God is antithetical to the ideology in which the cultural elite bear the image of their despotic deities. The offices of rest and rule become the privilege of the many and of the lowly, despite the prevailing political and ideological climate of the day. This chapter's second naïveté interpretation of the *image of God* in Genesis 1 follows both the procedural precedent and ideological trajectory of this hermeneutical move guiding the composition and redaction of the primeval history.

Second, characterizing the image of God as the result of creation through evolution helps to highlight the fact that in Genesis, humankind is wrought of the creation and embedded within it to the same extent as all other living creatures. Every aspect of human-being, including those through which it images the creator, is established from the ground up. Human uniqueness, in both biblical and evolutionary views of the world, arises in organic contiguity with the rest of the creation. “*’adam*” is an animated amalgam of dust, breath and blood.

Third, the functional-royal language of Genesis 1 and the dynamic ontology of emergentism both denote a culturally-constituted creature whose personhood is a living function of psycho-somatic fusion. As a *nefesh chayyah* (“living creature/being”), human beings are not embodied souls, but soulful bodies. Emerging from humanity’s unique form is the unique function of bearing a response-ability to the creator’s call—a blessed vocation to “Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth” (Gen. 1:28).

Fourth, backlit by Neo-Babylonian notions of divine and human agency, the blessing and commands of Gen. 1:28 place the human condition of freedom in stark contrast. Yahweh Elohim seems to liberate human beings and the rest of the creation in several ways. Though God rests on the seventh day, there is no mention that humankind is created to facilitate this rest through slave labor. Genesis 1 elevates the status and function of humankind and democratizes the office of God’s royal representative. The harsh verbs of dominion commanding humankind to “subdue” and “rule over” the earth and its creatures are colored by the implicit understanding that whatever environmental, social, or political struggles humanity faces are not mimetic extensions of a henotheistic *Chaoskampf*. The character of human rule ought to mirror that of the God who shares power and creates by uttering an invitation for the world to bring forth what good it will.

The integration of these exegetical insights and a biocultural model of the emergence of human uniqueness supports Hefner’s theological theory that *Homo sapiens* bear the image of God as free and responsible co-creators of potentially humanizing cultural meanings. The second naïveté interpretations of the *image of God* and the

knowledge of good and evil constructed in this chapter and the next seek to make good on Hefner and Ricoeur's wager that these myth-symbols can blend with current knowledge to promote a more intellectually satisfying theological conception of *what really is* "for the sake of our wholesome living."³⁷⁹

³⁷⁹ Hefner, "Biological Perspectives on Fall and Original Sin," 100; cf. *The Human Factor*, 142.

CHAPTER 5

THE *KNOWLEDGE OF GOOD AND EVIL*: WITHIN A BIBLICAL AND EVOLUTIONARY VIEW OF THE WORLD

While there is an emerging consensus among biblical scholars on the meaning of the *knowledge of good and evil* in Genesis 2 and 3, there are two basic and divergent strains of interpretation concerning the broader import of this myth-symbol for biblically-based Christian anthropology. The more traditional strain in both Jewish and Christian interpretation characterizes the knowledge of good and evil as a wholly (or nearly wholly) negative development—a kind of knowledge that Yahweh Elohim either did not intend for humankind to have at all, or a knowledge that the creator did not want humankind to come by of their own accord. In this light the Garden Narrative recounts a drastic transition in both subjective and objective aspects of human existence before and after gaining the knowledge of good and evil. That is, according to the narrative, human life was once objectively free of suffering, and human beings had no firsthand knowledge of an alternative. Accordingly, the expulsion from the garden in Gen. 3:22-24 marks both an objective and subjective “fall” from this paradisiacal state, as a consequence of asserting moral autonomy through disobedience.

The less traditional, though perhaps more tenable, strain of interpretation highlights the ambivalent nature of the *knowledge of good and evil* in the narrative, pointing out that this knowledge is constitutive of both human and divine existence. For these scholars the “like one of us” of Gen. 3:22 parallels and expands the “Let us” of 1:26, signifying that the knowledge of “*tov vara*,” “good and bad,” fulfillment and frustration, is an integral aspect of what it means to bear divine image and likeness in a world where human beings discover that they must “subdue” the earth and “rule” over its

creatures in order to survive (1:28). This interpretation lends itself to reversing the notion that life in the garden was a paradisiacal, ideal, or fully-fledged state of existence for humankind. From this exegetical perspective, gaining a knowledge of good and evil does not constitute a dramatic change in the human characters' objective state of affairs. Rather, the mythic first pair's eye-opening encounter with the serpent and the tree marks a shift in human consciousness regarding the ambivalence of creaturely existence. The God-imagining creatures discover their ability to encounter and effect both good and evil through singular varieties of freedom and responsibility. The complication here is not so much a rebellious assertion of moral autonomy through disobedience, but an inevitable, yet perilous, discovery of practical and ethical wherewithal through a process of maturation. Where the "curses" of Genesis 3 look more like growing pains, scholars steer away from concepts like "fall" and "(original) sin," because these wholly negative concepts are both foreign to the immediate narrative context and obscure the possibilities for finding an upside to a knowledge which Yahweh Elohim admits in verse 22 makes the human creatures "like one of us."

I argued in chapter 4 that viewing the *image of God* through a hermeneutical lens framed by *Homo sapiens*' biocultural emergence in recent evolutionary history brings into focus four guidelines for interpreting the meaning of this myth-symbol today. These tools aid in developing a second naïveté construal of conceptual elements already present in the original text. Likewise, through this lens first- and second naïveté formulations of the *knowledge of good and evil* present parallel, commensurate, and complementary modes of understanding this human condition, which open up potentially fruitful avenues for reasserting its explanatory power and moral fruitfulness today. The following four

sections of this chapter argue that in these pre-critical and post-critical conceptions of the *knowledge of good and evil* (1) the emergence of this concept and the human condition to which it refers employ a unique cognitive fluidity that is evident in linguistic and ethical ability; (2) the knowledge of good and evil is a product of nature, a cognitive and cultural development arising from human interaction with one another and their environments; (3) the knowledge of good and evil is an ambivalent but integral aspect of what it means to bear the image and likeness of God as a function and calling—a vocation—incumbent upon a unique “living creature/being” (*nefesh chayyah*); and, (4) imaging God with a knowledge of good and evil involves a condition of freedom, a conscientious responsibility to discern and respond to God’s invitation to act as beneficent co-creators in a “very good” world.

The emergent meaning of the *knowledge of good and evil* in Genesis and contemporary interpretation

Biblical and hermeneutical scholars have identified motifs and symbolism in mythology contemporary to the textual tradition of the Garden Narrative which shed light on the meaning of the *knowledge of good and evil* in the primeval history. In cognitive linguistic terms, a biblical conception of the *knowledge of good and evil* emerges through a cross-cultural process of conceptual integration. Biblical commentator Claus Westermann locates thematic similarities among several ancient texts, while hermeneutical philosopher Paul Ricoeur highlights the distinctiveness of the Adamic myth among various mythologies concerning the origins of evil.

For example, Westermann traces a *leitmotif* through several sources, concluding that the human desire to attain god-like knowledge/wisdom is a theme common to many

ancient Near Eastern mythologies. *Wisdom*, in these contexts, may be defined generally as a kind of self-mastery which includes the ability (however fallible) to direct one's own actions and destiny toward beneficial ends. Westermann notes that the Adapa Myth contained in the Gilgamesh Epic is among the manuscripts comprising the textual and conceptual prehistory of the Hebrew Bible's primeval history. Like the Garden Narrative in Genesis, the Adapa Myth recounts how a theophanic encounter allots human beings a certain portion of wisdom but not everlasting life. Similarly, according to another episode in the Gilgamesh Epic, Enkidu is created by the god Aruru in order to subdue Gilgamesh. When Enkidu is seduced by a cult prostitute, he loses his immortality and many aspects of his virility, but he gains wisdom. Though Westermann does not find any biblical or extra-biblical narratives presenting definitive parallels or precursors to Genesis 2-3, he does locate a set of common motifs among these texts. Shared themes include envy of the gods, strong human aspirations for both life and knowledge, a working definition of "knowledge" or "wisdom" connoting a mastery of one's own existence and actions, a categorical denial to human beings of immortality, and a complex fulfillment and frustration of the human desire for wisdom.³⁸⁰

As summarized in chapter 1, Ricoeur compares and contrasts "the 'Adamic' myth and the 'eschatological' vision of history" with three other symbolic worlds: "the drama of creation and the 'ritual' vision of the world," "the wicked god and the 'tragic' vision of existence," and "the myth of the exiled soul and salvation through knowledge."³⁸¹

Ricoeur concludes that within the gravitational sphere of influence he calls the "cycle of

³⁸⁰ Claus Westermann, *Genesis 1-11*, translated by John J. Scullion, S.J. (Minneapolis: Augsburg Publishing House, 1984), 245-48.

³⁸¹ Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 175-210, 211-31, 279-305; *SM*, 167-98, 199-217, 261-84.

the myths,” the Adamic myth and the biblical tradition in which it is embedded have taken residence at the center of this symbolic universe. Among Western religious traditions, the Adamic myth has gained this place of preeminence through a complex relationship of appropriation or accretion vis-à-vis these other myths orbiting it.³⁸² The biblical witness integrates and resignifies concepts from these other myths concerning the beginning and end of evil.

Moving beyond Ricoeur’s original interrelation of these myths, I argued in chapter 4 that the myth-symbol of the *image and likeness of God* relates more to “the drama of creation and the ‘ritual’ vision of the world” found in *Enuma Elish* than any of the other myths. Yet with respect to the biblical account of how human beings attain the *knowledge of good and evil*, Ricoeur argues convincingly that the Adamic myth relates most “closely” to a tragic vision of existence, while sublimating a number of chaotic elements. In the *Chaoskampf* of *Enuma Elish*, the serpent character Tiamat hypostatizes that chaotic and untamable aspect of reality which precedes human evil and personifies the impetus for it. However, in contrast to the myth of chaos, the serpent in the garden is not a divine being but an especially crafty creature—a “beast of the field which the Lord God had made” (Gen. 3:1). As a tragic symbol, the serpent represents a quasi-fatedness about the commission of evil to which human beings are blind, except perhaps in hindsight. The human creatures in the garden are tragic heroes in the sense that their freedom and responsibility to effect good and avoid or eradicate evil is already conditioned by a tragic element “which is *already* there and *already* evil.”³⁸³ According to Ricoeur, this quasi-adversarial characterization of human peccability symbolizes the

³⁸² Ibid., 309-10; *SM*, 287-89.

³⁸³ Ibid., 311; *SM*, 289.

conviction that “the evil for which I assume responsibility makes manifest a source of evil for which I cannot assume responsibility.”³⁸⁴

Reading Genesis 1 as a Priestly prologue to the Garden Narrative supports the narrative-critical inference that Yahweh Elohim’s “very good” creation is originally open to bringing about, of its own capacities, the “bad.” The primeval history bears no indication that this ambiguity of the creation is vicious in itself. The text does allude, however, that the creator is well aware of this state of affairs, that attaining the knowledge of good and bad/evil requires human creatures to come to terms with this state of affairs, and that human creatures have taken on a novel form of freedom and responsibility underscored by the creator’s announcement that they have “become like one of Us, knowing good and evil” (Gen. 3:22).

Yet despite the presence of an extra-human impetus for evil, Ricoeur insists that the “Adamic myth is anti-tragic.”³⁸⁵ There is no malevolent god blinding and fating the heroes to commit the transgressions for which they are somehow still culpable. The emergence of bad/evil in Genesis is a mystery presented as a negative reality belonging to the shadow side of an open-ended creation, rather than a positive reality fated by a wicked and over-determining deity.

Whether conclusions consonant with Ricoeur’s can emerge through blending biblical and biocultural understandings of human beginnings is the topic of the next section, which focuses on the knowledge of good and evil as a product of nature. By exploring the conceptual background of the Garden Narrative as a foundational step toward constructing a second-naïveté reappropriation of biblical myth, Ricoeur’s

³⁸⁴ Ibid., 313-14; *SM*, 292.

³⁸⁵ Ibid., 311; *SM*, 289.

hermeneutical insights effectively demonstrate that one purpose of this tale is to appropriate and recast common motifs for narrating the problem of evil in ways that sublimate chaotic and tragic elements which cast blame on divine agents for hardship and wickedness. The conceptual blending which resulted in the Garden Narrative presents a hermeneutical-procedural precedent for framing a second naïveté understanding of the biblical myth-symbol of the *knowledge of good and evil*, its origins, and implications.

To this end, the following two subsections exegete in greater detail the significance of what the woman and man have come to know in the Garden Narrative—(1) the meaning of the *knowledge of good and evil* in Genesis and (2) how this definition might be situated within a functional-royal interpretation of the *image of God*.

The biblical meaning of the knowledge of good and evil

While Westermann's comparative study of common motifs in ancient Near Eastern texts helps to shed light on the meaning of the *knowledge of good and evil* in Genesis 2-3, careful study of this concept in the context of the primeval history and the wider canon of the Hebrew Bible yields similar results and a more detailed picture of this myth-symbol's meaning. Like Westermann, the majority of biblical scholars in more recent years have concluded that the *knowledge of Good and evil* refers to the kind of wisdom associated with making values-based distinctions and moral judgments without—or even against—heteronomous guidance or mandates like divine commands. Although this definition is not self-evident from the immediate literary context of the Garden Narrative, exegetes have established its relative plausibility over against several competing proposals. Taking a brief look at one of these other definitions helps to clarify what the *knowledge of good and evil* is by ruling out what it is not. None of these other

exegetical proposals are completely without merit. However, they all lack or contain elements which have prompted biblical scholars to scour the Hebrew Bible and other texts for the variety of themes, terms, and accounts that have led to the present consensus in contradistinction to other definitions of this myth-symbol. These other definitions variously characterize the *knowledge of good and evil* as a consequence of disobedience, knowing “right” from “wrong,” sexual knowledge, and even omniscience.³⁸⁶ Two of these possibilities warrant further explanation.

First, commentators Gordon Wenham and Nahum Sarna list “moral discernment” as a popular definition for the *knowledge of good and evil* explored by various scholars.³⁸⁷ However, as a basic understanding of the difference between right and wrong, “moral discernment” seems much too narrow and unilaterally positive a definition for the *knowledge of good and evil* in its narrative context. Additionally, the decision to eat presupposes that the mythic first pair already possessed this kind of knowledge. The woman necessarily understands the meaning of both disobedience and consequences in

³⁸⁶ Where the *knowledge of good and evil* refers to the consequences of disobedience, any definition of *good (tov)* and *bad/evil (ra’)* are wholly subordinate to the command not to eat from the tree. *Good* equals obedience and its consequences; *evil* equals disobedience and its consequences. The tree itself does not provide the knowledge for which it is named, but only the occasion to obey or disobey. One glaring difficulty with this interpretation is that the narrative does not depict the other peculiar tree as this sort of prop. Genesis 3:22 implies that the tree of life is immanently capable of bestowing everlasting life.

Some scholars have proposed that the *knowledge of good and evil* refers to sexual knowledge. This interpretation is largely based on the immediate consequence of eating the fruit—the realization by the couple that they were naked (Gen. 3:7). The narrator also records the first action of the couple after being expelled from the garden as having sexual relations. Moreover, the verb *yada’* is used in the case of the two “knowing” they were naked, “knowing” good and evil, and Adam “knowing” his wife (Nahum M. Sarna, *The JPS Torah Commentary: Genesis* [Philadelphia; New York; Jerusalem: Jewish Publication Society, 1989], 19; Gordon J. Wenham, *Word Biblical Commentary, Volume 1: Genesis 1-15* [Waco: Word Books, 1987], 63). However, nothing in the immediate literary context or the Hebrew Bible as a whole suggests that sexual knowledge and the power to procreate is a divine prerogative. According to Gen. 1:28 and 2:18-25, the ability to procreate is a blessed gift of God intrinsic to the bisexual nature of humankind. If Phyllis Bird is correct that the immanent capability to “be fruitful and multiply” is a tacit polemic against the temptation to participate in idolatrous fertility cults, the suggestion that the serpent is a (phallic) symbol of fertility or virility is also suspect (Phyllis A. Bird, “‘Male and Female He Created Them’: Genesis 1:27b in the Context of the Priestly Account of Creation,” *Harvard Theological Review* 74.2 [1981]: 146-50; cf. Westermann, *Genesis 1-11*, 244).

³⁸⁷ Sarna, *Genesis*, 1989), 19; Wenham, *Genesis 1-15*, 63.

the first few verses of Genesis 3. Without this capability, the divine command and warning would be pointless.

Second, Gerhard von Rad made popular the omniscience interpretation by suggesting that “*toṽ vara*” constitutes a merism meaning “everything.” Accordingly, the terms *toṽ* and *ra*‘ represent the inclusive bookends of an infinite symbolic universe. The phrase “heaven and earth” often serves this literary function. However, there is no indication that the couple in the garden expected to become omniscient by eating the fruit. The narrative may hold an element of irony in that the *quality* of the knowledge gained by eating was other than expected. Yet there is no hint that the *quantity* either exceeded or fell short of expectations.³⁸⁸ As implied by the “curses” and violent exploits of the remainder of the primeval history, perhaps the human knowledge of good and evil is fraught with so much peril precisely because it is not omniscient. The divine pronouncement of Gen. 3:22 leaves little room for denying that the human creatures gain a God-like capacity to discern and effect good rather than evil, but not good to the exclusion of evil.

Citing Julius Wellhausen’s commentary, Westermann endorses a qualified version of von Rad’s interpretation, according to which “good” means helpful or useful and “evil” means harmful or injurious. Westermann affirms Wellhausen’s “functional” and “all-embracing” definition of the knowledge of good and bad, which is not exactly knowledge of everything without remainder, but a practical wisdom for distinguishing the helpful from the harmful, the virtuous from the vicious, the good from the bad.³⁸⁹

³⁸⁸ See W. Malcolm Clark, “A Legal Background to the Yahwist’s Use of ‘Good and Evil’ in Genesis 2-3,” *Journal of Biblical Literature* 88 (1969): 270; Sarna, *Genesis*, 19; Wenham, *Genesis 1-15*, 63; Westermann, *Genesis 1-11*, 243.

³⁸⁹ Westermann, *Genesis 1-11*, 243.

Likewise, Sarna states succinctly that “it is best to understand ‘knowledge of good and bad’ as the capacity to make independent judgments concerning human welfare” in any arena.³⁹⁰ This lesser infinity presents a plausible *via media* between the moral discernment presupposed at the opening to Genesis 3 and the omniscience found nowhere in the narrative. Also, in rare biblical parallels, the phrase *tov vara* ‘connotes a mature and sound ability to make values-based judgments autonomously and responsibly. The writers of Deut. 1:39 and 2 Sam. 19:35 presuppose that the young and old can anticipate the consequences of disobedience and understand the difference between right and wrong. Yet they hold that the immature “have no knowledge of good or evil,” and the elderly sometimes lose the ability to “distinguish between good and bad.”³⁹¹ Westermann and Sarna’s interpretation of the *knowledge of good and evil* falls into the semantic range connoted by these verses and has entered the conceptual background of current exegesis colored by legal and royal conceptions of wisdom and knowledge in the Hebrew Bible.

The royal and legal background for the knowledge of good and evil

Bringing greater precision to the definition of the *knowledge of good and evil*, many biblical scholars have discovered promising exegetical paths in the royal and legal background of this myth-symbol. Where the *image of God* democratizes the concept of a royal figure acting as a representative of the divine, a correlative conception of the *knowledge of good and evil* has come to light against the backdrop of biblical passages in which God occasionally grants kings a special ability to pronounce judgment or in which prophets and priests bear a singular ability to disclose or interpret the “Law” or “instruction” of God mediated through the Torah.

³⁹⁰ Sarna, *Genesis*, 19.

³⁹¹ See Wenham, *Genesis 1-15*, 63; Westermann, *Genesis 1-11*, 242.

Two recent biblical scholars exploring the legal and royal background for the *knowledge of good and evil* are W. Malcolm Clark and William N. Wilder. Clark makes a strong case that there are two sets of passages in the Hebrew Bible's primary history shedding light on the meaning of the *knowledge of good and evil* in Genesis.³⁹²

In the first set of passages—1 Kings 3:9; 2 Sam. 14:17, 20—kings Solomon and David are granted the ability by God to pronounce judgment between “good and evil” in a legal context. In a comprehensive analysis of these and similar passages, Clark concludes that the *knowledge of good and evil* is best understood in many contexts as the God-given ability to discern and pronounce a judgment of “yes” or “no” in ambiguous and/or high-stakes situations. Highlighting the biblical writers’ claim that the human judges in these passages often “hear” God before “saying” “good” or “bad,” Clark defines this kind of wisdom as the God-guided judgment of an authoritative person, like a king, priest, or prophet.³⁹³ In these passages the ability to discern between good and bad is a divine prerogative, beyond the immediate purview of any person, let alone every person.

Analyzing a second set of passages—Deut. 1:39; 2 Sam. 19:35—Clark, like Sarna, expresses confidence that the *knowledge of good and evil* described in these passages is the kind of autonomous judgment concerning human welfare gained through maturity or coming of age. According to Clark, the Priestly formulation of Deut. 1:39 is

³⁹² Looking outside the primary history to the Psalms, prophetic literature, and various Jewish interpretations of Scripture, biblical scholars D.G.A. Clines and Paul Morris provide other possible layers to the legal background of the knowledge of good and evil in Genesis. According to Clines, Psalm 19 presents an implied comparison between the tree of knowledge and the Torah as sources of wisdom. Morris locates and analyzes Jewish interpretations of Genesis which portray the Garden Narrative as a symbolic tale of exile and return. For these interpreters the tree of life represents the Torah, which provides a remedy for unfaithfulness and its consequences. See D.G.A. Clines, “The Tree of Knowledge and the Law of Yahweh (Psalm XIX).” *Vetus Testamentum* 24 (1974): 8-14; Paul Morris, “Exiled from Eden: Jewish Interpretations of Genesis,” in *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer (Sheffield: JSOT Press, 1992), 117-66.

³⁹³ Clark, “A Legal Background to ‘Good and Evil,’” 268-75.

the closest parallel to Genesis 2-3 but postdates the Yahwist's use of the formula "knowledge of good and evil" in the Garden Narrative. In Deuteronomy the *knowledge of good and evil* likely refers to a kind of legal responsibility which the youngest members of the exodus generation had not yet attained. Being legal minors, these young ones are not held accountable for those transgressions keeping their elders from entering "the good land."³⁹⁴

Like Clark, Wilder cites 1 Kings 3 and 2 Samuel 14 as portraying a divine "investiture" of wisdom which brings about an "illumination" expected but not fully attained in Genesis 3, when the eyes of the human beings are opened to knowing good and bad. He notes that in biblical literature this kind of illumination and investiture is usually the privilege of kings and is God's alone to bestow.³⁹⁵ Therefore, Wilder ties this interpretation of the *knowledge of good and evil* directly to the functional-royal conception of the *image and likeness of God*, according to which human beings act "as God's vice regents over the earth."³⁹⁶

Against this backdrop, Wilder understands the Yahwist to paint the primordial pair as a couple of unruly rulers. Their disobedient and premature grasping at the

³⁹⁴ Ibid., 247. Although Clark relies more heavily on 1 Kings 3 and 2 Samuel 9 than Deuteronomy 1 and 2 Samuel 14, both sets of passages are likely relevant to the meaning of the *knowledge of good and evil* in Genesis 2-3. While not a Priestly composition, the Garden Narrative is very likely part of a Priestly redaction. In its original *Sitz im Leben*, and especially in its Priestly appropriation, the Garden Narrative might have served as a cautionary tale warning that while maturity brings with it an ability to decide "good and bad" for oneself, making these kinds of judgments without or against a word from the Lord God is a perilous proposition. Clark acknowledges a possible blending of these two contexts—coming of age and pronouncing legal judgment. Yet he highlights the command of Yahweh Elohim and the verbs of "hearing" and "listening" in Genesis in contrast to the more general concept of "knowledge" in Deuteronomy 1 and 2 Samuel 19. For Clark the Garden Narrative focuses on whether the human beings will listen to and obey the voice of Yahweh. He notes that "the sound of the Lord God" becomes a cause for fear only after the man "listened to the voice of [his] wife" instead of the command of God (Gen. 3:8, 10, 17). The danger in this case lies not in having or exercising the knowledge of good and bad, but in presuming to wrest it from God rather than listening and waiting for it. ("A Legal Background to 'Good and Evil,'" 277-78).

³⁹⁵ William N. Wilder, "Illumination and Investiture: The Royal Significance of the Tree of Wisdom in Genesis 3," *Westminster Theological Journal* 68 (2006): 55.

³⁹⁶ Ibid., 56.

knowledge of good and evil short circuits the royal illumination and investiture of wisdom God intended to give them. Failing to await God's blessing frustrates forever humanity's prospects for attaining the more lavish illumination and investiture they might have expected otherwise. The command not to eat from tree of the knowledge of good and evil does not represent a cruel temptation or a categorical prohibition. Rather, human creatures might reasonably expect to partake from the tree when both they and the fruit are ripe, as it were. Having their eyes opened by God in this way, they would have also been clothed in God-like royal splendor or light ('*or*'), rather than mere skins ('*or*').³⁹⁷

Still, Wilder concludes that at the close of the Garden Narrative, God grants the pair a gracious portion of both illumination and investiture, which nonetheless falls short of the unmentioned expectation for God-like royal wisdom and splendor that come with patient obedience. God does not leave the couple naked or clothed in inadequate garments of their own fabrication. Rather, the Lord God clothes the couple with sturdier garments as a lasting reminder to these royal image bearers of the ultimate source of their dignity, splendor, and wisdom.³⁹⁸

In light of the functional-royal interpretation of the *image of God*, Wilder proposes

that at the end of Gen 2 there is the sense that naked Adam and Eve must be clothed simply because the completion and fulfillment of their rulership demands such an investiture, as it would for any "image of god" in the ancient Near East. The only question is how and under what circumstances this investiture will be accomplished.³⁹⁹

Discovering the ambivalent but integral role the knowledge of good and evil plays in a functional-royal interpretation of the *image of God*, many recent exegetes have become divided over this question of circumstances and whether or not the Yahwistic and

³⁹⁷ Ibid., 58-59, 62-68.

³⁹⁸ Ibid., 67-69.

³⁹⁹ Ibid., 63.

Priestly contributors to the primeval history had something like Wilder's idealistic alternative in mind. Taking the traditional tack, Wilder asks the "what if?" questions the narrator has left out: "What if Adam and Eve had not sinned? What if they had obeyed instead? What if they had passed their test and had been escorted into God's presence with honor instead of shame?"⁴⁰⁰

However, the writer(s) and/or redactor(s) of the primeval history may not have shared these questions. Other biblical scholars wonder whether recent understandings of the primeval history's rhetorical thrust render these questions moot. For example, theologian Neil B. MacDonald, finds the Garden Narrative to raise a different set of "ifs" than Wilder. Instead of asking, "What if...?", MacDonald states, "Even if..." According to MacDonald's "subjunctive conditional" interpretation of Genesis 2-3, "The story is essentially a deflationary tale whose moral is that even had the natural history of humankind begun life in a paradisiacal ideal state (which it did not), it would still have arrived at the less than perfect place it is now."⁴⁰¹ MacDonald's "Even if" may ring truer than Wilder's "What if?" when considering that in Genesis 1-3 chaos and tragedy are always waiting in the wings, because Yahweh Elohim's "Let there be" and "Let Us make" grant ever greater shares of creative freedom and power to the finite and fallible.

Many scientifically-informed theologians today, including J. Wentzel van Huyssteen and Gregory R. Peterson, latch onto this more complex "falling up" reading of the Garden Narrative, because it is both exegetically plausible and more conducive to an

⁴⁰⁰ Ibid.

⁴⁰¹ Neil B. MacDonald, *Metaphysics and the God of Israel: Systematic Theology of the Old and New Testaments* (Grand Rapids: Baker Academic, 2006), 149.

evolutionary reframing of the biblical concept of the *knowledge of good and evil*.⁴⁰²

Evolutionary history is morally ambiguous, as should be any cognitively fluid biocultural species emerging within it.

Section summary and conclusion

This opening section has cited many exegetes who argue that in Genesis 2-3 the formula “knowledge of good and evil” and the human condition to which it refers derive from a unique cognitive fluidity evident in linguistic and ethical ability. Westermann and Ricoeur have shown that the concept of the *knowledge of good and evil* is an integration and reformulation of background concepts belonging to several sources of ancient mythology. In a post-critical, second naïveté interpretation, their hermeneutical insight warrants the inference that this myth-symbol is a product of what it describes—a unique capacity to blend concepts across diverse behavioral domains in order to construct values-laden distinctions like “good” and “bad.”

Through intertextual analysis, many biblical scholars argue convincingly that this special form of wisdom bears legal and royal connotations. For Wilder and others, this functional-royal interpretation of the *knowledge of good and evil* feeds into that of the *image and likeness of God*, implying that the biblical writers understood the former condition as part and parcel of the latter. Although human creatures discover that they could never exercise their God-like wisdom without erring, to bear the image and likeness of God is to know good and evil.

⁴⁰² J. Wentzel van Huyssteen, *Alone in the World?: Human Uniqueness in Science and Theology* (Grand Rapids: William B. Eerdmans, 2006), 143-44; cf. 123, 160, 315, 325; Gregory R. Peterson, “Falling Up: Evolution and Original Sin,” in *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, edited by Philip Clayton and Jeffrey Schloss (Grand Rapids: William B. Eerdmans, 2004), 273-86.

The following section develops the thesis that in pre-critical and post-critical conceptions of this human condition, a fallible knowledge of good and evil is an ambivalent consequence of being wrought of the creation and embedded within it to the same extent as all other creatures.

The knowledge of good and evil as a product of nature in Genesis and biocultural evolution

If the writers and redactor(s) of the primeval history understood the human person to be an animated amalgam of dust, breath, and blood, and if they understood the knowledge of good and evil to be an integral aspect of bearing the divine image, it stands to reason that according to the narrative this ambivalent condition is wrought of the creation to the same extent as every other God-imaging aspect of human life. Clues in the text imply that the biblical writers conceived of a “very good” creation immanently capable of producing *tov vara* ‘. Although there are chaotic and tragic concepts (in the Ricoeurian sense) latent in the cosmology of Genesis 1-3, there is nothing divine or diabolical about the sources of the knowledge of good and evil in the Garden Narrative. The following two subsections explore the creaturely harbingers of (the knowledge of) good and evil in the Garden Narrative and the biocultural evolutionary perspective which bring them into focus.

Creaturely sources of the knowledge of good and evil in Eden

Contrary to popular belief, the Garden Narrative may not be a simple tale of paradise lost. As mentioned just before the conclusion of chapter 4, there are at least three elements in Genesis 1 suggesting that the creation is fraught with the possibilities of both fulfillment and frustration “in the beginning.” These include (1) the open-endedness of the

divine commands to humanity in Gen. 1:28, (2) the harsh verbs of dominion within these commands, and (3) the repetition of the divine first person plural in Gen. 1:26 and 3:22.

The direct address of Gen. 1:28 suggests that the Priestly writer(s) redactor(s) of the primeval history understood humankind to bear a conscious response-ability to obey God's open-ended commands concerning their role within the creation. However, there appears to be no assumption that humankind has the ability to discern and disseminate the beneficent rule of the creator perfectly. Admittedly, this absence of evidence should not count for evidence of absence. The first positive evidence that the creation is able to both sustain and challenge humankind from the beginning are the harsh verbs associated with enacting the image of God in an earthly environment.⁴⁰³ These verbs imply that humankind must struggle to "fill the earth"; that flourishing means having to "subdue" (*kavash*) the natural environment and "rule over" (*radah*) its creatures. The harsh verbiage of the Priestly writer(s)/redactor(s) suggests a perception that relating to the creation, one another, and God in unique ways means being aware of the original and ever-present possibility of fulfillment and frustration, cooperation and conflict, "good and evil." The so-called "curses" of Genesis 3 list the looming trials of one kind of creature who has come to a conscientious awareness, somehow similar to God's, that maintaining and producing life can be fraught with all sorts of hardship, that conflict and power disparities can arise in the most intimate of relationships. There are dangerous animals lurking in the Garden, crafty creatures of the Lord God's making (Gen. 3:1), sources of wisdom able to open human eyes to all these dangers and more.

In this light, Eden does not appear to be what most people would call a paradise. The tree and the serpent are fully part of God's good creation. A talking snake and an

⁴⁰³ See Bird, "Male and Female He Created Them," 153-55.

eye-opening tree are certainly unusual beings, but there is nothing in the narrative to suggest they are in any way *supernatural*. According to Genesis 1-3, the origins of *tov vara* ' are creaturely, intimating that the knowledge of good and evil is wrought of the creation and embedded within it to the same extent as all other created realities, including the image of God. As liberating and empowering as it is for all created entities, there appears to be a shadow side to God's "Let there be...."

Hebrew Bible scholar John F. A. Sawyer makes a convincing case that the verses framing the passages in which the creation of human beings is the main topic ought to give pause to anyone presuming to dissociate the image of God from the knowledge of good and evil. He draws attention to the fact that Gen. 1:26 and 3:22 are the only passages in which the divine first person plural is used to describe the resemblance of humanity to God: "'Let us make [humankind] in Our image, according to our likeness...'; 'Behold, the [human] has become like one of Us, knowing good and evil....'"⁴⁰⁴

These parallel pronouncements affirm human agency and its likeness to God's in some potentially surprising ways. At the end of Genesis 1, the creator "saw" all of the creation and pronounced it "very good." By the end of Genesis 3, the human creatures' eyes have been opened to see for themselves the "good and bad" they will encounter and cause outside Eden. In an ironic twist of imagery, "God blessed them..." (Gen. 1:28)

⁴⁰⁴ John F. A. Sawyer, "The Image of God, The Wisdom of Serpents, and the Knowledge of Good and Evil," in *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer (Sheffield: JSOT Press, 1992), 65. On the meaning of the divine first person plural in Genesis 1 and 3, see D.G.A. Clines, "The Image of God in Man," *Tyndale Bulletin* 19.1 (1968): 62-69; Gerhard Hasel, "The Meaning of 'Let Us' in Genesis 1:26," *Andrews University Seminary Studies* 13 (1975): 58-66; Sarna, *Genesis*, 12; Wenham, *Genesis 1-15*, 27-28; Westermann, *Genesis 1-11*, 144-45. Synthesizing the exegesis of these scholars, the plural "Let Us" of Gen. 1:26, followed by singular verb forms in verse 27 runs counter to the early historical-critical hypothesis that Genesis 1 contained vestigial elements of polytheism and implies that if the sometimes plural "elohim" refers here to a court of heavenly beings, they are not agents of creation, but creatures called to give special attention to the creative activity of Yahweh Elohim.

becomes, “the Lord God sent [them] out...” (3:23). Expulsion in Genesis 3 parallels God’s blessing in Genesis 1 in two ways. First, both the blessing and the expulsion follow the use of the divine first person plural in describing humanity’s similarity to God. Second, both God’s blessing and the expulsion extend humankind’s God-imaging function to the whole of the creation. The human creatures are not fruitful and cannot hope to fill the earth and rule over the whole of it until leaving Eden. In this sense, expulsion from Eden might be considered a blessing in disguise, an unceremonious emptying of the nest, a bit of tough love.

Beyond this striking parallel suggesting in yet another way that for the biblical writers the image of God is not complete without the knowledge of good and evil, there are additional hints that the so-called “curses” of Gen. 3:14-19 are less about changes in the world than changes in worldview. Having their eyes open to the knowledge of good and bad, human creatures come to realize that they and their environment are capable of being harbingers of “bad” as well as “good.” In other words, the first pair’s illicit action does not bring about a change in their objective circumstances so much as their subjective means of encountering, evaluating, and changing them for better and worse.

If the Garden Narrative is presupposed by Genesis 1 and its Priestly writer(s)/redactor(s), the commands to “be fruitful,” “fill the earth,” “subdue it,” and “rule over” its creatures seem to be reserved for the world outside Eden. According to Sawyer and other exegetes already cited, this understanding that the Yahwist’s creation account is taken up into the Priestly redaction of the primeval history as an elaboration of its prologue alleviates the exegetical difficulty that the *image* and *likeness* to God is

largely undefined in Genesis 1.⁴⁰⁵ The intricate connections among Genesis 1-3 support Sawyer's hypothesis that (1) the material following Genesis 1 ought to clarify the ambiguous definition of *image* and *likeness* from the previous passage, and that (2) Yahweh Elohim's first person plural declaration that the human creature "has become like one of us" (3:22) announces in language parallel to that of Gen. 1:26 that all the conditions have been met for human creatures to bear the divine image outside the relative sanctuary of Eden. In Genesis and biocultural evolution, these conditions are products of nature.

However ironic the narrator intended to be in recounting the primordial pair's eye-opening experience, Yahweh Elohim's announcement at the climax of the narrative calls attention to an irreversible development in humankind's likeness to their creator—a new creative potential rife with the realization of the enormous challenges and opportunities it confers.

Yet this new, ambivalent, and perilous God-likeness does not rain down from the creator directly; nor is it mediated through the spoken or written word from a prophet or priest of Yahweh. This knowledge is there for the picking from a plant, and the encouragement to take and eat comes from a "beast of the field," presumably named by the man and subject to human rule (Gen. 1:28-30, 2:19-20, 3:1). Although "the Lord God caused [the tree of knowledge] to grow," in this sense, it is no different than any other "tree that is pleasing to the sight and good for food" (2:9). The knowledge of good and evil comes directly from below, and only indirectly from above. In light of the intertextual studies of Clines and Wilder, this narrative element may symbolize the

⁴⁰⁵ Sawyer, "The Image of God," 65-66; cf. John F. A. Sawyer, "The Meaning of 'בְּצֶלֶם אֱלֹהִים' in Genesis I-XI," *Journal of Theological Studies* 25 (1974): 426.

conviction that while God's very good creation is replete with sources for knowing the good from the bad, human beings are not the kind of creatures who can read, understand, or apply them perfectly.

In Genesis, as in a biocultural understanding of humanity's physical and symbolic universe, human beings discover that for good *and* ill we are only able to seek knowledge and wisdom from our cultural and ecological surroundings. Even if one believes there is no surer source of guidance than God, no one could ever claim immediate access to divine wisdom. Bearing God's image is a trial and error process—a hermeneutical circle of discernment, decision, action, and critical reflection. By the end of Genesis 3, the biblical writers appear to be suggesting that no matter how “very good” one believes the creator and creation to be, surviving and thriving are not guaranteed, and people are prone to exacerbating this state of affairs.

Defending this understanding of the Garden Narrative, Sawyer describes how the serpent aptly symbolizes the kind of practical wit and wisdom needed to survive and thrive in challenging circumstances. In ancient Near Eastern contexts, snakes are as revered as they are feared, able to deal death in a single bite and equipped to thrive in environments from sea to sand that often kill human beings in short order. In Genesis 3 the serpent is an otherwise ordinary creature whose ability to talk is not unlike that of the animals found in Aesop's fables and other cautionary tales.⁴⁰⁶ At the same time, according to the narrator, “the serpent was more crafty [*arum*] than any beast of the field the Lord God had made” (Gen. 3:1). Citing Prov. 12:16, 23; 13:16; 14:8, 15, 18; 22:3; 27:12; Exod. 21:14; Josh. 9:4; and Isa. 5:21, Sawyer notes that the term *arum* is ambiguous and ambivalent, signifying everything from thoughtful prudence to sinister

⁴⁰⁶ Sawyer, “The Image of God,” 66.

guile, depending on the context.⁴⁰⁷ The wily ways of serpents are praised in both Prov. 30:18-19 and Matthew 10:16. In the latter reference, Jesus purportedly instructs his followers to “be shrewd as serpents and innocent as doves,” in a world where literal and metaphorical wolves prey on sheep. In popular ancient Near Eastern parlance and the mythology emerging from it, the snake’s *‘arum* relates to its ability to move quickly and evade capture without legs, its seeming perpetual youth and renewal through shedding its skin, its near imperviousness to heat and dehydration, and its venomous bite.⁴⁰⁸ All of these characteristics make snakes ideal survivors.

Much like Bird, Sawyer associates this concept of survival with the verbs of dominion in Gen. 1:28. The harshness of *kavash* (“subdue”) and *radah* (“rule over”) carry a sense that from the start humanity must always struggle in order to subsist.⁴⁰⁹ As a heuristic articulation of this notion, the Garden narrative signifies that acquiring the knowledge of good and evil means gaining the self-conscious awareness that life is full of *tov vara*’, “happiness and catastrophe, success and failure, life and death,” and that human beings bear the freedom and responsibility to bring the good along with the bad.⁴¹⁰ Sawyer claims that because the most “crafty” of beasts facilitates this shift in perspective the human creatures receive a God-like wisdom exceeding that of the serpent, a shrewdness with strong inclinations toward singular forms of good *and* bad/evil.

Sawyer emphasizes that in becoming wise—*‘arum*—like the serpent, the human creatures discover that they are naked—*‘arum*—vis-à-vis certain harsh realities of life

⁴⁰⁷ Ibid., 68.

⁴⁰⁸ Ibid., 67

⁴⁰⁹ Ibid., 69-70, 72; cf. Bird, “Male and Female He Created Them,” 153-55.

⁴¹⁰ Ibid., 72.

and death.⁴¹¹ He also suggests that after becoming aware of this “cursed” state, the “garments of skin” mentioned in Gen. 3:21 may allude to snake skin. The snake’s ever-regenerating skin becomes a symbol of renewal and immortality. By contrast, the skins worn by the couple exiled from the garden serve as a reminder that the tree of life and its promise of immortality are out of reach, and that humankind must struggle in order to fulfill the creator’s commands to “be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth” (Gen. 1:28).⁴¹² Gaining enlightenment (*’or*) means needing a thicker skin (*’or*), because becoming wise (*’ārum*) means discovering that we are naked (*’ārūm*).

Does this narrative development create a contradiction between the closing verses of Genesis 1 and Genesis 3? Are there loose ends and open seams in the redacted text? Or do biblical and contemporary cosmologies and anthropologies suggest ways for describing the world as both “very good” and immanently capable of producing both good *and* bad from “the beginning”? The final verse of Genesis 1 implies that the primeval history’s writer(s)/redactor(s) saw something “very good” about the unique creative possibilities that enter the world with the creation of humankind. Yet they also saw fit to caution that when the creation is at its “best,” its future is also at its most uncertain, due to humankind’s open-ended, ambiguous, and ambivalent response-ability to discern and extend the beneficent intentions of the creator to one another and the rest of the creation. The shift in Genesis 1 from “good” to “very good” corresponds to the shift from the jussive—“Let there be...”—to the imperative—“Be fruitful...” This

⁴¹¹ Ibid., 69. The plural forms of “naked” in Gen. 2:25 and 3:7 are *’arummim* and *’erummim* respectively.

⁴¹² Ibid., 67.

grammatical shift may imply the advent of humankind's unique response-abilities demarcates the beginning of a "very good" stage of creation in that through humankind the creation is now able to envision, decide, and "see" for itself what novel goodness it will include. Hence, (Yahweh) Elohim's occasion to "rest." For good and ill, *'adam* steps into the roles encapsulated by the formulae, "Let there be..." and "Let us make..."

Human creatures certainly bear unique capacities to enjoy, evaluate, and manipulate their world. But to glean wisdom from the Genesis cosmology today, biblical interpreters must underscore the writers' conviction that (Yahweh) Elohim "sees" the "good" of all created entities—heavenly bodies, earth, air, water, plants, and animals— independent of and prior to the creation of humankind. Theologians and ethicists today stand to gain from amplifying the text's non-anthropocentric elements and the intrinsic good its writers locate in the nonhuman world.

As theologian Philip Hefner and I have suggested, human beings bear the image of God by acting as free and responsible created co-creators of the cultural meanings by which we describe and justify our roles and actions in the world. Similarly, in Genesis 1-3 the positive commands to "fill," "subdue," and "rule over"; the invitation to name all the animals; the negative command not to eat; and the encounter with the serpent all suggest that the biblical writers understood human creatures to have been given a co-operative role in the creative process and that the undetermined character of the creation will present meaningful challenges and opportunities to humanity's God-imaging response-ability to co-create a future outside Eden. Because *'adam* is wrought of the creation and embedded within it to the same extent as all other creatures, created co-creation ought to be understood in terms of co-operation among all human creatures, as

well as the rest of the natural world. Only this characterization of human creativity as God-imaging can re-present the *modus operandi* of a God who shares power and does not create through violence.

The inherent challenges to creaturely wellbeing “outside Eden” do not necessarily detract from the primordial goodness of the creation or the creator, which are quintessential to Judeo-Christian cosmology. However, a non-paradisiacal conception of the creation’s “very good-ness” in Genesis reframes or discredits “paradise lost” interpretations of the Garden Narrative. At the same time, this exegetical reframing facilitates a theology of nature perspective—a doctrinal development in light of current science—emerging from a complex consonance and clash between ancient and contemporary understandings of human uniqueness and its development. Locating the potential for *tov vara* ‘ always latent in Yahweh Elohim’s “very good” creation strengthens Hefner and Ricoeur’s wager that a conceptual integration of ancient and contemporary symbolic worlds will allow the myth-symbols under investigation to remain integral to an intellectually and ethically fruitful (second naïveté) understanding of *Homo sapiens*’ origins, uniqueness, purposes, and destiny.

Natural sources of the knowledge of good and evil in biocultural evolution

An evolutionary hermeneutical lens helps the present-day interpreter of Scripture to focus on the non-paradisiacal elements in Genesis 1-3, because evolution means looking back at the beginning through “nature, red in tooth and claw.” The theologian today must engage the evolutionary perspective that *Homo sapiens*’ unique ability to construe and cause good and the bad has emerged within—and because of—a biocultural milieu already beset by cooperation and conflict. This is not to read Darwin into Genesis,

but to emphasize that the biblical writers experienced the need to account in their own way for the realization that the creation is a wild and ambivalent place, capable of bringing human beings to the heights of joy and the depths of sorrow. The Garden Narrative encapsulates the perennial struggle to account for the good and bad human beings and their environments are capable of producing, while attempting to preserve the primordial goodness of the creator and the creation. Underlying the “curses” of Genesis 3 are vexing questions about why there are dangerous creatures like snakes with which human beings seem to have an innate enmity, why relationships become power struggles, why subsistence is arduous, why producing offspring is so painful. In short, the knowledge of good and evil emerged when our species’ eyes were opened to a world begging for an explanation to these mysteries. The knowledge of good and evil emerged through the cognitive fluidity of behaviorally modern *Homo sapiens* in recent evolutionary time and has directed the course and content of humanity’s biocultural history ever since.

As a biocultural reality, knowledge of good and evil is a product of nature *and* *nurture* because, in the words of evolutionary psychologists John Tooby and Leda Cosmides, “more nature allows more nurture.”⁴¹³ For good and bad, although the specific behavior of an individual person is not reducible to biological or cultural processes, the entire gamut of conscientious human behavior is bioculturally constrained. For good and bad, human beings are culturally-constituted creatures, blessed and cursed with the condition of having to contextualize and justify our actions and experiences. In

⁴¹³ John Tooby and Leda Cosmides, “Conceptual Foundations of Evolutionary Psychology,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 30.

biocultural and theological terms, the knowledge of good and evil and the image of God are co-emergent.

According to neuroscientist and emergentist Terrence W. Deacon, the rudiments of this condition emerged with the first self-propagating—i.e., teleodynamic—systems. Through the autogenic capacities of self-constitution, self-repair, and self-replication, “a very basic form of value has emerged,” because the components of these teleodynamic processes can be defined in terms of autogenic integrity or lack thereof.⁴¹⁴ The much later arrival of sentience brought with it “the emergence of *ethical* value,” because “the background ‘feeling of being here’” enables the perception of comfort and pain, joy and suffering, fulfillment and frustration.⁴¹⁵ With the symbolic threshold and the emergence of consciousness comes the emergence of *morality*, because personhood facilitates the (co-)creation of a symbolic universe framed by concepts like “good” and “evil.”

I suggested in chapter 3 that Hefner’s bottom-up “basis for beginning to reflect upon values” harmonizes with Deacon’s to such an extent that neither should object to Hefner redubbing his “teleonomic axiom” the “teleodynamic axiom.” Hefner’s axiom states that “[t]he structure of a thing, the processes by which it functions, the requirements for its functioning, and its relations with and impact upon its ecosystem form the most reasonable basis for hypothesizing what the purpose and meaning of the thing are,” within its ecological and/or cultural context.⁴¹⁶ The evolutionary roots of the knowledge of good and evil are as deep and ancient as the first selection pressures

⁴¹⁴ Terrence W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York; London: W. W. Norton and Company, 2012), 322.

⁴¹⁵ *Ibid.*, 486; emphasis added.

⁴¹⁶ Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 40.

threatening the systemic integrity of the earliest autogens, which evolved into the first organisms, which evolved into every other species, including ours.

This perspective begs a vexing set of questions. For instance, what if an animal species has evolved to be an apex predator and “the requirements for its functioning” include killing and consuming other animals? A successful hunt is of great value to the predator, but what is in it for the prey besides fear, pain, and death? Like it or not, predation and other forms of calamity often called “natural evil” have been the catalysts of biodiversity and ecological balance, of sensation and reaction, of quick feet and minds, and of the physical and cultural tools *Homo sapiens* have constructed in order to manipulate their ecological and social environments for the sake of their wholesome living.

Both first- and second- naïveté readings of Genesis leave open the question of whether the various forms of freedom bestowed to all created entities by God’s “Let there be” is a kind of “good” capable of offsetting the creation’s inherent capacity to include the “bad.” As the creative wellspring of biotic complexity and diversity on earth, is the evolutionary arms race of horns and hooves, teeth and claws, brains and tools self-redeeming? Ultimately, these philosophical and theological questions must remain open to some extent. The mystery of the origins of evil defies any comprehensive rationalization. Through his *Symbolism of Evil*, Ricoeur reminds the philosopher and the theologian that myth and the second naïveté interpretation thereof facilitate the kind of *docta ignorantia* required for wrestling with these perennial questions.

Approaching this paradox from an evolutionary angle, philosopher Holmes Rolston, III suggests that creativity and tragedy in evolutionary processes are two poles of a dialectic with a track record of producing positive net results. For Ricoeur Genesis 1-

3 sublimate and reconfigure tragic and chaotic understandings of reality. Similarly, Rolston attempts to transvaluate the chaos and tragedy of evolutionary history. For him the term *tragic* is an evaluative translation of the fact that “in amoral nature” exist “predation, parasitism, selfishness, randomness, blindness, disaster, indifference, waste, struggle, suffering, death.”⁴¹⁷ Blending imagery from Genesis 2-3 and Romans 8, he suggests that “perhaps the poetry of nature as garden and as groaning in travail can be demythologized, or remythologized, for our scientific era.”⁴¹⁸ The evolutionary labor pains of bringing forth new life and new life forms are “redeemed” by their own positive results. From the perspective of a creature complex enough to enjoy its own existence, complexification is an intrinsic good. The Darwinian processes driving biological and cognitive complexification are ambivalent and indifferent but have led to every valuable reality, including the ability to value. Examining both sides of the evolutionary coin, Rolston explains:

Nature is random, contingent, blind, disastrous, wasteful, indifferent, selfish, cruel, clumsy, ugly, struggling, full of suffering, and ultimately, death? Yes, but this sees only the shadows, and there has to be light to cast shadows. Nature is orderly, prolific, efficient, selecting for adapted fit, exuberant, complex, diverse, regenerating life generation after generation. There are disvalues in nature as surely as there are values, and the disvalues systematically drive the value achievements [...]. Translated into theological terms, the evils are redeemed in the ongoing story.⁴¹⁹

The “good” results of the competition-driven emergence of novel forms of life and mentality are not redeemed from “sin” or “guilt” but from entropy, from chaos—the enemy and engine of emergence.⁴²⁰ Life has made spectacular gains in its ongoing

⁴¹⁷ Holmes Rolston, III, “Does Nature Need to Be Redeemed?” *Zygon: Journal of Religion and Science* 29 (1994): 212.

⁴¹⁸ Ibid.

⁴¹⁹ Ibid., 213.

⁴²⁰ Ibid., 212.

struggle to fill the earth. Rolston emphasizes that eco-systemically speaking, the so called circle of life is self-renewing—“[p]lants become insects, which become chicks, which become foxes, which die to fertilize plants.”⁴²¹ But this circle does more. Evolutionarily speaking, the circle of life is more like a self-ratcheting spiral. Rolston notes that human-being could only emerge, “at least in life as we know it,” in a natural history fraught with predation, blind chance, and catastrophe.⁴²²

In the evolutionary emergence of the image of God and the knowledge of good and evil, do the evolutionary ends justify the means? Well, yes and no. This question holds a twofold category mistake. First, ends can only follow means; ends cannot elevate or diminish the moral status of means. Second, ethical or juridical categories like “justification” do not apply to amoral processes. Catholic theologian Denis Edwards emphasizes that “it is important to understand natural selection in a nonmythological and nonanthropomorphic way.”⁴²³ Although a great deal of animal life is able to experience pain, animals do not suffer or cause suffering within a values-laden symbolic universe of “good” and “evil.” The tragedies which animals, persons, and their environments incur at the hand of the nonhuman world are not insignificant, but they are also exempt from moral evaluation. There is no one to blame for so called “natural evils.”

By contrast, the undue and avoidable tragedies which animals, persons, and their environments incur at the hand of the conscientious human world are indeed subject to moral evaluation. Human action is accountable to a knowledge of good and evil. According to Rolston, here is where the more traditional, theological sense of *redemption* begins to take root. For him, although “[s]uffering in a harsh world did not enter

⁴²¹ Ibid., 214.

⁴²² Ibid., 213, 214.

⁴²³ Denis Edwards, *The God of Evolution: A Trinitarian Theology* (New York: Paulist Press, 1999), 37.

chronologically after sin and on account of it,” the biocultural arrival of culpability “introduces a novel tragedy.”⁴²⁴ According to a biocultural perspective and a second naïveté reading of Genesis 1-3, the possibility and necessity for morality emerge from the creation itself when our species’ eyes were opened to the knowledge of good and evil. From that point on, human creatures have been blessed and cursed with the response-ability to give an account for the *tov vara* ‘they produce in the course of living out the God-imaging vocation to participate conscientiously in ongoing drama of creation.

Knowing good and evil as an emergent vocation

Clark and Wilder have argued convincingly from intertextual evidence for the royal and legal background of the concept of the *knowledge of good and evil* in Genesis 2-3. These findings are strengthened by their consonance with a functional-royal interpretation of the *image of God*. According to Wilder, “the completion and fulfillment of” humankind’s capacity to rule over the earth as the creator’s royal image-bearers requires the illumination and investiture that comes with gaining the knowledge of good and evil.⁴²⁵ Finding that the *image and likeness of God* is largely undefined in its immediate context, Sawyer also argues that for the biblical writers the Garden Narrative chronicles the completion of the image of God and begins to specify what it means to fill, subdue, and rule over.⁴²⁶ In the garden the human creatures learn that fulfilling their vocational response-ability to the commands of God means naming other creatures and other people, falling into power struggles among themselves, toiling to produce sustenance, laboring to bear children, and navigating a world of fierce creatures. These

⁴²⁴ Rolston, “Does Nature Need to Be Redeemed,” 205-06.

⁴²⁵ Wilder, “Illumination and Investiture,” 63.

⁴²⁶ Sawyer, “The Meaning of ‘*בְּצֶלֶם אֱלֹהִים*’ in Genesis I-XI,” 426; “The Image of God,” 65-66.

scholars conclude that for the writers of Genesis, bearing God's image ultimately means leaving Eden. The following two subsections describe this call out of Eden according to one recent strain of biblical scholarship and a scientifically-informed perspective with the potential to blend with it.

Called up and called out—exegetical considerations

For Wilder and Sawyer the knowledge of good and evil is part and parcel of bearing the image and likeness of God in, to, and through the creation. However, their analyses differ when they begin to draw interpretive conclusions from their exegetical findings. In Wilder's interpretation part of the narrator's intended message is that if the primordial pair had only awaited further instructions from God about the tree of knowledge things would have turned out much better for them and perhaps the rest of the world. In Sawyer's interpretation part of the narrator's intended message is that bearing God's image means discovering some harsh realities about the good *and* bad the world and human creatures are capable of producing. Called to be co-operators with God, one another, and the rest of the creation, human beings have a unique response-ability to discern, construe, and pursue the good the creator intends for the creation. However, as the remainder of the primeval history implies, human beings have a penchant for making things very bad, as well. Setting the stage for the sobering reminders of human fallibility in Genesis 4-11, the Garden Narrative represents a time-honored attempt to account for the realization that human creatures have always stumbled only too late upon the ambivalence of their condition, their singular but fallible capacity to effect the good, their unique ability to appropriate, but also misappropriate, what they and their communities have considered to be mediations of divine wisdom.

In this light the Garden Narrative is less about falling from something than it is about stumbling into something as wonderful as it is wild, as promising as it is perilous. The Reverend John Baker interprets the forbidden fruit of the tree of the knowledge as a symbol of the realities to which it introduces humankind in the narrative—the unknown and knowledge. As loci of power capable of taking away ignorance as well as innocence, both the unknown and knowledge/wisdom present opportunity as well as danger.⁴²⁷ Accordingly, Baker understands the Garden Narrative to chronicle an “awakening,” not a “Fall.” That is, Genesis 2-3 mythologizes a transition from “an unconscious innocence, an identity of [the hu]man with God (similar to that of animals with nature)” to the possibility of a self-consciously chosen harmony with God’s intentions, “even in the face of temptation and stress.”⁴²⁸ The path to maturity is fraught with growing pains. Yet mature knowledge inevitably trumps the bliss of ignorance and innocence. Like the pair expelled from the garden, those with the potential to do the most good are also those whose eyes have been opened to the realities of hardship, death, and the human capacity to bring about both or to shield one another and the rest of the creation from avoidable harm.

Choosing to step beyond the protection of the Garden and the sheltering, heteronomous world of “eat this, don’t eat that” means having one’s eyes opened to a potentially richer but much more challenging existence “east of Eden.” Growing up means moving out and having to face all the dangers and opportunities of the world with new eyes, even when feeling naked at the prospect. In Baker’s terms, “now that [humankind] has claimed knowledge for [itself], and the power that goes with it, [we] must learn to use that power under God’s guidance, and for that [we] must find, of [our]

⁴²⁷ John Baker, “The Myth of Man’s ‘Fall’—A Reappraisal,” *The Expository Times* 92 (1981): 235-36.

⁴²⁸ *Ibid.*, 236.

own free will, a new harmony with God.”⁴²⁹ Discerning and enacting this new kind of harmony with God’s intentions for the creation is the vocation of humankind beyond the bounds of Eden. “In those conditions,” remarks Baker, “the choice of freedom cannot be called ‘sin,’ nor can the resultant state be called a ‘Fall.’ The true story of [humankind’s] Fall could, for a theologian determined to find it in the Bible record, only begin with the sin of Cain, who exercised his power to do an evil deed.”⁴³⁰

While Baker and others have good reason to interpret Genesis 2-3 as a tale of awakening, Clines and Clark both point out that the story does not contain a simple, linear “progression from immaturity to maturity.”⁴³¹ However accurate the latter insight may be, it also implies an assumption that the biblical writers envisioned a world in which the maturation process could be relatively painless and drama-free. However, given the exegetical considerations of Sawyer, Baker, Bird, and to a certain extent Wilder, the more likely message of the Garden Narrative is that the transition from immaturity to maturity is not simple or straightforward at all. The response-ability to bear the image of God with a knowledge of good and evil is a vocation harboring a great variety of occupational hazards, including many of humanity’s own making. This call and response-ability to co-create means remembering that Yahweh Elohim does not create through violence. It means re-presenting, though often mis-re-presenting, the creator’s good intentions. It means opening oneself to hearing those convicting words, “Where is your brother,” whenever others suffer or perish needlessly (Gen. 4:9). It means striving penitently and empathetically to make things right or better wherever it is in one’s power to do so.

⁴²⁹ Baker, “The Myth of Man’s ‘Fall,’” 236.

⁴³⁰ Ibid., 237.

⁴³¹ Clines, “The Tree of Knowledge,” 9; cf. Clark, “A Legal Background to ‘Good and Evil,’” 277.

Called up and called out—evolutionary considerations

Viewing these biblical passages and relevant ancient Near Eastern parallels from a hermeneutical perspective informed by biocultural and emergentist understandings of human uniqueness and its development helps the 21st century interpreter of scripture to highlight and magnify (though not necessarily distort) the developmental and dynamic nature of the image of God in Genesis. The final verses of Genesis 1 present an ambiguous picture of what it means to bear the image of the creator in and to the rest of the creation. These verses recount that (Yahweh) Elohim creates a creature—male and female—who bears the response-ability to carry out the commands that the creator addresses “to them.” Reading Gen. 1:26-2:4a through the Garden Narrative generates the inference that the conditions of possibility for bearing the image of God are the results of a creative process of “forming,” “breathing,” “building,” “eating,” “seeing,” and “knowing.” The human creatures participate in this process, ultimately emerging from the garden as co-creators who bear the image of God with a knowledge of good and evil.

A second naïveté interpretation of these processes of creation and co-creation which describes the ability to discern, construe, and enact God’s good intentions for the creation as the vocation of behaviorally modern *Homo sapiens* must incorporate the understanding that the cognitive fluidity necessary to discern and respond to this calling is the result of evolutionary processes. The biocultural emergence of humankind’s response-ability to their environments, to one another, to themselves, and to God was—and is for every person—the process of having one’s eyes opened to the ambiguous and ambivalent character of creaturehood. The natural and cultural words have produced

every value and disvalue for life on earth. The advent of the cognitive-linguistic ability to translate values into culturally-borne concepts, moral visions, and actions to which human beings hold one another accountable is also the emergence of a theological vocation to promote personal, cultural, and ecological wellbeing. Capable of evaluating, envisioning, and directing ecological and cultural realities, behaviorally modern *Homo sapiens* bear a (bioculturally constrained) moral responsibility for the “good” and “bad/evil” they are able to “see” (discern/locate), to “know” (experience/conceptualize), and to “create” (imagine/effect). Human-being is constituted by a choice to act as blessing or curse to one another and other creatures.

Unfortunately, human beings have displayed a deleterious tendency to conflate an apparently unique ability to assign value and the criteria by which we assign it. That is, we mistakenly make human beings and human wellbeing the measure of all things, as if the nonhuman world had only relative value vis-à-vis human flourishing.

Several biblical scholars, including J. Richard Middleton, cast doubt on the assumption that the Genesis cosmology is unilaterally or irremediably anthropocentric, as it is often interpreted to be. Analyses of Genesis as ideological critique pit the symbolic worldview of the primeval history against the exploitative trickle-up theological cosmology of *Enuma Elish* and other parallels. If the Garden Narrative gives greater specificity to the vocation to bear the divine image, the command to “rule over” the land and its creatures is clarified by the express purpose of humankind (*'adam*) to “serve” (*'avad*) and “preserve” (*shamar*) the garden and the earth as source and “ground” (*'adamah*) of human-being and wellbeing (Gen. 2:15; 3:23).

By extension, the biblical concept of “Sabbath” resists the idea that exploiting the land, animals, and other people is the god-imaging prerogative of the social and religious elite. According to *Enuma Elish*, the Babylonian pantheon depends on slave labor to provide sustenance and the occasion to rest. Conversely, Yahweh Elohim is self-sufficient by comparison, and the creation is self-sustaining enough that members of all social strata, all species of domesticated animal, and even the land itself must be allowed to rest (Gen. 2:2-3; Exod. 20:8-11; 23:10-12; cf. Lev. 25:1-12). Over against competing ideologies, the primeval history and many other texts of the Hebrew Bible reflect a conscientious shift away from a “Let us take” ethos toward a “Let there be” and “Let us make” ethos.

In parallel fashion, both an evolutionary worldview and the biblically-based cosmology it brings into focus are antithetical to the anthropocentric view that the cosmos is a cache of resources serving human enjoyment and consumption. In Deacon’s view, rudimentary forms of value and normativity emerged with the first autogenic (teleodynamic) systems. To live is to bear a values-laden existence. Responding to various selection pressures, all organisms have a stake in the preservation of biotic conditions conducive to constraint propagation across all levels of (id)entity constituting emergent dynamics. In a sense, evolutionary development is a function of the fact that all life must “subdue” the earth in order to “be fruitful and multiply.”

Such creativity—the kind through which our biocultural species has emerged—is catalyzed as much by environmental pressures as ecological sustainability and biodiversity. If bearing the image of the creator God is a call to participate conscientiously in *creatio continua* through co-operating with one another and the rest of

the natural world, should not *Homo sapiens* of biblically-grounded faith seek to value, preserve, and enhance the immanent creativity of diverse and sustainable ecosystems? Should not God-imaging creatures seek just and equitable cultural practices and policies that acknowledge the equal stake of all human beings in the biocultural future of humankind? By delimiting the creative potential of persons and their environments, social injustice and ecological degradation silence the creator's "Let there be" and distort the call to bear the image of God in, to, and through the creation.

Knowing good and evil as imaging God with a condition of freedom

Following the ideological trajectory of the Genesis cosmology, if human creatures bear the image of a God who does not create through violence, the condition of freedom into which we have emerged calls us first to distinguish between amoral and moral aspects of created co-creation in an evolving world. On the one hand, nature, red in tooth and claw is not culpable for the disvalues natural selection produces in catalyzing the increased complexity and diversity of life. On the other hand, mature, mentally competent human beings can be morally culpable for actions which lead to the creation's inability to sustain its ecological and cultural complexity and diversity in response to God's "Let there be."⁴³²

⁴³² While space prohibits a constructive philosophical and/or theological argument on the ethics of animal use, this perspective bears several implications for many human activities involving the keeping and/or killing of other animals. Perhaps the most scandalous aspect of Darwinian evolution for Christianity today is the realization that humanity's metabolically expensive bodies, brains, and their functioning have evolved at the expense of other sentient creatures and their once living flesh and bones. In Deacon's terminology, if constraint propagation in teleodynamic emergence and evolution is a struggle against disintegration, how does creation through natural selection shed light on Genesis without reintroducing the *Chaoskampf* of *Enuma Elish*, particularly where constraint propagation in one organism involves or requires preying upon another?

Genesis 3 and 9 seem to be occupied with a similar question. Before eating from the tree of knowledge there is no mention of animal killing or consumption. In Gen. 1:28-29 only plants are listed on the menu for human beings and other creatures. Then in Gen. 3:21, God covers humanity's nakedness with skins, presumable those of dead animals. And after the flood narrative, in language parallel to that of Gen.

Now, more than ever before, forgetting or failing to discern that human beings bear the image of a god who does not create through violence has meant threatening and even delimiting the earth's ability to respond to the creator's "Let there be." Likewise, this failure has meant threatening, delimiting, and too often extinguishing other people's ability to realize their creative potential. Theologically speaking, bearing a condition of freedom in God-imaging ways means acknowledging that seeking some "good" (or the good of some) by willfully, knowingly, and avoidably producing some "bad" for other people or the environments that sustain them and all other life is creation through violence, a misuse of the knowledge of good and evil, and a violation of the vocation to act as co-creators in a very good world.

1:28-29, God places meat on the menu, but only under certain conditions. These verses imply that the condition of freedom with which human beings bear the image of God generates the cognitive imperative to specify the conditions under which it is permissible to extinguish sentient life for the purpose of achieving some other perceived good, such as nourishment.

There is something both noble and tragic about perceiving the need to contextualize the taking of life for the purpose of sustaining it. Genesis 9:3-6 records that human beings may eat the flesh of another creature as long as its life—its blood—has been thoroughly drained. These verses also contain much stronger prohibitions against human bloodshed, for the reason that human beings are created in the image of God. This passage seems to place theological significance behind the conviction that there is something disordered about taking the life of a creature that can suffer and something wrong about taking the life of creature who can suffer existentially. Animals can only become meat when there is no more "life" in them to continue dying, when they are more like plants than a *nefesh chayyah*, when they are dust without breath or blood. Human beings are allowed to take animal life, perhaps because nature eventually does that on its own, but they are not allowed to take *in* the life of another creature, to make the source of its life and death a means of sustenance and a part of themselves. Perhaps the prohibition to consume blood relates to J. Maxwell Miller's insight that Gen. 9:6 and its use of "image" (*tselem*) instead of "likeness" (*demut*) is an implicit way of emphasizing that human beings are not created from divine "blood" (*dam*), as in *Enuma Elish* ("In the 'Image' and 'Likeness' of God," *Journal of Biblical Literature* 91 [1972]: 299-302, 304). These instructions to Noah in Genesis 9 appear to be a ritualized reminder that despite humanity's failings it must still image a creator who does not create or sustain life by means of another's blood.

Admittedly, this principle to avoid blood seems to be at odds with a *prima facie* understanding of Israelite sacrificial rites. However, these same cultic practices may uphold an anti-violent theological ethic in a painfully ironic way—by evoking empathy for victims and repentance for wrongdoing through bloody spectacle. The role ritualized bloodshed plays in the cultic lives of biblical communities is well beyond the scope of this study. Its concluding chapter, however, touches upon this topic among several others to which it may contribute.

⁴³² Gunnlaugur A. Jónsson, *The Image of God: Genesis 1:26-28 in a Century of Old Testament Research* (Stockholm: Almqvist & Wiksell International, 1988), 221-23.

Facing phenomena such as famine, poverty, war, genocide, and ecological crises, many recent biblical scholars and theologians lament that some interpretations and applications of the *image of God* concept may have motivated attitudes and actions which have led to environmental degradation and various social ills. A host of presuppositions underlie this problematic interpretation, including: (1) the commands of Gen. 1:28 to fill and subdue the earth are universal across time and culture, and (2) imaging God is a form of “dominion” best expressed in dichotomous “power-over” relationships rather than co-operative, power-sharing relationships—e.g., humanity over against nature, male over against female, and mind over against matter.⁴³³

Offering a more plausible and palatable alternative to this variety of functional interpretation, Van Huyssteen seeks to “revision the idea of the *dominium terrae* without a power-centered and violent anthropocentrism.”⁴³⁴ His dynamic conception of the “*imago Dei* as embodied self” relies heavily on Hefner’s created co-creator model and Middleton’s theological exegesis depicting human creatures as royal representatives of “a generous creator, sharing power with humans and inviting them to participate in the creative, historical process with responsibility and care.”⁴³⁵ In short, power-over models of imaging God misunderstand and misdirect human freedom by their failure to

⁴³³ Old Testament scholar Gunnlaugur A. Jónsson has identified this situation as a common side effect of the functional-royal interpretation of the *imago Dei*, making the additional historical argument that these negative ideological and ethical consequences of the functional-royal interpretation have also strengthened the appeal of the less coherent relational interpretation of the *image of God* among theologians in the latter half of the 20th century (*The Image of God: Genesis 1:26-28 in a Century of Old Testament Research* [Stockholm: Almqvist & Wiksell International, 1988], 221-23). Van Huyssteen is among contemporary theologians wary of functional interpretations of the *image*. He contends that in response to ecological and feminist critiques functional-royal interpretations have “been eclipsed” in theological exegesis by relational and existential readings inspired by Karl Barth (Van Huyssteen, *Alone in the World?*, 136; cf. 134-38, 150-58). Jónsson does not disagree, in that he notes many holdouts for the relational interpretation in theological circles, despite recent archeological and textual evidence sparking a resurgence of the functional-royal interpretation among biblical scholars (223-25).

⁴³⁴ Van Huyssteen, *Alone in the World?*, 155.

⁴³⁵ *Ibid.*, 145-158

acknowledge and appreciate *Homo sapiens*’ cognitively fluid form of creative freedom as a particularly complex emergent expression of the freedom and creativity of natural world in which we live, move, and have our being.

Blending ancient and scientifically-informed concepts, Middleton compares the creative power of the God who speaks reality into existence in Genesis 1 to a strange attractor—a dynamical principle of order harnessing the constant pull of entropy for what in the end could be considered the “very good” purposes of producing novel and irreducible forms of self-organization, from snowflakes to snowy owls to synapses to symbolic worlds.⁴³⁶ An emergentist understanding of causal powers like Deacon’s is conducive to theological, ontological, and ethical understandings that are antithetical to power-over models of divine and human freedom and creativity. This is not to say that there is no longer any room in theology for “top-down” explanations for why things do or ought to happen. Rather, as explained in chapter 3 above, Deacon’s three-tiered taxonomy of emergent dynamics yields the inference that all supervenient—“top-down”—causal powers in the world, including those constituting human personhood, derive evolutionarily and diachronically from the “bottom-up.” The human power to affect nature is also the causal power nature effects.

Viewed from the bottom-up, imaging God with a knowledge of good and evil is something the creation accomplishes through the emergent dynamics constituting human-being. The evolutionary emergence of the human condition of freedom has introduced a unique kind of responsibility for the ways in which one kind of living being (*nefesh chayyah*) positively and negatively affect the wellbeing of one another and the ecological

⁴³⁶ J. Richard Middleton, *The Liberating Image: The Imago Dei in Genesis 1* (Grand Rapids: Brazos Press, 2005), 287.

and cultural worlds through which they live, move, and have their being. Given the planetary scope of *Homo sapiens*' influence today, the categorical distinctions of value with which we describe ourselves and our roles in the creation can greatly magnify or muffle the cosmic call of the creator to "Let there be" a very good world for all kinds of creatures and everyone who bears the image of God. Awesome response-ability begets awesome responsibility.

Hefner argues that because all human self-understanding is bioculturally situated theologians exercise humankind's God-imaging condition of freedom when reinterpreting the troubling biblical passage through which generations of religious thinkers have contextualized humanity's status and role within the creation. Acknowledging "the traditional anthropocentrism" with which so many have read the commands Genesis 1:28, Hefner cautions that no understanding of what it means to bear the image of God is exempt from the influence of the biocultural milieu through which theological self-descriptions emerge.⁴³⁷ For him, to bear the image of God is to be a "free creator of meanings, one who takes actions based on those meanings and is also responsible for those meanings and actions."⁴³⁸ To bear the image of God is to be a created co-creator, a defined self-definer, knowing good and evil. The job description of "created co-creator" is always a provisional and revisable product of created co-creation conditioned by *Homo sapiens*' morally ambivalent biocultural past, present, and future.

Yet because humankind's conscientious ability and necessity to discern, construe, and enact the good are necessarily conditioned, finite, and fallible, the emergence of human freedom introduces the likelihood—the eventuality—of mistaking the bad for the

⁴³⁷ Hefner, *The Human Factor*, 9, 38, 98, 196, 239; cf. "Biocultural Evolution and the Created Co-Creator," *Dialog* 36.3 (1997): 204.

⁴³⁸ *Ibid.*, 239.

good, mistaking the good for the bad, and negatively affecting ourselves, others, and our environments, both unintentionally and intentionally.⁴³⁹

In this regard, the “conditioned” aspect of humankind’s condition of freedom is twofold: its exercise is (1) unavoidable and (2) bioculturally emergent. First, we cannot but make choices with social and ecological repercussions, be accountable for those choices, and share responsibility for the symbolic worlds environing those choices and our responses to their consequences. Second, human freedom is further conditioned by the biocultural history through which it has emerged. As a species and as individuals we are predisposed to repeat the triumphs and tragedies of our progenitors, but we are also free to reconsider and recontextualize them in potentially more humanizing ways.

Enabling this condition of freedom, the cognitive fluidity or blending capacity of the culturally embedded human body-brain-mind is constantly expanding the horizons of human thought, behavior, and technology—for good and bad. Because more nature allows more nurture, behaviorally modern *Homo sapiens* have displayed an unparalleled ability to articulate, act upon, normalize, analyze, and revise the values at the epicenter of our experience of and interaction with the world and one another. This dynamic cognitive and cultural milieu is that through which we know “good” and “evil.” Because this hermeneutical circle of critical reflection on values, behaviors, and norms is always open and bioculturally situated, evolutionary psychologists like Cosmides and Tooby predict

⁴³⁹ This conception of Christian anthropology also reframes the traditional reading of Genesis 1-3 from which the doctrines of “Fall” and “original sin” have emerged. For one thing, the biblically-based portrait of human freedom brought into focus through a natural-scientific lens includes a positive picture of the knowledge of good and evil. Although humankind’s condition of freedom is wildly ambivalent, it is also integral to fulfilling the creator’s call to enjoy and augment the goodness of the creation through cooperative actions across cultures and species in order to preserve the creative potential of a diverse and sustainable global ecology and human community. Thus, in this second naïveté understanding of Christian anthropology, ethics is none other than remembering, reinterpreting, re-iterating, and re-presenting, the creator’s beneficent invitation to “Let there be...” and decision to “Let us make...”

that *Homo sapiens* are always inclined toward some bad behaviors.⁴⁴⁰ The work of humanizing ourselves is never complete, which is not to say that our efforts to better ourselves are ultimately unguided or that there are no reasonably universal criteria by which to judge our progress. Pinpointing some of these loci of moral guidance is the aim of the next chapter, which analyzes some of the effects of reframing Christian ethics by means of the scientifically-informed anthropology constructed heretofore. I contend that within this framework Christian ethics stand to gain intellectual credibility, moral fruitfulness, and precision in articulating their unique contribution to ethical discourse and their potential to establish harmonious moral commitments across cultural and confessional boundaries.

Conclusion

Biblical and evolutionary understandings of human uniqueness and its development are parallel to one another and do not overlap in any direct way. Yet one can argue with integrity that it is intellectually and ethically fruitful to integrate biblical, philosophical, and natural-scientific concepts in order to recontextualize and reappropriate traditional myth-symbols which remain indispensable for theological self-description in academic and ecclesial discourse today. Following the structure of chapter 4, the four sections of this chapter have focused in on some surprising similarities between ancient mythology and contemporary anthropology. Blending these understandings has facilitated the construction of a second naïveté conception of the

⁴⁴⁰ For example, father of evolutionary epistemology Donald T. Campbell has even observed that natural selection sometimes rewards behaviors that are socially maladaptive, either in their immediate context or later contexts. He concludes that there is often “some past adaptive usefulness” to behaviors which many or all cultures have come to condemn. See Donald T. Campbell, “The Conflict Between Social and Biological Evolution and the Concept of Original Sin,” *Zygon: Journal of Religion and Science* 10 (1975): 235.

knowledge of good and evil that is faithful to both current science and the ideological trajectory of the biblical witness to which this myth-symbol belongs. Viewing this concept through the hermeneutical lens of *Homo sapiens* ' evolutionary emergence, this chapter has engaged four theses designed to frame the discussion of how the *knowledge of good and evil* has emerged in biocultural history as both a concept and the condition of freedom to which it refers.

The first of these theses claims that the concept of the *knowledge of good and evil* is a product of the uniquely human form of cognitive fluidity to which it points. Various exegetical definitions of this concept have characterized the *knowledge of good and evil* as a consequence of disobedience, knowing “right” from “wrong,” sexual knowledge, and even omniscience. Over against these definitions, and in light of the royal and legal contexts of biblical parallels, biblical scholars today generally agree that for the writers and redactor(s) of the primeval history, this myth-symbol refers to a God-like wisdom to make judgments concerning human welfare. This definition is consonant with the functional-royal interpretation of the *image of God* discussed in chapter 4, implying that the democratization of the royal image of God also includes a democratization of a form of wisdom usually reserved for the political and religious elite.

Given the inter-cultural conceptual background of the *image of God* in Genesis, and following Ricoeur and Westermann, there is good reason to formulate a biblical definition of the *knowledge of good and evil* in light of extra-biblical parallels. As with the emergence of the Priestly understanding of the *image and likeness of God*, the conception of the *knowledge of good and evil* emerging in the primeval history displays a hermeneutical precedent for faith communities today to develop and reformulate religious

understandings through a complex collision and collusion of concepts and perspectives.

For Ricoeur the development of a second naïveté perspective recapitulates, in a post-critical manner, the perennial hermeneutical task of faith seeking understanding.

Reappropriating the biblical concept of the *knowledge of good and evil* along the ideological trajectory of the primeval history and in light of a biocultural model of *Homo sapiens*' evolutionary emergence is an example of this kind of theological endeavor.

The second thesis holds that in parallel ways biblical and biocultural explanations of human uniqueness and its development depict the knowledge of good and evil as a product of nature. As an animated amalgam of dust, breath, and blood, human creatures are necessarily finite and fallible, and their eyes are opened to a unique knowledge of good and bad through creaturely purveyors of wisdom—the “crafty” serpent, the tree of knowledge, and their own response-ability vis-à-vis these created entities, one another, and God. There are verbal clues in Genesis 1-3 that the garden of Eden is not exactly a paradise, that the world human creatures must fill and subdue is already immanently capable of bringing the “good” along with the “bad,” and that an essential aspect of bearing God’s image in and to the creation is coming “to know good and evil” and to understand the human capability to make things better or worse for themselves, one another, and the rest of the world.

An emergentist model of biocultural evolution includes very similar views ripe for theological appropriation. According to Deacon, the teleodynamic threshold brings with it the emergence of normativity, because the holistic integrity of dynamically fused systems is always vulnerable to dis-integration. On a rudimentary level, “good” and “bad” have emerged in the natural world through autogenesis. The emergence of

sentience compounds this emergence of values through a perceptive and reactive awareness of values and disvalues. This emergence of ethical value is further compounded through the emergence of consciousness, which allows creatures to be aware of their own awareness. The capacity for recursive reflection on values and disvalues via language constitutes the emergence of moral wherewithal—the knowledge of good and evil. For good and ill, the collective and individual moral legacy of human beings must reflect the fact that this unique capability has emerged in the midst of and as a result of an evolutionary history beset with cooperation and conflict, joy and suffering, fulfillment and frustration, good and bad.

The third thesis contends that the knowledge of good and evil is the capstone component marking human creatures as bearers of the divine image and likeness, because the vocation to fill, subdue, and rule over the creation (and to recontextualize these roles in new contexts) requires the response-ability to discern, construe, and enact the creator's beneficent intentions for the creation. The interaction with the serpent and the tree of knowledge in the Garden Narrative encapsulates the ambiguity and ambivalence of humankind's response-ability to the creation, to one another, and to God. The perilous path toward maturity is a exodus from the relative security of the garden, from the nakedness of innocence (Gen. 2:25) to the nakedness (*'ārūm*) that comes with the wisdom (*'ārūm*) needed to face humankind's vulnerabilities to temptation, coercion, conflict, frustration, pain, and death. Bearing the image of God in the world east of Eden means that in the midst of hardship, human beings are still called to discern and act in concert with the intentions of a creator who shares power and does not create through violence.

The fourth and final thesis makes explicit the presupposition underlying the three theses above that emerging in the image of God with a knowledge of good and evil entails bearing a condition of freedom uniquely open to the possibilities of encountering and causing all kinds of good and bad. This condition compels us to justify our actions and the narratives, concepts, values, and norms we employ to contextualize them. An evolutionary view of the emergence of human-being implies that God's creative interaction with the world is ongoing. *Creatio ex nihilo* is also *creatio continua*. Ideally, this state of affairs means that there are new realizations of the creation's very good-ness yet to emerge and that *Homo sapiens* will take an active and humanizing role in continuing to co-create a very good world. Bearing the image of a God who does not create through violence means amplifying and echoing Yahweh Elohim's invitation to "Let there be..." It means sharing power and striving to safeguard and/or enhance the creative potential of all people and their cultural and ecological surroundings. To emerge in the image of God with a knowledge of good and evil is to be born into a biocultural milieu through which *Homo sapiens* are response-able to re-present—though we often mis-re-present—the creator's beneficent intentions for the creation.

The next chapter explores some of the ethical implications of this second naïveté understanding of Christian anthropology. Other theological ethicists and anthropologists have already constructed similar and harmonious construals of the ambivalent epicenter of humankind's moral and religious awareness. By blending what I have identified as these scholars' three "(meta-) ethical camps" with one another and the re-presentation of the *image of God* and the *knowledge of good and evil* already discussed, I aim to

complete the constructive portion of this study by proposing an anthropologically-based framework for conducting ethical discourse from a Christian theological perspective.

CHAPTER 6

ETHICS: IMAGING GOD WITH A KNOWLEDGE OF GOOD AND EVIL

The second naïveté understanding of Christian anthropology I have proposed lends itself to the construction of a fundamental ethical framework that is at once universally human and particularly Christian in its origins and aims. An ethic of the image of God is a human ethic, if being human(e) means bearing the image of God. And, an ethic of the image of God is a Christian ethic, if Jesus of Nazareth is understood to be the revelatory, exemplary, and eschatological image of God. I have argued that biblical and biocultural depictions of human uniqueness can be mutually informative and that the integration of biblical and scientifically informed conceptions of the human condition support the following theological inferences: (1) the concepts of the *image of God* and the *knowledge of good and evil* have emerged and must reemerge as products of the cognitive fluidity to which they refer; (2) imaging God and knowing good and evil are natural, dynamic functions of human-being, wrought of the creation—the world of nature—and embedded within it; (3) bearing the image of God with a knowledge of good and evil means emerging with a response-ability—a vocation—to see and serve the primordial goodness of the creation; and (4) responding to this call is an outworking of humankind’s morally ambivalent condition of freedom and creativity. Looking back at “the beginning” through “nature, red in tooth and claw” brings focus to the shadow side of God’s “Let there be...” in Genesis 1-3. In the only world *Homo sapiens* have ever known, bearing the image of God with a knowledge of good and evil is an ongoing struggle through hardship and temptation to re-present the beneficent intentions of a God who shares power and does not create through violence.

This anthropological framework gives ethical discourse a general demeanor, a direction, and the principles that human beings ought to preserve and augment the creative potential of the natural world and one another in ways that generate positive moral outcomes for all people, all living species, and their earthly home. The present chapter builds upon this framework with the help of several contemporary theological ethicists, anthropologists, and other scholars who also seek to locate universal motivations and conditions of possibility for morality, which in turn inform the normative content of ethics.

I place these ethical thinkers into three camps. The first camp discovers the impetus and conditions of possibility for morality in the negative experience of suffering, which helps to indicate, by way of contrast, the positive experience of wellbeing or salvation. Relying on the insights of theological ethicists Patricia McAuliffe and Edward Schillebeeckx, I call this first camp the “negative contrast experience” (NCE) camp. The second camp discerns the impetus and conditions of possibility for morality in a general and pervasive sense of wonder about the world, a spontaneous “experience of the value of persons and their environment.”⁴⁴¹ Using moral theologian Daniel Maguire’s terminology, I call this second camp the “foundational moral experience” (FME) camp. The third camp locates the motives and possibilities for morality in the human ability and desire to imitate others. In light of works by and indebted to Catholic structural anthropologist René Girard, I call this third camp the “mimetic desire” (MD) camp. Each of these camps’ meta-ethical concepts—NCE, FME, and MD—can be described as

⁴⁴¹ Daniel C. Maguire and A. Nicholas Fagnoli, *On Moral Grounds: The Art/Science of Ethics* (New York: McGraw-Hill, 1999), 9; cf. Daniel C. Maguire, *Ethics: A Complete Method for Moral Choice* (Minneapolis: Fortress Press, 2010), 30-31.

integral and interrelated aspects of what I have defined as the knowledge of good and evil, and by extension, the image of God.

Working to shape and support to this conceptual framework, I propose that these three camps provide a contemporary anthropological foundation for Christian ethics, as they relate to one another in the following four ways:

- 1) All three camps share the conviction that the human “is” informs the human “ought.” Anthropology is foundational to the construction of ethical norms and the procedural frameworks through which they arise and evolve, because human being, agency, and experience in general entail all the essential motivators and conditions of possibility for being morally free and responsible in particular and often predictable ways.
- 2) Proponents of all three camps argue that their fundamental ethical concept is constitutive of human-being and agency in a more or less self-evident way. At the same time, they argue that while the human capacity and propensity for the conscientious pursuit of both good and evil defy direct empirical observation and explanation, current scientific and philosophical understandings are able to help ethicists elucidate the pre-rational psychosomatic infrastructure making possible the emergence, description, evaluation, sensitization, and orientation of the NCE, FME, and MD. In other words, these concepts provide powerful explanations of how and why *Homo sapiens* became a moral animal—the biocultural *is* informing the ethical *ought*.
- 3) While the fundamental insights of these three camps are materially different, their (meta-) ethical contributions are mutually inclusive, complementing one another and supplementing this study’s contemporized understanding of what it means to bear the image of God with a knowledge of good and evil.
- 4) Scholars in the three camps discover their fundamental ethical concepts outside explicitly theological discourse. Yet they all argue, in a manner resembling a Ricoeurian wager, that the ethical affinities of the FME, NCE, and MD find firm footing, humanizing content, and ultimate fulfillment in religious visions of salvation, particularly those of Christianity.

With subsections framed by these four theses, what follows is an analysis of these three (meta-)ethical “camps” and their integration with one another and the concepts of the *image of God* and the *knowledge of good and evil*.

Negative contrast experience (NCE), knowing good and evil, and imaging God

Patricia McAuliffe begins her monograph entitled *Fundamental Ethics: A Liberationist Approach* by asserting that “[o]ur fundamental human experience is one of suffering and struggling against suffering for salvation.”⁴⁴² Human beings are able to wage this struggle in terms of “suffering” and “salvation,” she theorizes, because of what theological ethicist Edward Schillebeeckx calls the “negative contrast experience.”⁴⁴³ For McAuliffe the NCE is “foundational” for ethics because the “situation of suffering in the world makes ethics necessary and the contrast experience which propels us to act against suffering makes ethics possible.”⁴⁴⁴ Thus, the “first imperative or first principle for ethics” is “to resist suffering.”⁴⁴⁵

Because of what it is and what it requires, the NCE blends well with the concepts of the *image of God* and the *knowledge of good and evil*. All of these concepts and the human condition to which they point emerge out of a values-laden, concrete, and universal experience of the ambiguity besetting creaturely existence. They all underscore the moral ambivalence of human agency. They all share a defiant trust in the primordial goodness of existence, or what McAuliffe calls the “ontological priority of positivity.”⁴⁴⁶ And, they all require creativity, or “innovativeness” in resisting suffering and envisioning and promoting various forms of wellbeing or salvation.⁴⁴⁷

⁴⁴² Patricia McAuliffe, *Fundamental Ethics: A Liberationist Approach* (Washington, D.C.: Georgetown University Press, 1993), 1.

⁴⁴³ See Edward Schillebeeckx, *God the Future of Man*, translated by N. D. Smith (New York: Sheed and Ward, 1968), 136, 149-64, 191; cf. *The Schillebeeckx Reader*, edited by Robert J. Schreiter (New York: Crossroad, 1984), 54-56.

⁴⁴⁴ McAuliffe, *Fundamental Ethics*, 2.

⁴⁴⁵ *Ibid.*, 3.

⁴⁴⁶ *Ibid.*, 17.

⁴⁴⁷ *Ibid.*

I have argued that, viewed from the bottom-up, values and norms are bioculturally borne expressions of the fact that increases in (teleo)dynamic complexity raise the stakes of their own dis-integration. With varying intensity and quality, every living thing “wants” to flourish. I have also argued that, viewed from the top-down, humankind’s creative moral wherewithal ought to take its cues from the conviction that we bear the image of a creator who “sees” “good” in the worlds of nature and culture, shares power, and does not create through violence. Similarly, McAuliffe’s bottom-up argument is that the NCE of “those who experience the contrast most acutely” affords them an “epistemological privilege [...] regarding what is wrong and what would count as getting it right.”⁴⁴⁸ From the top-down, she looks to the ethical and eschatological NCE of Jesus of Nazareth and his disciples for trans-historical horizons fit to orient the NCE and guide human responses to negativity toward ever more humanizing ends.

NCE as impetus and condition of possibility for ethics

At base, the NCE is an instance of the pain and pleasure principle—the instinct to avoid pain and seek pleasure (in that order). In an emergentist view of human phenomenology, the rudiments of the NCE arose with the first teleodynamic entities. Recall that according to neuroscientist and emergentist Terrence W. Deacon teleodynamics entail normativity, because when components and processes gain significance in terms of the whole they constitute, they can either succeed or fail to achieve their ententional functions vis-à-vis the integrity of the whole. Evolutionary development is catalyzed by this contrast between systemic integrity and dis-integration. Selection pressures force organisms to adapt over generations—to get better at

⁴⁴⁸ Ibid., 13.

minimizing negativity and maximizing positivity. Ironically, sensation and sentience emerged, in no small part, because the creature capable of suffering pain and terror stands a better chance at stopping harm at any given moment and avoiding it in the future. Therefore, the experience of negativity is good relative to the positivity it presupposes as remedy. McAuliffe acknowledges this analogy between human and nonhuman struggles against negativity, if not the organic continuity between them, as a dialectical tension entailed by evolution. She submits that

the unitary experience of suffering and striving against suffering not only captures the rhythm of human history, but also, analogically speaking, captures the rhythm of the cosmos itself. Not only are we called to negate negation in our science as well as our ethics, but everything in the cosmos tends to respond in an analogous way. In nature, we can think of this as the necessity to adapt and seek new equilibrium.⁴⁴⁹

McAuliffe also notes human experience is uniquely dialectical, consisting of “both subjective and objective dimensions.”⁴⁵⁰ Perceptions are always interpreted in light of past experience, as they are mediated through linguistic concepts formed in a community of persons.⁴⁵¹ As a species of the pain and pleasure principle, the NCE becomes uniquely human when it is self-conscious, future-oriented, and open to the possibility of creative, free, and responsible reaction. For human beings “negativity [...] is productive; it reveals the way things are by revealing the way they are not. And it reveals the way things ought to be by revealing how they ought not to be.”⁴⁵² The experience of negativity is always values-laden. The situation of suffering is the motivation for being moral (i.e., that which “makes ethics necessary”). The agential avenues open to human persons through their condition of freedom are the conditions of

⁴⁴⁹ Ibid., 33; italics original.

⁴⁵⁰ Ibid., 4.

⁴⁵¹ Ibid., 86-88.

⁴⁵² Ibid., 4.

possibility for acting conscientiously (i.e., that which “makes ethics possible”). In short, with regard to their knowing good and evil, the NCE can be construed as humankind’s wide open eyes. Focusing our gaze, reflecting critically, and acting on what we see are the tasks of ethics.

NCE as self-evidently constitutive of human-being

To say that the NCE gives us ethical eyes predisposing us to see and resist suffering is both a metaphor and an inference based in intuition. While McAuliffe agrees with Schillebeeckx that the NCE is the concretely and universally human epicenter of ethics, she admits:

To say that the negative contrast experience captures the starting point and core and first imperative of ethics is, in part, to appeal to intuition. But intuition is based on experience. It involves an appeal to self-evidency but a self-evidency which [...] makes the best sense of our experience of history whose movement can be defined in terms of suffering and seeking salvation.⁴⁵³

As both self-evident and fundamentally human, the NCE is what McAuliffe calls an “anthropological constant.”⁴⁵⁴ This constitutive aspect of human existence and agency implies that, despite the presence of tendencies to the contrary, human persons tend to be ethical—resisting suffering and seeking wellbeing, often before conscious ethical deliberation.⁴⁵⁵

⁴⁵³ Ibid., 3.

⁴⁵⁴ Ibid., 9, 14; cf. 35 n.26, 83, 85.

⁴⁵⁵ Ibid., 14-15. A word of caution concerning the concept of anthropological constants is in order. An anthropological constant, such as the NCE, is a dynamic—not static—aspect of human personhood, emerging *in vivo*. Consequently, the concepts of the NCE, FME, and MD outlined here are not able or intended to yield a uniform or *a priori* vision of human wellbeing that meets the ethical demands of all persons embodied and embedded in diverse cultural contexts. What an anthropological constant does provide is a concrete, phenomenological principle of both continuity and diversity, which is able to render commensurable various modes and understandings of human-being and wellbeing. This commensurability makes possible accurate empathy, compassion, and mutual understanding among diverse persons and groups.

Listing Schillebeeckx's anthropological constants, McAuliffe begins with four phenomenological givens of human existence: "our relationship to our body and nature, to other humans, to social structures and institutions, and to our spatio-temporal context."⁴⁵⁶ The final three anthropological constants, which have specifically to do with the "contrast" aspect of the NCE, are that these first four "involve the interplay between theory and practice, a commitment to the basic goodness of life, and finally, the synthesis of all these."⁴⁵⁷

However, some individuals are unable to live out of these anthropological constants in a conscientious way, requiring assistance, accommodation, or perhaps even institutionalization in order that they and those around them can enjoy as positive an existence as possible. Some human beings experience psychosomatic impairments, which limit their ability to identify, combat, and/or cope with negativity without the ongoing advocacy and aid of others. Many more people struggle under cultural or socio-economic conditions which make it difficult or impossible to combat or perhaps even name the dehumanizing sociological and psychological dynamics in which they find themselves. For McAuliffe, because the NCE emerges through the socially interdependent context in which it functions, the experience of negativity ought to evoke sensitivity to the suffering of others and social solidarity in combating negativity with deliberation, diligence, and creativity.⁴⁵⁸

Viewed in this light, the universality of the NCE has to do not only with the "fundamental" part of McAuliffe's ethics, but also her "liberationist approach." If the

⁴⁵⁶ Ibid., 83; cf. Edward Schillebeeckx, *Christ: The Experience of Jesus as Lord*, translated by John Bowden (New York: Crossroad, 1981), 734-39.

⁴⁵⁷ McAuliffe, *Fundamental Ethics*, 83; cf. Schillebeeckx, *Christ*, 740-43.

⁴⁵⁸ For McAuliffe's argument of why people should value empathy, mutuality, and social solidarity, see *Fundamental Ethics*, 74-117.

NCE provides the motivation and possibility for the universal norm to alleviate suffering, it stands to reason that those who live “out of the negative contrast most acutely, [i.e.,] the poor, the oppressed, and those in solidarity with them,” ought to possess an epistemological privilege in ethical discourse and a primary place in moral consideration.⁴⁵⁹

Relating this principle to the concepts of the *image of God* and the *knowledge of good and evil*, mere subsistence is not conducive to evoking or sustaining the full creative potential of persons and their environments. People preoccupied with simply surviving or barred systemically from enriching forms of education, interaction, and amusement are limited in their capability and opportunity to hear and respond to their creator’s invitation to participate in co-creating the future. Impoverishment is an affront to the image of God and the God whose image we bear, because, as McAuliffe words it, “*The destitute are furthest removed from full humanity.*”⁴⁶⁰ Injustices of this kind are tantamount to creation through violence. Therefore, if *Homo sapiens* bear the image of a God who invites participation and does not create through violence, the image of God is a liberating image, and an ethic of the image is a liberating ethic. This is certainly the contention of biblical scholar J. Richard Middleton, whose anti-violent interpretation of the *image of God* supports the “ethic of interhuman relationships and ecological practice we are aiming for and that is rooted in the *imago Dei*, an ethic characterized fundamentally by power *with* rather than power over.”⁴⁶¹

⁴⁵⁹ Ibid., 8; cf. 13, 16.

⁴⁶⁰ Ibid., 57; italics original.

⁴⁶¹ J. Richard Middleton, *The Liberating Image: The Imago Dei in Genesis 1* (Grand Rapids: Brazos Press, 2005), 297.

NCE as pointing to its positive counterpart

Although negativity “reveals the way things ought to be by revealing how they ought not to be,” the conceptual content of positivity or salvation is not self-evident.⁴⁶² At the same time, those who experience negativity most deeply, have a keen, if intuitive, sense of what is most valuable.⁴⁶³ This sensitivity to what is valuable can spark insight into what is most normative. Creating an accurate portrait of both negativity and positivity requires critical reflection on the history of human experience and practice—a “hermeneutical circle” of combating suffering, reflecting upon those efforts, reconfiguring one’s approach, and combating suffering again.⁴⁶⁴

Yet, in this constant struggle against suffering, the negation of negativity cannot be the ultimate aim of ethics. The remaining void must be filled with something positive and concrete, because the NCE as a contrast experience presupposes an actual opposite to the experience of negativity. As McAuliffe puts it, while there is a self-evident “epistemological priority” of negativity, this experience “presupposes the ontological priority of positivity.”⁴⁶⁵ Giving concrete content to this positivity or salvation requires “innovativeness” and carries a natural affinity for religious visions of salvation, since eschatological visions of positivity negate *all* negativity.⁴⁶⁶

With its insistence that the creation is “good” and “very good,” Genesis 1 reflects a similar faith in what McAuliffe calls the ontological priority of positivity. This biblical passage also intimates the capability and necessity for human beings to be creative or

⁴⁶² McAuliffe, *Fundamental Ethics*, 4.

⁴⁶³ *Ibid.*, 18-19.

⁴⁶⁴ *Ibid.*, 29, 134, 177; cf. 201; cf. Gustavo Gutiérrez’s definition of theology as “critical reflection on Christian praxis in light of the Word of God” in *A Theology of Liberation* (Maryknoll, N.Y.: Orbis Books, 1973), 15.

⁴⁶⁵ *Ibid.*, 17.

⁴⁶⁶ *Ibid.*, 16, 17, 19-27.

innovative in facing the challenges associated with “filling” and “subduing” the earth. Beginning with the Garden Narrative, the remainder of the primeval history dramatizes some of the kinds of struggles human creatures can expect to face and/or cause—dangerous animals, arduous labor, physical pain, abuses of power, jealousy, violence, despair, confusion, and death. The biblical writers seem keen to preserve the primordial goodness of creator and creation, by implying that Yahweh Elohim is not the immediate source of these negative realities. As explicated in chapter 5, these hardships emerge from the shadow side of God’s “Let there be...,” from the open-endedness of the creation’s ability to sustain itself and the ambivalence of human freedom. Yet if the creator is not the immediate source of negativity, it would also seem that God is not the immediate object of human efforts to (co-)create positivity.

Like McAuliffe’s bottom-up approach to theological ethics, this reading of Genesis “in some fundamental ways, turns classical ethics upside down.”⁴⁶⁷ When viewed from the bottom-up, the image of God and the knowledge of good and evil are bioculturally emergent. They are wrought of the creation and embedded within it for the benefit of the creation, not the creator. As a consequence, re-presenting the beneficent intentions of a god who does not create through violence is a service rendered directly to the creation and ultimately (though *indirectly*) to the creator. Theological ethics add this top-down element of ultimacy to concepts like suffering, struggle, sin, and salvation, which emerge out of the NCE from the bottom-up.

Though not directly in dialogue with McAuliffe, theologian Marjorie Suchocki gives a similar, and perhaps more systematic, set of reasons for why and how the traditional definition for the theological category of negativity known as “sin” must be

⁴⁶⁷ Ibid., 3.

turned upside down. Suchocki redefines sin in terms of violence and in contradistinction to Augustinian-Niebuhrrian definitions. The more traditional conception characterizes sin as first and foremost a rebellion against God. By contrast, Suchocki contends that “violence is the destruction of well-being”⁴⁶⁸; “sin is the participation through intent or act in unnecessary violence that contributes to the ill-being of any aspect of earth or its inhabitants.”⁴⁶⁹ These definitions of sin in terms of violence and violence in terms of human and ecological ill-being blend well with this study’s second naïveté interpretation of the *image of God* and the *knowledge of good and evil*, especially in its reliance on Middleton’s anti-violent functional-royal reading of the *imago Dei* in Genesis.

By redefining sin in terms of the ill-being of creation and by eschewing the traditional definition of sin as rebellion against God or the divine will, Suchocki seems to propose an a-theistic definition of “sin.” Her justification for this redefinition correlates to the insight that the reasons for being moral are not immediately theological, because God is not the primary object of actions that lead to well- or ill-being. She lists four reasons why sin is first rebellion against creation and only derivatively against God.

First, one can account for the emergence of humanity’s “vertical” orientation to the infinite from within creation.⁴⁷⁰ Theologians in dialogue with current, non-reductive conceptions of evolutionary science endeavor to make plausible the idea that the ultimate condition of possibility for *Homo sapiens*’ ability to conceive of and communicate with the divine is the actuality of a creator God. At the same time, they must admit, as does interdisciplinary theologian J. Wentzel van Huyssteen, that human self-transcendence in

⁴⁶⁸ Marjorie Suchocki, *The Fall to Violence: Original Sin in Relational Theology* (New York: Continuum, 1994), 85.

⁴⁶⁹ Ibid., 12.

⁴⁷⁰ Ibid., 31.

the form of religious or theological consciousness is explicable on a natural-historical level.⁴⁷¹

Second, self-transcendence is also social in nature.⁴⁷² This “horizontal” self-transcendence includes three aspects: (1) Past—the emergence of the self through memory; (2) Present—the empathic recognition of others as other selves; and (3) Future—the creative imagining of what is ethically possible.⁴⁷³

Third, for Suchocki, the human person is accountable within creation.⁴⁷⁴ Similarly, according to McAuliffe, any concrete vision of the ontologically prior positivity calling humanity to moral action must integrate an awareness that human persons are intrinsically embodied and socially interdependent creatures. In most cases, what is best for the individual in the long-term is that which is best for others and their environment. Therefore, any viable vision of salvation to which we might hold one another accountable must emerge out of an anthropology of social solidarity designed to articulate and promote the wellbeing of all *Homo sapiens* and their earthly home.⁴⁷⁵

Fourth, therefore, violation of this accountability is first a violation against creation.⁴⁷⁶ However, to say that sin is *first* a violation against creation is not to say that it is *only* against creation. Self-consciousness, empathy, and future orientation are conditions of possibility for both ethics and religion. In non-pantheistic religion, where

⁴⁷¹ See J. Wentzel van Huyssteen, *Alone in the World?: Human Uniqueness in Science and Theology* (Grand Rapids: William B. Eerdmans, 2006), 205, 265-67.

⁴⁷² Suchocki, *The Fall to Violence*, 31.

⁴⁷³ Ibid., 36-42.

⁴⁷⁴ Ibid., 31.

⁴⁷⁵ See McAuliffe, *Fundamental Ethics*, ch. 3, “A Liberation Ethic is an Ethic of Social Solidarity,” 74-117.

⁴⁷⁶ Suchocki, *The Fall to Violence*, 31, 43.

deity is immanent to but ontologically distinct from the creation, (incarnation notwithstanding) God can only be a mediate or derivative object of moral action.⁴⁷⁷

Therefore, even as an anthropological concept, “sin” is already a theological category in Suchocki’s case, because her argument constitutes a hermeneutical circle. For Suchocki, an anthropologically-based fundamental ethics presupposes a radical distinction between creator and creation, which in turn allows religion and theology to exert a transformative influence on such an ethic. The emergence in natural history of human moral and religious consciousness allows human beings to recognize what they perceive to be the divine revelation of qualitatively unique visions of wellbeing which exceed the immanent capacities of biology and culture. Suchocki, McAuliffe, and I share a belief that because ethical responsibility emerges within a context that “exceeds the practical ability of any one person, or any one human system” to remedy, moral awareness has a natural affinity for religious visions of salvation.⁴⁷⁸

I propose that a bottom-up, emergentist understanding of the image of God and the knowledge of good and evil is a fruitful framework for re-theologizing and re-mythologizing the concepts of *sin* and *salvation*. As I have constructed it, a biocultural conception of Christian anthropology satisfies and extends Suchocki’s theses that the “vertical” and “horizontal” aspects of human-being emerge through natural process, that

⁴⁷⁷ Through a species of process thought Suchocki calls “relational theology,” she describes a state of affairs in which divinity is intrinsically and intimately related to the ongoing process of creation (*The Fall to Violence*, 48 n.1, 54). The cosmos itself has been created with the capacity to emerge into novel modes of complexity, including self- and God-consciousness (56, 88). The emergence of these modes of consciousness allows and calls for the belief that God is a primary and ongoing creative influence; and “if God exercises a creative influence on the earth’s own creative responses to existence, then we must posit that God did indeed lure the earth toward the emergence of our own species” (61). Concerning human-being and being in general, “We presume that the influence of God is toward interrelated communities of well-being” (60). From Suchocki’s perspective, this presumption and the notion that God is affected by the ill-being of creation is ratified and revealed in the life, death, and resurrection of Jesus Christ (49, 64).

⁴⁷⁸ Suchocki, *The Fall to Violence*, 76.

the conscientious response-ability or condition of freedom enabled by humankind's self-transcendence make us accountable within the creation, and that sinful acts are therefore a violation of the creation and the vocation of human beings to bear the image of a creator who invites participation, shares power, and does not wield it violently.

"Religion has an ethical foundation, but ethics cries out for religion"—Patricia McAuliffe

McAuliffe admits, along with Schillebeeckx, that the non-theist is able to give a valid, concrete vision of the positive sphere of moral action, with the caveat that human efforts can never overcome negativity completely.⁴⁷⁹ *Homo sapiens* will always lack the capacity to eradicate the inevitability of experiencing and causing harm. Only a religious vision can give an account of ultimate or eschatological salvation, which preserves humanity's moral accomplishments and compensates for its missteps.⁴⁸⁰ For example, McAuliffe lists the contrast between Jesus' Abba experience and his rejection and crucifixion, the NCE of disciples from Good Friday to Easter, and the NCE of the already-but-not-yet character of the Kingdom of God as offering concrete content to a Christian vision of negativity and salvation.⁴⁸¹ While all these instances of the NCE are recorded in the New Testament canon, the background concepts that give content to Christian visions of salvation in the first century are vastly different from those of the 21st century, as are the historical-cultural contexts in which these concepts emerge and influence action. With all due respect for (and appeal to) the organic continuity of the first Christian communities and the churches of today, the hermeneutical pursuit of living

⁴⁷⁹ McAuliffe, *Fundamental Ethics*, 16, 20, 195-96.

⁴⁸⁰ Ibid., 19-27; 118-67.

⁴⁸¹ Ibid., 169-71, 200-01.

out of these Biblical symbols in the present and future requires as much discernment, imagination, creativity, and faithfulness now as it did then.⁴⁸²

Because McAuliffe describes the NCE as an anthropological constant able to account for the human ability and tendency to make and abide by valid moral distinction and sanctions prior to any religious considerations, she characterizes the relationship of religion or theology to ethics as one of “nonreciprocal dependence.”⁴⁸³ Religion needs ethics, but ethics does not need religion, even if ethics does tend toward a religious view of ultimate salvation.

As conditioned but creative, free, and responsible agents, human persons are able to judge which religions and which aspects of those religions best fit their NCE by the ways in which each tradition describes and promotes the fullest possible flourishing of persons and their world. Orthodoxy unable to fulfill this task fails the moral outcome criterion for truthfulness—a hermeneutical principle McAuliffe gleans from the Jesus of the Gospels in his insistence that “the Sabbath was made for humans, not humans for the Sabbath.”⁴⁸⁴ Jesus’ revelatory mission and identity are not self-evident. They become apparent to those able to latch onto his theological ethic beholden to human flourishing, in contrast to a vision of human flourishing beholden to a pre-established and inflexible theological ethic.⁴⁸⁵ According to McAuliffe, as a human revelation of the divine, Jesus’ unwitting response to Plato’s famous *Euthyphro* dilemma is that the viability of religiously-based norms is a function of their ability to produce good. Orthopraxy (right

⁴⁸² Ibid., 201.

⁴⁸³ Ibid., 168.

⁴⁸⁴ Mark 2:27, in *ibid.*, 120.

⁴⁸⁵ See McAuliffe, *Fundamental Ethics*, 194.

practice) is a criterion for orthodoxy (right belief). The hermeneutical circle out of which theological ethics emerge demands creative and critical reflection on belief and practice.

Given the spirit of shared responsibility surrounding the biblically-based concepts of bearing the image of God and Christ in and to the creation, McAuliffe argues reasonably that humankind's biocultural *and eschatological* futures are affected by human efforts to plumb the depths of our creative capacities in pursuit of humanizing moral visions. In language echoing that of theologian Philip Hefner's theological theory of the created co-creator, she concludes, "Humans are seen as utterly valuable because of the kind of being they are, because of the kinds of things they can and sometimes do. Humans are also seen as valuable because they are co-creators with God of a better world, and because they help to shape the eschaton."⁴⁸⁶ This belief is distilled in the familiar supplication, "God's will be done, on earth as in heaven."

Foundational moral experience (FME), knowing good and evil, and imaging God

"God saw all that [God] had made, and behold, it was very good" (Gen. 1:31a). "Then the Lord God said, 'Behold, the [hu]man has become like one of Us, knowing good and evil'" (Gen. 3:22a). As a prelude to the Garden Narrative, the repeated message to those charged with the challenge to "fill," "subdue," and "rule over" the creation is that the world is "good," that it takes bright light to cast dark shadows. The shadows are where the light is not, where it has been obscured or blocked from view. Evolutionarily speaking, the emergence of vision presupposes the presence of light. Having eyes open wide to a cognitively fluid knowledge of "bad" presupposes sensitization to the "good."

⁴⁸⁶ Ibid., 195

The FME is the background experience of “knowing good” implicit in every instance of “knowing evil.”

FME as impetus and condition of possibility for ethics

As Daniel Maguire defines the FME:

The foundational moral experience is the experience of the value of persons and their earthly home in this universe. This profound value-experience is the distinctively human and humanizing experience that marks us as human. It is the primordial “Wow!” from which all moral theory and all healthy law, politics, and religion derive. This experience is the seed of civilization, the root of culture, and the badge of unique human consciousness.⁴⁸⁷

Ethics is nothing other than the critical application of the FME to concrete reality. The reason for being moral is that human beings have a spontaneous sense of the intrinsic and inestimable value of life, the world upon which it depends, and through which it has come into being.

Christian ethicist James Gustafson and expert on religion and ecology Mary Evelyn Tucker also appeal to something like Maguire’s FME when evoking anthropologist Melvin Konner’s concept of the human “sense of wonder.”⁴⁸⁸ For the purposes of this study, I equate the concepts of the *FME* and *sense of wonder*. Imagining the dawn of human wonder, Konner surmises that for one animal,

perhaps ten million years ago, in the earliest infancy of the human spirit, something in the natural world must have evoked a response like this one—a waterfall, mountain vista, a sunset, the crater of a volcano, the edge of the sea—something that stopped it in its tracks and made it watch, and move, and watch, and move, and watch again; something that made it return to the spot, though nothing gainful could take place there, no feeding, drinking, reproducing, sleeping, fighting, fleeing, nothing *animal*.

⁴⁸⁷ Daniel Maguire, *Ethics*, 31; cf. Maguire and Fagnoli, *On Moral Grounds*, 9.

⁴⁸⁸ James Gustafson, *Intersections: Science, Theology, and Ethics* (Cleveland: Pilgrim Press, 1996), 19, 27, 29; Mary Evelyn Tucker, *Worldly Wonder: Religions Enter Their Ecological Phase* (Chicago: Open Court, 2003), 52-54.

In just such a response, in just such a moment, in just such an animal, we may, I think, be permitted to guess, occurred the dawn of awe, of sacred attentiveness, of wonder.⁴⁸⁹

Seeming to echo Maguire's definition of the FME, Gustafson quotes Konner in describing the sense of wonder as the "hallmark of our species" and the "central feature of the human spirit."⁴⁹⁰ As uniquely human, this sense of wonder constitutes the reason for being morally responsible and indicates the capacity to act upon this response-ability. At the same time, Maguire and Gustafson hold that the FME/sense of wonder is nascent in two senses of the word—it is both inborn and requires nurturing, development, and maturation. Human beings must work to enhance the FME if it is to be not only human but humanizing, as well.⁴⁹¹

Konner anticipates these ethicists' concerns, wondering in the face of what he has called "biological constraints on the human spirit"—rage, fear, lust, gluttony—whether human beings can maintain and augment a sense of wonder through the positive indicators of our common humanity—joy, love, and yes, even grief.⁴⁹² Each of these biologically-borne constraints on the human spirit evolved as adaptive responses to specific selection pressures in *Homo sapiens*' environment of evolutionary adaptedness (EEA). However, as evolutionary biologist Francisco Ayala, cognitive linguists Gilles Fauconnier and Mark Turner, and theologians like Hefner and van Huyssteen have all theorized, *Homo sapiens* reached a symbolic threshold, a degree of blending capacity or cognitive fluidity from which precipitated cultural singularities like ethics and religion,

⁴⁸⁹ Melvin Konner, *The Tangled Wing: Biological Constraints on the Human Spirit* (New York: Harper Colophon, 1983), 432.

⁴⁹⁰ Gustafson, *Intersections*, 19; cf. Konner, *The Tangled Wing*, 435.

⁴⁹¹ Maguire, *Ethics*, 30; Gustafson, *Intersections*, 19.

⁴⁹² Melvin Konner, *The Tangled Wing*, 405-36.

which have afforded the human spirit a condition of freedom—a supervening influence on its less desirable proclivities. In hope against hope, Konner

would paraphrase it this way: Human beings are irrevocably, biologically endowed with strong inclinations to feel and act in a manner that their own good judgment tells them to reprehend—that is, if they are in the least capable of sympathy with the suffering of other human creatures, or if they have any sense of the joy and order and beauty of life. The judgment, the sympathy, the sense of joy and order and beauty—all these evolved for other purposes than to save the human species from a protracted, dissolute destruction. Yet there they are. Can we not turn them now to this latter purpose?⁴⁹³

And just as importantly, how might we do so? I strongly suggest that a second naïveté reappropriation of the *imago Dei* concept may offer a fruitful framework for serving “this latter purpose,” because an ethic of the image emerges out of the conviction that human creatures have been (co-)created and called to display a sacred attentiveness—a sense of wonder—reflecting that of the creator. A contemporized ethic of the image yields the principle that human beings bear a response-ability to “see” and “serve” the very-good-ness of the world which has evolved to include and environ human creativity.

FME as self-evidently constitutive of human-being

Mirroring McAuliffe’s description the NCE, Maguire and Gustafson concede that the FME or sense of wonder is not empirically demonstrable or provable, but that it can be “illustrated.”⁴⁹⁴ Maguire holds that “the supreme sacrifice” of dying for the sake of another’s wellbeing often garners widespread approval and admiration. The evolutionary

⁴⁹³ Ibid., 427.

⁴⁹⁴ Maguire, *Ethics*, 31; Gustafson, *Intersections*, 29.

paradox of such altruism may offer a radical illustration of the FME and its pride of place in fundamental ethics.⁴⁹⁵

Similarly, Gustafson acknowledges that the human sense of wonder cannot be observed or proven directly through empirical methods. Yet he maintains that its universality can be established “heuristically” through the anecdotal “data” of narrated human “experience.”⁴⁹⁶ On the one hand, Gustafson admits that the sense of wonder is “something of human experience which, [he thinks, Konner] has not fully backed by the same kind of data he uses in his examination of rage, lust, love, etc.”⁴⁹⁷ On the other hand, Gustafson provides two criteria of truthfulness which seem to make a strong case for Konner’s concept: (1) explanatory power and (2) moral outcome.⁴⁹⁸ A hermeneutic of wonder is able to shed light on the course of human history and prehistory and may also help to adjudicate what counts as a positive moral outcome.

As in McAuliffe’s “liberationist approach,” Gustafson and Maguire’s approaches to ethical discourse constitute a hermeneutical circle. Wonderment begets and/or discloses value for its object; value drives action; and action begs for contextualization—i.e., critical reflection on historical praxis. Ideally, this hermeneutical exercise sensitizes and orientates the FME in ways that guide ethical discourse toward greater explanatory power and positive moral outcomes, especially in the eyes of those with reasonable claims of epistemological privilege. In other words, in terms of consistency, coherence, and comprehensiveness, the outcome sought from this hermeneutical circle is moral truth, ripe for translation into norms to which we might hold one another accountable.

⁴⁹⁵ Maguire and Fagnoli, *On Moral Grounds*, 11-13; Maguire, *Ethics*, 31-32.

⁴⁹⁶ Gustafson, *Intersections*, 28.

⁴⁹⁷ Ibid., 29.

⁴⁹⁸ Ibid., 28, 29.

FME as pointing to its negative counterpart

When piqued, the FME intimates what kinds of experiences, actions, and consequences are most humanizing. However, the FME needs to be developed and enhanced because the human sense of wonder is so often scandalized, and it is conditioned by biological constraints and historical-cultural situatedness. Turns of events and human actions do not always promote the wellbeing or wholesomeness of persons and their environment. And yet, human beings are not automatically aware of or sensitive to what is valuable or the most humanizing means of seeking wellbeing. In theological terms, there are no such things as a life that does not bring some “bad” along with the “good” or an *impeccable* knowledge of good and evil. This ambivalence necessitates ethics.

Given this state of affairs, I find good reason to equate the scandalization of the FME with the NCE. Relating these two concepts in this way shows their complementarity. McAuliffe has described well this complementarity in terms of the epistemological priority of negativity as a contrast experience vis-à-vis the ontological priority of positivity.

The complementarity of the FME and NCE is also apparent in an number of literary contexts. Illustrating the importance of heuristic data for establishing the truthfulness of the sense of wonder, Gustafson mentions that that Konner, aside from his scientific skills, is adept at synthesizing this body of knowledge with literary analysis.⁴⁹⁹ Womanist ethicist Stacey M. Floyd-Thomas also incorporates literary analysis into her systematic discussion of methods in womanist ethics.⁵⁰⁰ What literary analysis provides

⁴⁹⁹ Ibid., 17, 24.

⁵⁰⁰ Stacey M. Floyd-Thomas, *Mining the Motherlode: Methods in Womanist Ethics* (Cleveland, Pilgrim Press, 2006), 15-64; cf. 113-153.

for these scholars is character development—both in the sense of the fictional character mediated through narrative and the moral character of the reader. The exploits of literary heroines and heroes display and elicit an affinity for admirable values and personal qualities. However, this sympathetic piquing of the FME is always accomplished against the backdrop of adversity—the NCE. According to Floyd-Thomas, in womanist ethics and the Black women’s literary tradition, negativity most often arises as a collusion of race, gender, and class discrimination. Because the authors of these narratives have firsthand experience of these dehumanizing forms of negativity, they have a reasonable claim of epistemological privilege for identifying them and constructing strategies of resistance.

These heuristic examples demonstrate that it is not only the FME, but also the scandalization of it (i.e., the NCE), that make ethics possible and necessary. As Gustafson observes, there are moral dimensions of nearly all human experience.⁵⁰¹ Human beings are involved, willy-nilly, in a values-laden matrix of social and ecological interaction and interdependence. When experience does not coincide with values, the cognitive dissonance calls for a response. Analyzing and evaluating this response, whether before or after the fact, is ethics.

This description of the human condition begs the question of precisely how theological concepts frame the moral matrix of human experience and action. What do the concepts of the *image of God* and the *knowledge of good and evil* add to ethics that cannot be gotten by other means? In Gustafson’s terms, exactly how “can ethics be Christian?”⁵⁰²

⁵⁰¹ Gustafson, *Can Ethics be Christian?* (Chicago: University of Chicago Press, 1975), 1-24.

⁵⁰² I feel compelled to note some potential clashes between the ways in which McAuliffe and Gustafson characterize the relationship between ethics and religion. McAuliffe is concerned that Gustafson’s understanding of the hermeneutical circle through which theological understanding guides moral action from the top-down does not leave enough room for critical reflection from the bottom-up. As a result, she argues, Gustafson lacks the tools to assign epistemological privilege to any perspective other than that of an idealized, non-partisan deity. While space prohibits me from investigating McAuliffe’s accusations or

FME at the “intersections” of science, theology, and ethics

Maguire constructs a procedural model for engaging in ethical discourse. His “wheel model” centers on the four interpretive and evaluative “hub” questions of (1) “What?”; (2) “Why?-How?-Who?-When?-Where?”; (3) “Foreseeable effects?”; and (4) “Viable alternatives?”⁵⁰³ Informing responses to these questions are the “spokes” of “affectivity,” “creative imagination,” moral “principles,” sources cited for their “authority,” “reason” and “analysis,” “individual experience,” “group experience,” “comedy,” and “tragedy.” These sources all inform the moral choices and characters of individuals and communities.

For Maguire the “spokes” informing one’s responses to the “hub” questions of the wheel model may be religious or not. The FME, as an intuitive experience of what is valuable or sacred, “is also the foundational religious experience,” but it need not be developed in a theistic way in order to generate valid moral insights.⁵⁰⁴ Similarly, Gustafson acknowledges that natural piety does not always entail or lead to religious piety.⁵⁰⁵ Yet, like McAuliffe, Maguire and Gustafson both find advantages (as well as

Gustafson’s rebuttal, I mention these potential difficulties in order to point out that despite McAuliffe’s concerns, Gustafson’s hermeneutical principle of understanding religious piety as a derivative species of a natural sense of piety (i.e., sense of wonder/FME/ontological priority of positivity) points to a more general compatibility between the procedural practices of these two ethicists. Both insist that moral commitments give shape to religious understanding, and vice versa. See McAuliffe, *Fundamental Ethics*, 173-77.

⁵⁰³ Maguire and Fargnoli, *On Moral Grounds*, 41-47; Maguire, *Ethics*, 79-92. Much in the same way that Maguire’s applies his hub questions, Gustafson lists the kinds of questions ethics seeks to answer, and then poses these questions to sources of moral insight, such as Scripture. These questions, which he adapts from William Schweiker, are: (1) “what’s going on?” (interpretive); (2) “what is the norm for how to live?” (practical); (3) “what are we to be and do?” (meta-ethical); (4) “what does it mean to be an agent?” (fundamental); and (5) “how do we justify moral claims?” (normative). See James Gustafson, “The Use of Scripture in Christian Ethics,” in *Moral Discernment in the Christian Life: Essays in Theological Ethics*, edited and with introduction by Theo A. Boer and Paul E. Capetz (Louisville; London: Westminster John Knox Press, 2007), 198-199, 211.

⁵⁰⁴ Maguire, *Ethics*, 30-31.

⁵⁰⁵ See James Gustafson, *Ethics from a Theocentric Perspective*, Volume 1: *Theology and Ethics* (Chicago: University of Chicago Press, 1981), 201-04; cf. *Intersections*, 26-34.

some potential pitfalls) in looking to religion for a trans-historical vision of the fulfillment of the FME and its dynamism, because only a theological vision of salvation can offer eschatological faith and hope for the final negation of all negativity and the fulfillment of all flourishing. Gustafson lists some of the specific images and symbols biblical Christian faith offers as reasons for being moral.⁵⁰⁶ These motivators include the experience of God as creator, redeemer, revealer, merciful lover, shepherd, master, exemplar to be imitated, eternal, father, and ground of hope.⁵⁰⁷ Translating these religious symbols into moral motivators, Gustafson observes that piety toward this God can garner “a sense of dependence,” “a sense of gratitude,” “a sense of repentance,” “a sense of obligation,” “a sense of possibilities,” and “a sense of direction.”⁵⁰⁸

The myth-symbols of the *image of God* and the *knowledge of good and evil* are able to prompt all of these (and/or other) theocentric expressions of a sense of wonder/FME. In this vein, and without yet paying due attention to a Christological-eschatological account of the image of God, I have already suggested that bearing the image of God with a knowledge of good and evil confers a sense of vocation to co-create cooperatively a biocultural and ecological future reflecting the beneficent intentions of a creator God who shares power with created entities and does create through violence. Fulfilling this call requires (pre)serving and extending the creative potential human beings and the natural world, that in doing so we might amplify and echo the creator’s “Let there be...” and “Let us make...” in order that we and future generations might look on the human and nonhuman world and utter, “Behold, it is very good.” Working out the

⁵⁰⁶ Gustafson, *Can Ethics Be Christian?*, 86-116.

⁵⁰⁷ Ibid., 89, 114-16

⁵⁰⁸ Ibid., 94-99, 100-03, 103-06, 106-09, 110-12, 112-14.

specifics of this job description in a particularly Christian manner takes critical reflection on human experience, action, and understanding.

In orthodox varieties of Christian discourse, this hermeneutical practice must involve critical reflection on the human experiences and actions of God through Jesus Christ, as depicted in the New Testament and the church's theological tradition. Looking to the human revelation of God for insight into what is humanizing helps give shape to a human ethic with an eschatological horizon of wellbeing or salvation. This is not to say that a Christian-human ethic and an a-theistic-humanist ethic will not ultimately be commensurable on the bases of explanatory power and moral outcome. Indeed, they ought to be.⁵⁰⁹ It is to say, however, that an eschatological view of history, such as in Christianity, enables the emergence of an ethic that is qualitatively unique in its

⁵⁰⁹ Concerning the commensurability of theological and a-theological ethics, Maguire holds that the first step of critical reflection prompted by the FME-NCE is to ask the "What?" question, or as Gustafson words it, "What is going on?" (*Intersections*, 87). As suggested by the numerous sources represented in the "spokes" of Maguire's wheel model, one of the first and most important ethical decisions is choosing how to approach this and other preliminary questions. Extending Maguire's metaphor, the more and better spokes a wheel has, the stronger and more balanced it is likely to be. A good wheel is also versatile, useful for any number of situations and persons. Moreover, like two wheels on an axle, a good theological ethic should not be out of alignment with equally valid secular visions of morality; they ought to roll in the same basic direction.

For instance, Gustafson compares and contrasts a theologian—Reinhold Niebuhr—and an anthropologist—Melvin Konner—to show how two people from very different disciplinary perspectives, beginning with very different kinds of sources, end up giving very similar accounts of the human condition and the possibility and necessity of moral freedom and responsibility, because both ultimately draw from many and varied sources. Gustafson distills the difference in perspective between these two scholars into a comment about the relative directionality of their thinking. By reinserting biblical and early modern theological concepts into anthropological and ethical discourse, Niebuhr acts as a top-down thinker. In describing the human person as a dialectical unity of spirit and nature, freedom and finiteness, transcendence and immanence, Niebuhr emphasizes humanity's free spiritual self-transcendence as its primary or essential aspect (*Intersections*, 22). By beginning the anthropological and ethical discussion with biology, Konner acts as a bottom-up thinker. In describing the human person as a biological creature who has evolved with a unique sense of wonder, indicating a spiritual nature, Konner emphasizes human biology and the behavioral force it exerts as humanity's primary or essential aspect (27). Despite the differences between these two thinkers, Gustafson maintains that their (meta-)ethical concerns and conclusions are similar and that the evaluative criteria for both the religious and the biological perspectives are the same. Both are judged according to their explanatory power and their moral outcomes. He argues convincingly through this comparison of Niebuhr and Konner that the findings of many disciplines and perspectives—religious and secular—can be commensurable, even complementary in their pursuits of explanatory power and positive moral outcomes.

accountability to a co-created, trans-historical future in which all negativity really does become negated.

At the same time, when attempting to understand what kind of creatures human beings are and ought to be, religious scholars and people of faith often need outside help. On their own, natural scientists can no more propose or preclude an eschatological vision of salvation than theologians can analyze the influence of biology on behavior. Nonetheless, scientific descriptions of reality may have a revisionary bearing on certain doctrinal formulations, theological anthropology, and theological ethics, especially where contemporary science provides greater explanatory power than traditional doctrinal formulae and the conceptual frameworks in which they operate.⁵¹⁰

On the flipside, the natural sciences sometimes need outside help when brushing up against the limits of their own expertise. A classic case is that of altruistic behavior, especially in cases involving what Maguire has called “the ultimate sacrifice.” In biological terms, trans-kin altruism involves risking or reducing one’s likelihood of survival and/or reproduction in order to enhance these opportunities for a genetic competitor. And in evolutionary terms, this type of behavior is a surd for a species like *Homo sapiens*. Many evolutionary psychologists argue persuasively that there are likely selection pressures for cooperative and generous behaviors among non-kin. However, even some of the most altruistic-looking behaviors studied presuppose an expectation of immediate or future reciprocity, a campaign of reputation building, and/or a social system

⁵¹⁰ In the final pages of *Intersections* (126-47), Gustafson lists several ways in which ethicists have traversed the “intersections” between science, theology, and ethics, remarking on the relative merits of each. He concludes that while science, theology, and ethics ought to maintain their relative autonomy as academic disciplines, aspects of each are pertinent to the other two. Where there are overlapping concerns, these disciplines ought to be in dialogue, and each ought to maintain a relative level of control and authority in its own area of expertise. As a crucial aspect of this dialogue, all participants must acknowledge the intrinsic limits of their own disciplines.

of policing against freeloading and other forms of cheating.⁵¹¹ These scientists acknowledge that Darwinian “values” cannot fully account for human ethics, particularly where behaviors that may not result in any benefit for the actor come to be regarded as good or even exemplary.⁵¹² Producing constraints on human behavior not reducible to their genetic bases, cultural values supervene upon Darwinian dynamics. Explaining how *Homo sapiens* became culturally-constituted creatures, the natural sciences can help us understand how it has become possible for human beings to behave unselfishly, but not why it might be “good” to do so, or “evil” to behave otherwise. This knowledge of good and evil emerges from the cultural pole of our biocultural nature. Writing about the ambivalent nature of aggression, evolutionary psychologist Anne Campbell concludes:

Cultural learning is more than acquiring new behaviors as it is in other primates. The human abilities to assume an intentional stance, form symbolic mental representations, and communicate by language allow us to transmit values about behaviors, modify these evaluations as a function of context, entertain multiple interpretations of the same event, and even dispute the legitimacy of these various representations.⁵¹³

Likewise, to repeat Hefner, God’s image is borne through “the character of *Homo sapiens* as free creator of meanings, one who takes actions based on those meanings and is also responsible for those meanings and actions.”⁵¹⁴ Human meanings and actions transcend their immediate contexts when set against a theistic backdrop. Theological and eschatological motivations for behavior can create new horizons for the moral imagination and any actions emerging from it. For example, Hefner argues convincingly

⁵¹¹ See Eugene Burnstein, “Altruism and Genetic Relatedness,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 544-48; Dennis Krebs, “The Evolution of Morality,” in *ibid.*, 747-68.

⁵¹² See Anne Campbell, “Aggression,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 645-46; Krebs, “The Evolution of Morality,” 765-68.

⁵¹³ Campbell, “Aggression,” 646.”

⁵¹⁴ Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis: Fortress Press, 1993), 239.

“that altruism beyond kin is transmitted culturally, not genetically, and that religious traditions are the chief carriers of this value.”⁵¹⁵

I have argued along with Hefner that theological accounts “of *what is*, of *how things really are*”—including second naïveté reappropriations of key myth-symbols—open up novel vistas for human values that can promote humanizing behavior.⁵¹⁶

Specifically, this hermeneutical dynamic lends credibility to the love command—the biblical imperative to love selflessly one’s neighbor and enemy out of a love for God rooted in that God’s love (*agape*, *charitas*) for humankind revealed in Jesus of Nazareth. According to Hefner, despite any and all counter-indicators to what McAuliffe would call the ontological priority of positivity,

This background conviction is powerful affirmation that our moral action of love for God and neighbor is our way of living in harmony with the way things really are. The total [myth-ritual-praxis] complex—the love of God for us and our love for God and for the neighbor—puts in place the all-encompassing symbolic universe that drives the Christian tradition. It establishes that the fullness of the Christian proposal functions unmistakably as myth is supposed to function.⁵¹⁷

The concept that *Homo sapiens* bear the image and likeness of God/Christ with a knowledge of good and evil is a key gravitational force in this symbolic universe, able to steer the trajectory of human self-understanding and the actions it motivates and justifies. In Maguire’s wheel model of ethical discourse, this conceptual framework provides content for the “spokes” informing human responses to the “hub” questions raised by the foundational moral experience of having our eyes open to the “good” *and* the “bad.” Through interpretation, these myth symbols retain and renew their ability to shape the creative imagination, analytical reason, ethical principles, human affections, individual

⁵¹⁵ Ibid., 192; cf. 195-210.

⁵¹⁶ See *ibid.*, 185-87, 203-05.

⁵¹⁷ Ibid., 191; cf. 146-47, 156, 161, 175, 185, 196.

and corporate experience, loci of moral authority, and our senses of tragedy and comedy. Whether implied or expressed, Gustafson and Hefner's Ricoeurian wager is that Christian conceptions of *what really is*, when applied to something like Maguire's wheel model, may be especially morally fruitful in terms of their explanatory power and positive moral outcomes.⁵¹⁸ Or, as Hefner phrases it, through interpretation, the perennial myth-symbols of Christianity may gain renewed ability "to provide genuine knowledge of reality, for the sake of our wholesome living."⁵¹⁹

Because bearing the image of God has come to be understood as something modeled first in God's beneficent creativity and self-giving love, the concept of *mimesis* is an important analytical tool for understanding how the desire to help create a very good world can take root and bear fruit.

Mimetic desire (MD), knowing good and evil, and imaging God

Mimesis, a Greek term meaning "imitation," has come to bear great anthropological, meta-ethical, and exegetical significance. Catholic structural anthropologist René Girard is renowned for his analyses of the interconnections among mimesis, desire, conflict, violence, ritual, and religious myth. Social and natural scientists today have built upon this legacy, exploring the neuro-cognitive roots of mimesis and their vital roles in human development, behavior, learning, creativity, and even moral motivators like empathy. Unearthing many of the pillars of ancient Near Eastern, Middleton locates conflicting notions of mimesis at the heart of what it means to bear the image of God in both Mesopotamian and biblical ideologies. Taken together, these scholarly developments in various disciplines disclose how mimesis propels the NCE-

⁵¹⁸ See Gustafson, *Intersections*, 29, 102-03

⁵¹⁹ Hefner, *The Human Factor*, 142.

FME as a condition of possibility for ethics, which is both emblematic of humankind's ambivalent condition of freedom and able to be directed toward potentially humanizing ends through theological (re)appropriation. As an anthropological concept framing Christian understandings of why and how to be moral, the *imago Dei* must be understood as the *imitatio Dei* and *imitatio Christi*.

MD as impetus and condition of possibility for ethics

Mimetic desire can be described as the coin of which the NCE and FME are the two sides. The FME and NCE are able to account for the conditions of possibility required to pursue and remain accountable to culturally defined conceptions of wellbeing and ill-being—of good and evil. However, these concepts do little to explain why most people experience a profound sense of scandal at the suffering of another person or sentient being, why the negative experiences of non-kin and even non-humans would evoke empathy or sympathy or compassion, why so many are blessed and cursed with a nagging desire to love their neighbors as themselves. The concept of mimetic desire may help to explain the “I feel your pain” aspect of human-being that drives the FME-NCE in other-seeking directions.

Like negativity and a sense of wonder, desire indicates the perception of value by revealing those individuals perceived to be model persons, whether because of their comforts, character, appearance, possessions, power, privileges, knowledge, abilities, or relationships. The human ability and drive to imitate or mimic (and attempt to become) a model is what Girard calls “mimetic desire”—a desire “directed toward an object desired

by the model.”⁵²⁰ Girard holds that, as uniquely human, MD generates the possibility for adaptability and creativity that extends far beyond the behavioral potential presented by instinct and learning to other animal species.⁵²¹ Wanting to be like another who portrays or possesses a perceived good, and the ability to become like that person, are necessary motivations and conditions of possibility for being moral. As Girard observes, “Without mimetic desire there would be neither freedom nor humanity. Mimetic desire is intrinsically good.”⁵²² At the same time, MD is ethically ambivalent. Mimesis makes possible both technology and torture, cooperation and conflict, empathy and envy, compassion and covetousness, good and evil.

Analyzing the psychological and sociological underpinnings of archaic religion, Girard argues that MD made it possible and seemingly necessary to sacrifice or otherwise scapegoat human beings in order to sublimate the violence brought about by the conflicts incited by MD in a limited goods society. Turning to biblical literature, Girard argues persuasively that mimetic desire prompted Cain to kill his brother Abel, Joseph’s brothers to sell him into slavery, and the religious and political elite to crucify Jesus of Nazareth. Conversely, mimetic desire also allows and propels people of faith to be imitators, followers, disciples of Christ and models of God-imaging intentions and actions.

MD as self-evidently constitutive of human-being

In one historical or literary example after another, Girard exposes a disturbing human tendency to fall into a mimetic cycle of violence, which then makes its way into

⁵²⁰ René Girard, *Violence and the Sacred*, translated by Patrick Gregory (New York: Continuum, 2005), 155; cf. *Things Hidden Since the Foundation of the World*, translated by Stephen Bann and Michael Metteer (Stanford, Cal.: Stanford University Press, 1987), 283-98.

⁵²¹ René Girard, *I See Satan Fall Like Lightning*, translated with foreword by James G. Williams (Maryknoll: Orbis Books, 2001), 15-16, 90, 94; cf. x-xi.

⁵²² Ibid., 15.

religious myth and ritual.⁵²³ This mythic cycle of violence can be characterized as a sacrificial version of what Hefner describes with more optimism as the myth-ritual-praxis complex.⁵²⁴ Girard, however, focuses on human praxis that has yielded very different—though not unrelated—kinds of myth and ritual than the Judeo-Christian varieties on which Hefner focuses. According to Girard, sacrificial rites and the mythologies subserving them begin in the desire to have what a model has, to act as a model acts, and thus to *be* as a model *is*. Where the desired object or role is exclusive or privative, desire breeds rivalry, rivalry breeds conflict, conflict breeds violence, violence breeds more and more and more violence, until society verges on collapse.

The stopgap to this cycle is to find a surrogate victim for mimetic violence—a scapegoat or sacrifice—that satisfies vicariously, if temporarily, the perceived need to oust one's rivals. The pacifying effects of the sacrifice or lynching or witch hunt produces a lull in civil unrest, which becomes attributed to supernatural agency. Demonized in life, the victim is divinized in death, and a myth emerges to absolve the victimizers and explain the seemingly miraculous reinstatement of social order. To curb future violence, mythology gives rise to highly regulated rituals involving surrogate-surrogate victims—often animals—as substitutes for the human victims of more spontaneous forms of mimetic rivalry. As an added safeguard, caste-specific mores, norms, and taboos are set in place in an attempt to confine desire within socially acceptable parameters. As one might expect, the licit ambit of desire is much broader for

⁵²³ See René Girard, *Deceit, Desire, and the Novel: Self and Other in Literary Structure*, translated by Yvonne Freccero (Baltimore: Johns Hopkins University Press, 1965); *Things Hidden; Violence and the Sacred; I See Satan*.

⁵²⁴ Hefner, *The Human Factor*, 147, 156, 167, 172, 202, 205-06, 209, 224-25, 227, 243, 252.

social elites than others—a social stratification reinforced through mythology. However, if MD is constitutively human, then the powerful can only police it, not eliminate it.

Furthermore, if MD is constitutively human, then Girard's heuristic evidence and antiquarian analyses may suggest contemporary applications. As constitutively human, MD may function in a similar way to what Schillebeeckx and McAuliffe call an anthropological constant, which include our psychosomatic constitution, our culturally-constituted identities, our embeddedness within social and institutional structures, our historical-cultural conditioning, the interplay of theory and practice, our commitments to the goodness of life, and the synthesis of all these elements. At the very least, MD can be understood as giving a particularly anthropological character to the biocultural milieu through which the anthropological constants emerge. Operating at the epicenter of so many domains of human-being, MD may provide a great deal of explanatory power for scholars of myriad disciplines who seek to understand the biocultural roots of human thought and action. Though MD may make good sense of the human condition, it remains to be seen whether mimetic analysis is able to produce positive moral outcomes—Gustafson's second test for ethical truth value. Can the concept of MD help ethicists expose and describe the sphere of negativity as well as imagine, propose, prescribe, and/or recognize humanizing visions of positivity, wholesomeness, or salvation?

Analyzing ancient Near Eastern texts like *Enuma Elish* in contrast with biblical texts, Girard, like Ricoeur and Middleton, seeks to expose the inherent circularity and injustice of the myth that violence can create cosmic and social order.⁵²⁵ I explore some contemporary implications of this contrast more fully below. These and other scholars agree that myths of creative/redemptive violence only perpetuate victimization. Current

⁵²⁵ Girard, *I See Satan*, 82-83.

theorists are able to demonstrate that mimetic violence in socio-economic and ecological contexts still occurs on a global scale, and that exclusionary forms of desire are what need to be criticized in the critical reflection on historical praxis. I propose that this liberating ethical and theological task is a key component of the human vocation to bear the image of God today.

Others have made similar claims. For example, liberation theologian and ethicist Jung Mo Sung employs Girard's mimetic theory to analyze and critique the social exclusion emerging from the dynamic confluence of mimetic "desire, market and religion." Where Girard applies mimetic theory primarily to the critique of religion, from archaic to contemporary, Sung finds Girard's work to be fruitful for analyzing, evaluating, and potentially alleviating many of today's socio-economic injustices. He hypothesizes that Christian theology may provide some fruitful ethical tools for combating injustice.⁵²⁶

⁵²⁶ Jung Mo Sung, *Desire, Market and Religion* (London: SCM Press, 2007). According to Sung, MD provides an integral interpretive key for linking the concepts of desire, market, and religion. In this framework, because of the quasi-religious "myth of development" or "progress" and its sacralization of the global market economy, what Girard describes as the "mimetic desire of appropriation" creates an exclusionary dynamic in which entire groups of people are "sacrificed" to the false transcendence—the idol—created by absolutizing the market and its logic (34, 35, 38, 39, 43-44; cf. 63). For everything the almighty market promises to do according to the myth of development, desire + market = a kind of religion; and this religion is diametrically opposed to the Judeo-Christian traditions, because it demands human sacrifice on an enormous scale.

Sung calls this mimetic cycle the "myth of development," which bears numerous and close similarities to what Girard technically describes as religious "myth" or the "mythic cycle" (34). For Sung all the pieces of Girard's theory are in place in the global market economy: MD drives progress; technological progress creates the *objects* of desire; those who can attain these objects of desire become the *models* of desire; that only certain people are able to attain these objects is the *scandal* that causes *rivalry* or competition; since the *appropriations*, or possessions, of these models constitutes their *being* models, those who cannot, or choose not to, aspire to their lofty social ideal are guilty of the *taboos* of not having and/or not wanting enough, and thus not fully being (45-48); these poor "monsters" thus become *scapegoats* or the objects of *sacrifice* to the market *idol*, the false transcendence that eases the conscience of the social elites, with the promise that these are the "necessary" sacrifices to the immanent eschatological "utopia" or "paradise" promised by the "myth of development," through "those who define themselves as developed" (34-36, 40-45).

Sung raises three hypotheses concerning the dynamics giving rise to this sacrificial mimetic cycle. The first is that economic growth is directly proportional to the perceived plausibility of the mythical

Theologian S. Mark Heim proposes an even more basic ethical reason for highlighting the mimetic character of human agency. Drawing upon the findings of recent cognitive- and neuroscientists, Heim argues that on a neuro-cognitive level, “imitation may be at the heart of the emergence of key elements of what we take to be human nature itself: consciousness, theory of mind, empathy.”⁵²⁷ In one of the language areas of the brain, human beings possess a concentration of “mirror neurons,” which fire across parallel and co-activated neural networks in sensory and motor fields. Integrated with these other brain regions, mirror neurons enable the brain to translate sensory stimuli into motion and, with the right symbolic tools, concepts. This neural activity facilitates a strong capacity and urge to do what one perceives another doing and to anticipate what it might be like to undergo or enact something happening with another. Mirror neurons allow delayed and pensive reactions and even predictions of what might happen next, including what another person might be intending—a kind of mind reading.⁵²⁸ This kind of off-line anticipation and analogizing is key in developing a culturally-constrained sense of self and, in turn, a sense of others as other selves. Other persons display

promises of progress (i.e., that everyone’s mimetic desires can or will be fulfilled) (40). The second hypothesis is that in archaic societies taboos served the purpose of squelching certain mimetic desires between various castes, since societal position determined the permissible scope of one’s desires. The ideology of the market economy does away with the idea of caste and praises the refusal to place extrinsic limits on desire. Where desires are given free reign, scarcity is a matter of necessity, not only because of the natural limits of environmental resources, but also because there is always something more to desire (41-42; cf. 37, 57-58). This infinite quality of acquisitive desire leads to Sung’s third hypothesis about the myth of progress—that the perceived need to fulfill all mimetic desires in the context of scarcity logically requires “the sacrifice of the [economically] less competent” (42). The poor are demonized where the market is divinized. In addition, to the extent that the poor have bought into the myth of progress, they become willing sacrificial and scapegoat victims (42-43). This willingness to be sacrificed accomplishes two things—it keeps hidden the mythic or mimetic cycle of desire and violence, and it keeps revolutionary violence from breaking out. Both phenomena are necessary for perpetuating this or any myth, as Girard defines the term.

⁵²⁷ S. Mark Heim, “A Cross-Section of Sin: The Mimetic Character of Human Nature in Biological and Theological Perspective,” in *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, edited by Philip Clayton and Jeffrey Schloss (Grand Rapids: William B. Eerdmans, 2004), 256.

⁵²⁸ *Ibid.*, 257.

recognizable signs of joy, pain, elation, frustration, sadness, anger, etc., with which the observer can identify through past experience, and therefore empathize.

According to Heim, MD guides behavior from birth and is vitally adaptive for survival because it presents a necessary condition for the exertion of effort toward wellbeing. He cites studies indicating that human infants do not display a robust instinct for self-preservation. Babies who lack attention and affection often die, even when all their immediate physical needs are met. Human babies thrive in response to being an object of another's desire. Their own struggle, or desire, to exist (however unconscious) is brought about in no small way through mirroring the desire of their caretakers for their continued presence and well-being.⁵²⁹

Andrew Meltzoff, expert on infant and child development, has probed systematically the mechanisms of mimetic interaction and their impact on psychological development.⁵³⁰ He has observed imitative responses in infants as young as 42 minutes old and has catalogued a spectrum of mimetic responses and their complexification as children grow, develop, and interact with others. Infants, he concludes, “*learn through imitation but don't need to learn to imitate*,” because mirroring neural systems start the brain on an active mapping course that molds babies into more and more mature selves like those with whom they interact.⁵³¹ Infants imitate others' actions and expressions, share their objects of attention, and quickly learn through experience to track others' perceptions and intentions. These intersubjective rapport-building experiences lay the

⁵²⁹ Ibid., 258.

⁵³⁰ Andrew N. Meltzoff, “Out of the Mouths of Babes: Imitation, Gaze, and Intentions in Infant Research—the ‘Like Me’ Framework,” in *Mimesis and Science: Empirical Research on Imitation and the Mimetic Theory of Culture and Religion*, edited by Scott R. Garrels (East Lansing: Michigan State University Press, 2011), 55-74.

⁵³¹ Ibid., 59; italics original.

foundations for language development, by weaving the psycho-somatically based fabric of a symbolic universe containing culturally-constrained ideals of who to be like and who not to be like, of what is “good” and “bad,” helpful and harmful, for oneself and for others.⁵³²

MD as making possible the NCE and FME

The mimetic appropriation of concepts like “good” and “bad,” “right” and “wrong,” “positive role models” and “negative role models” is a large part of what makes the NCE and FME uniquely human experiences of value for behaviorally modern *Homo sapiens*. MD is a powerful driver of perception and behavior that orients the self to the other, often in a concerted effort to learn, to better, to best another’s behavior. This form of self-transcendence is a recipe for both development and conflict, but without it, there would be no imaging God/Christ.

MD is as ambivalent as it is humanizing. As a human wellspring of cooperation and conflict, good and evil, positivity and negativity, MD makes ethics both possible *and* necessary. If from its neurological underpinnings mimetic desire allows human beings to see others as other selves and as model selves, then it is the sine qua non of both empathy and envy.

Because of the values-laden MD that makes empathy possible, human ethics is able to be more and other than an epiphenomenon of self- and species preservation, reducible to the pain and pleasure principle. The ability to perceive others as other selves allows those others and their world to become worthwhile objects of moral consideration for their own sakes, and not just for their potential to benefit or harm the self. Mimetic desire enables a conscientious NCE that is both self- and other-oriented, an FME that

⁵³² Ibid., 57-68.

indicates the intrinsic value of one's own existence, all other life, and the environment that sustains it. Good ethics catches on because positive models and moral outcomes become objects of desire to be imitated.

Professor of neurophysiology Vittorio Gallese comes to similar conclusions with similar caveats. He is confident that the co-activation of mirror neurons and other neurophysiological structures creates an "interpersonal resonance" that erupts into imitation and other-oriented self-identification. However, he is cautious about calling this dynamic "empathy," except in a broad yet technical sense of the term.⁵³³ This socially facilitated neuro-cognitive activity can certainly emerge as empathy in the traditional, positive, affective sense of the term. Yet mimetic ability can also blossom into envy and many other phenomena leading to competition, conflict, and violence.

These negative phenomena are where Girard spends most of his energy, prompting Gallese to wonder why more Girardians do not emphasize the more positive view that human beings are "equally describable as empathic creatures, capable of fellow feelings, love, and altruism," and "that mimesis not only generates violence, but also art, culture, and creativity."⁵³⁴ MD is a two-edged sword or double sided coin. Perhaps the pervasive focus on the negative thrust of MD correlates to McAuliffe's point about the epistemological priority of negativity in the NCE. Phenomena grab our attention when they cause problems.

By the same token, Gallese points out that "Girard acknowledges in his work, though perhaps with less emphasis, that mimetic desire is also good in itself because it is

⁵³³ Vittorio Gallese, "The Two Sides of Mimesis: Mimetic Theory, Embodied Simulation, and Social Identification," in *Mimesis and Science: Empirical Research on Imitation and the Mimetic Theory of Culture and Religion*, edited by Scott R. Garrels (East Lansing: Michigan State University Press, 2011), 101; cf. 92-95.

⁵³⁴ Ibid., 88.

the basis of love, viewed as the imitation of a positive model.”⁵³⁵ Because the self is formed through embodied interaction with other selves, he theorizes “that at the origin of mimetic ambivalence is humanity’s ontological openness to others. [...] Our constitutive openness to others, of which mimesis is one of the main expressions, can be declined both in terms of social violence and social cooperation.”⁵³⁶ This “‘ontological’ desire to be like the other”⁵³⁷ supports the inference that alongside the epistemological priority of negativity, MD discloses an ontological priority of positivity, through a pre-thematic or instinctual impulse to obtain those objects and become like those models perceived to be worthy. Thus, MD resides at the heart of the NCE and FME as a bioculturally constrained sense of good and bad and those whose image one ought to bear.

MD, ethics, and “the uniqueness of the Bible”—René Girard

Like the NCE and FME, MD is an anthropological concept with ethical significance and religious affinities. Middleton compares and contrasts the *image of God* concept in Genesis with a “mimetic ideal” operating within Mesopotamian mythology, including that of *Enuma Elish*. In the latter symbolic worldview, society is charged with the task of recapitulating the primordial struggles through which the gods established order among themselves, within creation, and between the divine and created realms. This divinely sanctioned sociopolitical ideal holds that the might of the gods—and their royal-priestly intermediaries—makes right and that disruptors of the hierarchic status quo weaken the foundations of civil society and threaten to visit divine wrath upon it.⁵³⁸

⁵³⁵ Ibid.; cf. 103.

⁵³⁶ Ibid., 102

⁵³⁷ Ibid.

⁵³⁸ Middleton, *The Liberating Image*, 177-78, 193-94, 221-22.

According to Middleton and Ricoeur, *Enuma Elish* supplies the mimetic ideal that fueled the Babylonian conquest of the Israelite people, because it provided

the mythic legitimization of the Neo-Babylonian imperial expansionism, where the king, standing in for Marduk (and as the image of Marduk), vanquishes the enemies of Babylon, who are regarded as the historical embodiments of the chaos monster. As Ricoeur puts it, “Creation is a victory over an Enemy older than the creator; that Enemy, immanent in the divine, will be represented in history by all the enemies whom the king in his turn, as servant of the god, will have his mission to destroy.”⁵³⁹

As ideological critique, the biblical concept of the *imago Dei* creates an alternative mimetic ideal which denies the necessity and creative capacity of violence on two fronts. First, the primeval history democratizes the functional-royal image concept and cites it as an aspect of human creaturehood designed to “limit or constrain human violence” (see Gen. 9:6).⁵⁴⁰ Because all people bear the image of God, there is no theological justification for social stratification and no excuse for the kind of “violence” that “grieved” Yahweh to the point of starting over with humankind (Gen. 6:5-11). Second, the God whose image all people bear does not create through violence, but through enabling and inviting the earth and its inhabitants to fulfill their own creative potential, which includes the human vocation to (pre)serve the immanent fecundity of the earth and one another.

Likewise, Girard locates MD and rivalry at the roots of Mesopotamian and other archaic religious traditions which rely on sacrificial rites and holy war in order to maintain harmony on earth and/as in the heavens. He also make a bold claim that from the standpoint of mimetic analysis Judeo-Christian theology may be uniquely equipped

⁵³⁹ Ibid., 178; cf. Paul Ricoeur, *The Symbolism of Evil*, trans. Emerson Buchanan (New York: Harper & Row, 1967), 182.

⁵⁴⁰ Middleton, *The Liberating Image*, 221.

among Western religious traditions to expose, dismantle, and reframe the mimetic cycle of desire, rivalry, violence, and sacrifice.

By citing Girard's claim for the uniqueness of Christianity and its scriptures, I do not wish to imply that other religious traditions are ill-equipped to construct valid and humanizing moral visions. Even from a Girardian perspective, other faiths can be shown to promote effective measures for nipping mimetic rivalry in the bud. Eastern religions, like Buddhism, for example, have longstanding and deeply embedded traditions defining attachment to objects and ideals as a form of suffering that breeds malcontent, envy, conflict, and violence.⁵⁴¹ Girard's high praise for Christianity may be politically incorrect in a pluralistic religious environment, but his seeming triumphalism might be mitigated by the view that he is making what amounts to a Ricoeurian wager from the perspective of his own religious tradition, rather than an exclusionary claim for the normativity of Christianity. Girard, voicing praise for Ricoeur's systematic study of ancient Near Eastern and Western religious myth, argues persuasively that anthropological, religious, and ethical scholars can and ought to proclaim both the "continuity" of Christianity with earlier traditions and the "cleavage between Christianity and everything else," especially for the purpose of providing a mimetic model which exposes the roots of rivalry and violence and redirects them toward acts of love for neighbor and enemy.⁵⁴²

Girard's Ricoeurian wager is that the biblical tradition systematically exposes and condemns the mimetic contagion of insatiable desire, and makes a long anticipated

⁵⁴¹ While all the scholars cited in this chapter find Christian theology to provide structure for moral visions with the greatest explanatory power and best moral outcomes, the procedure for conducting theological ethics outlined in this study also provides means for constructing and evaluating theological ethics in other religious traditions, for conducting interreligious ethical dialogue, and interfacing theological visions of morality with exclusively humanistic ones.

⁵⁴² Girard, *Things Hidden*, 445.

exodus from the sacrificial cycle through the passion and resurrection of Jesus of Nazareth. In this manner, Girard argues that Christianity, with its “Old Testament” foundations, offers both ethical and eschatological visions of the worst and best that MD has to offer. On the one hand, Girard is able to cite many instances of mimetic victimization in both the Old and New Testaments. On the other hand, he shows how biblical monotheism never allows a false transcendence to legitimate the violence in these narratives.

Arguing for “the uniqueness of the Bible,” Girard cites the Joseph narrative in Genesis as a quintessential critique of the single victim mechanism.⁵⁴³ Turning to “the uniqueness of the Gospels,” Girard begins by pointing out that they complete the mimetic cycle that the Hebrew Bible strategically leaves unfinished, by professing “the divinity of the collective victim.”⁵⁴⁴

⁵⁴³ Girard, *I See Satan*, 106-20. By comparing the Joseph saga in Genesis to *Oedipus Rex*, he shows how these two narratives both deal with the issue of collective violence against a pariah, while they differ in their respective answers to a set of crucial questions about this violence: “Is it warranted? Is it legitimate? In the myth the expulsions of the hero are justified each time. In the biblical account they never are” (108-09). Further, in the Bible “victims never rise again: God is never victimized, nor is the victim divinized.”⁵⁴³ Thus, “For the first time in human history the divine and collective violence are separated from one another. The Bible rejects the gods created by sacralized violence,” and any vestiges of these deities remaining in Hebrew culture, cult, and canon are doomed to disintegrate (119). Monotheism and the exposé of the satanic cycle of mimetic violence are mutually entailed and mutually strengthening (119, 121). The reality and power of the one God “does not depend at all on what happens among humankind” (119). God is free to “be with” victims like Joseph and to “know their sufferings” (Gen. 39:2; Exod. 3:7). Girard also analyses the Hebrew Bible’s critique of mimetic victimization in the Psalms and to Job (115-20).

⁵⁴⁴ Girard, *I See Satan*, 121. At first glance, this revelation might seem to suggest a discontinuity with the Hebrew Bible and an endorsement of polytheism. However, despite the Gospels’ prima facie dissimilarities to “strict” Jewish monotheism, and their similarities to pagan mythology, Girard holds that the Evangelists go even further than the Hebrew Bible “in exposing the mythic illusion” (123). In this sense, Girard counts himself justified in adhering to the notion of “Old Testament ‘prefiguration’ and christological ‘fulfillment’” (129). The Christian doctrines of the Trinity and the divinity of Christ (far from being a cover-up of crypto-polytheism or idolatry) complete the Hebrew Bible’s exposé of the satanic myth of the single victim mechanism in three unique and superlative ways. First, the innocence of the victim is absolute in the eyes of those who ascribe divinity to Christ (123). Second, it is not the violent mob who proclaims the divinity of the victim, but the “rebellious minority” opposed to the violence they are powerless to stop (ibid.). Third, the resurrection of the victim confirms and reveals his innocence and divine identity (125-27). In Christ and the New Testament, God’s identification with the innocent victims of mimetic violence becomes complete in incarnation and crucifixion. In contrast to mythic divinization, “the resurrection of Christ owes nothing to human violence” but exposes the mimetic cycle of crisis, crucifixion, and catharsis

The crucified and resurrected Christ reveals divine solidarity with the victims of social exclusion and violence and presents an eschatological vision of wholesomeness or salvation through both bodily resurrection and the offer of forgiveness to all victimizers willing to repent. In these terms Girard constructs a theory of atonement “at the level of anthropological analysis.”⁵⁴⁵ In addition, the resurrected Jesus offers a twofold ethical example to his followers.

First, by offering forgiveness without retribution, Christ short circuits the mimetic cycle of violence to such an extent that non-retributive forgiveness becomes an option, even in cases where human life is at stake. With faith and hope in a resurrection that vindicates the innocent victims of violence, the unique ontological horizons of the gospels’ symbolic world co-emerge with an ethical vision grounded in eschatology and

for the ineffectual sham it is (135). It lays open what Girard calls the “persecutory unconscious”—the self-deceptive dynamic by which those in the lynch mob convince themselves “that they are doing good, the right thing; they believe they are saving their community” (126). For Girard, however, Christ’s Passion, culminating in resurrection—and *only* this revelation—dismantles the “founding murder” as the basis for expunging the mimetic contagion that inevitably arises in all human communities (135). In this way, the resurrected Jesus is the new Abel, offering what no other victim of sacralized murder could—reconciliation between the persecutors and the persecuted, between the betrayers and the betrayed.

⁵⁴⁵ Ibid., 184. Girard analyses the concept of the “scapegoat,” conjecturing that the prevalent use of this term in contemporary society is a testament to his claim that “[w]herever Christianity spreads, the mythical systems decay and sacrificial rites disappear” (154; cf. 160). Scapegoats still exist, but they are seen as the illegitimate victims of “the appetite for violence that awakens in people when anger seizes them and when the true object of their anger is untouchable” (156). Showing the mimetic cycle of victimization to be ineffectual at curing societal ills, Girard differentiates between this kind of uneasy “peace such as the world gives” and the true peace that “surpasses human understanding,” such as only Christ can give (186). While Girard restricts his investigation of the Passion and resurrection of Christ to “the level of anthropological analysis” (184), he does not deny the real transcendence of the triune God, who exposes Satan’s false transcendence and brings it to an end (185). This “evangelical anthropology” (182) is only available and intelligible in light of a bona fide “revelation” and “miracle.” As Girard puts it, “To break the power of mimetic unanimity, we must postulate a power superior to the violent contagion. If we have learned one thing [...], it is that none exists on earth” (189). Relating this anthropological and ethical vision to pneumatology, Girard describes the Holy Spirit as humankind’s *parakletos*, an advocate against the unjust accusations of Satan (189-90). Far from proposing that all people are purely innocent victims before God and the accuser Satan, the Spirit’s advocacy is predicated on the forgiveness God offers in Christ, through his triumphal identification with all victims, which continues beyond the resurrection. On the way to arrest Christ’s followers in Damascus, Saul is confronted by the risen Christ asking, “why do you persecute *me*?” (191; emphasis mine). For Girard, then, “The Resurrection empowers Peter and Paul, as well as all believers after them, to understand that all imprisonment in sacred violence is violence done to Christ. Humankind is never the victim of God; God is always the victim of humankind” (ibid.).

an eschatological vision grounded in ethics. Not only does such hope make turning the other cheek appear to be a viable option, non-retaliation or nonviolent resistance may also have the more immediate result of humanizing the victim in the eyes of the violator and/or witnesses to the situation. A humanized victim makes a less attractive target, turning public outrage away from the victim and toward the violator.

Second, the kingdom or reign of God is an ethical and eschatological vision that is achieved not through violence but through its utter renunciation.⁵⁴⁶ Because following Christ means taking up one's proverbial cross as opposed to gaining "the whole world," discipleship is a kind of mimesis that nips rivalry in the bud.⁵⁴⁷ As a mimetic model, Christ preaches and practices a theological ethic that fully humanizes the least and the lowest and calls for action that alleviates unjust suffering. The Christ event and its inauguration of the kingdom or reign of God contain a concrete paradigm for bearing the functional-royal image of God which reorients MD by redirecting its dynamism from one-upmanship to the wellbeing of one's neighbors and even one's enemies.

Offering a very similar description of the kinds of salvation made possible by forgiveness, Suchocki defines forgiveness as a kind of empathy that involves actively "willing the well-being of victim(s) and violator(s) in the context of the fullest possible knowledge of the nature of the violation. As such, forgiveness holds the possibility of breaking the chain of violence."⁵⁴⁸ So defined, forgiveness is a human possibility, as well as an eschatological one. From a Christian perspective, eschatological forgiveness comes through the willingness of Christ to take on a cursed fate as a wholly innocent victim of violent aggression, and through resurrection, to offer reconciliation without retribution.

⁵⁴⁶ Ibid., 140.

⁵⁴⁷ Mark 8:34-37; cf. Luke 23-27.

⁵⁴⁸ Suchocki, *The Fall to Violence*, 144.

Through Christ, God achieves the greatest possible solidarity of humanity with divinity, of creation with creator, and in this act of empathy, wills the wellbeing of the creation, both victims and violators. In this way, Christ is a mimetic model who offers an ethical vision with an eschatological horizon, by revealing—imaging—a God who does not create through violence, even in the face of violence.

In a similar move, Hefner inserts Christ into the myth-ritual-praxis complex “by which humans move from *is* to *ought*.”⁵⁴⁹ His hermeneutical exercise of faith seeking understanding is also a Ricoeurian wager that the theologian and ethicist may “provide genuine knowledge of reality, for the sake of our wholesome living,” through the second naïveté interpretation of the Christian Scriptures and their myth symbols.⁵⁵⁰ For Hefner, Jesus presents a “paradigm” or “model” for being human and an as yet underdetermined “ontological statement” that altruistic love for the least among us is in “harmony with what really is.”⁵⁵¹ The resurrection vindicates the underdetermined faith and hope that love—not violence—reveals the way things really are. In McAuliffe’s terminology, Hefner’s ontological statement is a commitment to the ontological priority of positivity in spite of the epistemological priority of negativity.

Conclusion

Having accepted Hefner’s challenge to cultivate the explanatory power and moral fruitfulness of Christian myth-symbols, my interactions with the scholarship of cognitive linguists, evolutionary psychologists, emergentists, ethicists, biblical scholars, and theologians have enabled me to expand his thesis that *Homo sapiens* have emerged as

⁵⁴⁹ Hefner, *The Human Factor*, 243.

⁵⁵⁰ Ibid., 142.

⁵⁵¹ Ibid., 243-45.

free creators of meanings able to construe humankind's cultural and ecological functions in terms of bearing the image of God to the creation in ways which model the beneficent intentions of the creator, redeemer, and sustainer of the cosmos. By construing this task as the emergent theological vocation of *Homo sapiens*, I have developed extensively Hefner's hypothesis that when integrated with current scientific knowledge, the ethical and eschatological concept of the *image of God/Christ* can be morally fruitful on both social and ecological fronts.

The meta-ethical concepts of the negative contrast experience, foundational moral experience, and mimetic desire all harmonize with Hefner's, Deacon's, and my claim that the functional requirements of complex emergent dynamics mark the "basis for beginning to reflect upon values," a principle I have called the "teleodynamic axiom" in chapters 3 and 5.⁵⁵² According to a second naïveté interpretation of the primeval history and its myth-symbols of the *image of God* and the *knowledge of good and evil*, the created purpose of the cosmos is to emerge into the wondrous array of causal powers including life, sentience, and consciousness. In response, God-imaging creatures bear a moral obligation to see and celebrate the "very-good-ness" of biotic and ecological systems for their own sakes and seek to ensure their sustainability—their ability to respond to the creator's "Let there be..." If, in connection with this first principle, *Homo sapiens'* created function is to cooperate freely and responsibly across cultures and species in the ongoing co-creation of our social and ecological environments by nonviolent means, then God-imaging creatures bear a moral obligation to ensure that all people are able to access the means of actualizing this creative potential to contribute to the common good and their own wellbeing—their response-ability to mirror the creator's "Let us make..."

⁵⁵² Ibid., 40; cf. 180.

As an outworking of the teleodynamic axiom, this latter principle contains a tacit endorsement of McAuliffe's claim that those who experience the negative contrast most acutely have an epistemological privilege in ethical discourse, since they suffer the greatest depravation of their functional requirements.⁵⁵³ Emerging as biocultural creatures, human beings' functional requirements are cultural as well as biological. Meeting the biological requirements of all human beings (e.g., food, clean water, reliable shelter, public safety, sanitation, and healthcare) is only the first step in making it possible for everyone to lay claim to their reasonable expectation to participate fully, creatively, meaningfully, and humanely in cultural activities and institutions (e.g., educational, occupational, artful, leisurely, economic, political, religious).

From a Christian perspective, these principles and their theological framework comprise a hermeneutically open schema for gauging moral progress in terms of humankind's vocation to bear the image of God. In one sense, a scientifically informed theological ethic guided by the teleodynamic axiom emerges from the bottom-up. At the same time, the underdetermined elements of an empirically based ethic cry out for the supervening influence of something like religious faith or historical revelation. For ethics, faith is a wager that religious values, paradigms, and eschatological visions comport with *what really is*. In the hermeneutical circle of faith seeking understanding and critical reflection on historical praxis, these ontological commitments guide the FME, NCE, and MD toward ethical and eschatological horizons where care for the creation and altruistic love of neighbor and enemy bear the image of ultimacy and matter ultimately.

⁵⁵³ McAuliffe, *Fundamental Ethics*, 13, 49, 52, 56-57.

Throughout this study and its restatement of the biblical concepts of the *image of God* and the *knowledge of good and evil*, I have attempted to construct a fruitful framework through which to engage Hefner's call to embark

on the constructive work that awaits the theologian and philosopher in fulfilling the task that Paul Ricoeur has set before us—to transport the traditional symbols, where they are important vessels of information for us, into the realm of contemporary, second-naïveté [sic] experience, and enable them to coalesce with our experience to provide genuine knowledge of reality, for the sake of our wholesome living.⁵⁵⁴

More pointedly, I have assembled a set of hermeneutical tools and constructed a conceptual framework with which

to restate [Judeo-Christian] myth [...] and its doctrinal elaborations in the context of the natural and social sciences and as we encounter them in a global society that is faced increasingly with the question of quality of life on the one hand and of surviving on the other hand.⁵⁵⁵

Thus, I have offered in this chapter a fruitful first step in investigating anthropological foundations for theological ethics in a contemporary context, by offering evidence that there are already three identifiable schools of thought or “camps” that begin theological ethics with the premise that human being and agency, qua human, present the motivations and conditions of possibility for being free and responsible in particular ways. The human “is” informs the human “ought.” Proponents of these three camps argue that the phenomenological, heuristic, and neuroscientific evidence for the NCE, FME, and MD is substantial enough to offer a firm, if indirect or intuitive, foundation for constructing valid ethical norms and holding persons and communities accountable to them. This foundation is strengthened by showing how the NCE, FME, and MD camps mutually reinforce and interpret one another. Because no human response to the negative

⁵⁵⁴ Hefner, *The Human Factor*, 142.

⁵⁵⁵ *Ibid.*, 247-48.

contrast experience, foundational moral experience, or the mimetic desire that drives them can reach the ethical horizons toward which they point, the confluence of these camps moves with little effort toward religious visions of wholesomeness, wellbeing, or salvation.

With the help of many minds from multiple disciplines, I have wagered that an interdisciplinary re-presentation of what it means to emerge in the image of God with a knowledge of good and evil can be intellectually and morally fruitful today and offer a procedural guide for future studies. Throughout this endeavor, I have striven to project faithfully and creatively the hermeneutical trajectory of the Hebrew Bible's primeval history as a theological, anthropological, and ethical statement that human beings have been wrought of the creation and embedded within it to the same extent as other creatures, for the purpose of discerning and enacting the beneficent intentions of a creator who shares power and does not create through violence. The final chapter offers a more detailed summative reflection on the findings of this study and its likely impact on my future research.

CHAPTER 7

CONCLUDING REMARKS

Emerging in the image of God is an ongoing biocultural process constituted from the “top-down” by its ethical, theological, and eschatological horizons. These horizons and our views of them shift continually as our symbolic worlds undergo tectonic shifts erupting from the “bottom-up.” The chapters of this study are an embodiment of the Riceourian-inspired wager that a second naïveté retrieval of the *image of God* and the *knowledge of good and evil* might answer theologian Philip Hefner’s call “to transport the traditional symbols, where they are important vessels of information for us, into the realm of contemporary, second-naivete [sic] experience, and enable them to coalesce with our experience to provide genuine knowledge of reality, for the sake of our wholesome living.”⁵⁵⁶

In these concluding remarks, I offer a brief, chapter-by-chapter summary of my argument and its major themes, followed by an overview of this project’s implications for several areas of theological study. Listed above in chapter 1, these related areas of research include further studies concerning Christian anthropology and ethics, the doctrines of creation and divine action, Christology, “fall” and original sin, soteriology, and eschatology. These considerations have long guided my research, and they are likely to do so for years to come.

⁵⁵⁶ Philip Hefner, “Biological Perspectives on Fall and Original Sin,” *Zygon: Journal of Religion and Science* 28 (1993): 99-100; cf. *The Human Factor*, 142.

Summary of Chapters

In chapter 1 I set out to establish the impetus, goals, scope, structure, context, perspective, and procedure for this study. Citing hermeneutical philosopher Paul Ricoeur, Hefner has pointed in the direction of some relatively unexplored territory in academic theological discourse. Accepting Hefner's challenge, I catalogued some of the past explorations into these areas by several scholars, looking to them for guidance on how to develop a second naïveté reinterpretation and reappropriation of *image of God* and the *knowledge of good and evil* as Christian myth-symbols able to encapsulate an intellectually and morally fruitful conceptual framework for conducting anthropological and ethical discourse today.

The construction of a second naïveté interpretation is a critical-hermeneutical endeavor resulting in novel, irreducible, and flexible meanings derived through interpretation from pre-critical (primitive naïveté) understandings of religious concepts. This form of interpretation is quintessentially theological because it can be described as both faith seeking understanding and critical reflection on historical praxis. When this type of scholarship engages current scientific understandings, interdisciplinary scholar Ian G. Barbour's description of a theology of nature perspective provides another helpful descriptor for the reformative goals of this study. Hermeneutical frameworks like these from Ricoeur and Barbour help the 21st-century scholar develop up-to-date theological conceptions of *what really is* and how our *is* informs our *ought*—how to move from evolution to ethics in a second naïveté understanding of Christian anthropology. With additional help from cognitive linguists, emergentists, and evolutionary psychologists, I

constructed a hermeneutic of emergent meanings designed to integrate or blend biblical and biocultural conceptions of human uniqueness.

From this point, I sought to build a biocultural model of human uniqueness and its evolutionary development, couched in the terminology of conceptual integration theory and the salient features of evolutionary psychology. I argued in chapter 2 that the human person is constituted by the symbiotic confluence of the biological and cultural streams of our nature. I also presented evidence that behaviorally modern *Homo sapiens* became culturally-constituted creatures, or what Hefner calls “created co-creators,” as a result of the functional singularities precipitating from the neuro-cognitive adaptations subserving the meaning-making process of conceptual integration across various behavioral domains.

Building upon neuroscientist Terrence W. Deacon’s hypotheses about the co-evolution of language and the brain, cognitive linguists Gilles Fauconnier and Mark Turner present a persuasive argument that uniquely human functional singularities like linguistic ability emerged when our species developed the capacity for double-scope conceptual integration. The symbolic ability afforded by this psychosomatic adaptation allows the rapid and continual development of languages and the cultures growing up with them.

Evolutionary psychologists John Tooby and Leda Cosmides characterize this cultural-linguistic dynamic aptly by explaining how “[m]ore nature allows more nurture.”

⁵⁵⁷ Human biology has equipped our species with the requisite functional conditions of possibility (nature) to create and hold one another accountable to cultural meanings (nurture). These biocultural processes generate a condition of freedom through which

⁵⁵⁷ John Tooby and Leda Cosmides, “Conceptual Foundations of Evolutionary Psychology,” in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 30.

emerge values-laden self-descriptions like “*full*” *humanity*, the *image of God*, and the *knowledge of good and evil*. Argued more fully in subsequent chapters, the portrait of human uniqueness painted in chapter 2 implies that behaviorally modern *Homo sapiens* bear the image of God with a knowledge of good and evil through the physically embodied, socially embedded creativity by which they define their biocultural roles and contextualize their choices.

Adding detail to this natural scientifically informed portrait of human-being, I turned in chapter 3 to emergence scholarship, in order to describe how the image of God and the knowledge of good and evil (as aspects of the human condition and values-laden distinctions) may be understood as developing dynamically from the “bottom-up” to exert a “top-down” causal influence on human thought and action. I provided a detailed analysis of Deacon’s three-tiered taxonomy of emergent causality, in which the cumulative and hierarchic orders of homeodynamics, morphodynamics, and teleodynamics equate roughly to the Aristotelian concepts of material/efficient causality, formal causality, and final causality, respectively.

Relating these emergent orders to the concepts of the *image of God* and *knowledge good and evil*, I emphasized that these theological self-descriptions and the human condition to which they refer emerge from the matter-energy of the physical universe and belong to the person-constituting teleodynamics of life, evolution, information, significance, sentience, and consciousness. Because the (teleo)dynamics of human-being are not reducible to the thermodynamics which sustain them from the “bottom-up,” the image of God and the knowledge of good and evil cannot be identified as some *thing* which subsists *in* the cosmos. Rather, these realities are borne *through* the

values-laden teleodynamics always in the process of dynamically constituting the human person from the “top-down.”

Beginning with chapter 4, I integrated the contemporary portrait of human nature outlined above with exegetical scholarship commensurable with a biocultural conception of human emergence. Striving to remain faithful to the hermeneutical trajectory evident in the Hebrew Bible’s primeval history, I argued that an evolutionary view of human-being brings into focus several thematic elements lying within and behind the redacted text of Genesis 1-3.

First, in both ancient and current contexts, the meanings of the *image of God* and the *knowledge of good and evil* emerge through a process of conceptual integration—a complex confluence and clash of meanings across cultural, ideological, geographical, temporal, and disciplinary boundaries. Specifically, I relied heavily on the scholarship of J. Richard Middleton among other exegetes and theologians to argue that the *image of God* concept in Genesis is largely a critique of Mesopotamian royal ideology. In the Neo-Babylonian symbolic world, political, religious, and social elites bear the image of their despotic deities by conquering and exploiting others. Foregoing the henotheistic *Chaoskampf* of *Enuma Elish* and other parallels, the Genesis cosmology monotheizes the *God* concept and democratizes the *image* concept. This shift generates the inference that all human creatures bear the image of a generous, beneficent creator who shares power with created entities and does not create through violence.

Second, I demonstrated the parallel and complementary ways in which the image of God is a product of nature in Genesis and biocultural evolution, emphasizing the manner in which the biblical writers depict humankind as being wrought of the creation

and embedded within it to the same extent as all other creatures. I suggested that this contiguity with the rest of the natural world supports the claim that human participation in the created co-creation of the world ought to consist in cooperating conscientiously with one another and other species in service of the creative potential and wellbeing of all people, all living species, and their environments.

Third, I explained how a biocultural view of human emergence supports the interpretive claim that bearing the *imago Dei* is *Homo sapiens*' emergent vocation—a call to re-present the creator's beneficent intentions in, to, and through our “very good” world. Over against a Mesopotamian royal ideology, the implication in the Genesis cosmology that Yahweh Elohim does not create through violence lends itself to a functional-royal interpretation of the *image of God* in which the commands of Gen. 1:28 to “fill,” “subdue,” and “rule over” the creation ought to be interpreted nonviolently. Finally, I noted that this theological vocation presupposes a condition of freedom through which humankind is responsible for creating the cultural meanings by which we contextualize our actions and hold one another accountable.

In the fifth chapter, I argued that in biblical and biocultural conceptions of human-being, the condition of freedom through which we bear the image of God is ambivalent, fraught with all the challenges of knowing good and bad/evil. Structuring chapter 5 to mirror chapter 4, I submitted first that the meaning the *knowledge of good and evil* in Genesis and contemporary interpretation emerges through a creative blending of different and often disparate concepts. Through this conceptual integration emerge the inferences that the *knowledge of good and evil* must be understood as a *sine qua non* of bearing the image of God in, to, and through a creation immanently capable of bringing the “bad” along with the “good” from “the beginning.”

Second, I described the knowledge of good and evil as a product of creation/nature in Genesis and biocultural evolution, highlighting the creaturely sources of godlike wisdom in the Garden Narrative and the natural sources of cognitive adaptations—i.e., evolutionary processes catalyzed by natural selection pressures. In the Genesis cosmology, the possibilities for “good” and “bad” can be understood as a side-effect of the freedom to become connoted in Yahweh Elohim’s fiat, “Let there be...” and the open-ended commands given to the human creatures in Genesis 1 and 2. Because the emergence of “bad/evil” in Genesis is not a recapitulation of god-on-god violence as in *Enuma Elish*, the Genesis cosmology is able to preserve the primordial goodness of the creator and the creation. Similarly, an emergentist conception of *value* holds that the disintegration of the teleodynamics constituting life, sentience, and consciousness is the necessary shadow side of any reality in which complexification is catalyzed through natural selection. I cited philosopher Holmes Rolston, III, suggesting that creativity and tragedy in evolutionary processes are two poles of a dialectic with a track record of producing positive net results. “Nature, red in tooth and claw,” while amoral, is the crucible in which humankind’s moral wherewithal has been forged, for good and ill.

Third, I described knowing good and evil as humankind’s emergent vocation. In Genesis gaining a conscientious knowledge of “good” and “bad/evil” allows human creatures to respond to their calling to bear the image of God to all creation, which is to say beyond the relative security of Eden. In this sense, the knowledge of good and evil completes the image of God. In biocultural terms, the cognitive fluidity through which our species is able to define itself and its roles is the same cognitive fluidity out of which values-laden distinctions like “good,” “bad/evil,” and “image of God” emerge. A God-imaging creativity is a conscientious creativity.

Fourth, this inherent connection between imaging God and knowing good and evil overturns traditional notions that the process of coming to see the positive and negative horizons of human experience and action is a negative development in itself. On the contrary, both biblical and biocultural narratives of human origins imply that the condition of freedom through which *Homo sapiens* bear the image of God is an unavoidable aspect of stepping into maturity, as individuals and as a species. Coming to know good and bad/evil is as humanizing as it is ambivalent. Knowing good and evil is the curse which is the epicenter of all blessings and the blessing at the epicenter of all curses.

Understandably, Christian ethics framed by the second naïveté retrieval of the *image of God* and *knowledge of good and evil* outlined above undergo dramatic shifts in focus, content, and orientation. Or do they? In chapter 6 I tested the notion that theological ethics could emerge from the “bottom-up” and still serve their “top-down” purpose of dignifying and relativizing human behavior against a trans-cosmic backdrop. On the hermeneutical circle of faith seeking understanding or critical reflection on historical praxis, a Christian ethic is a “bottom-up” proposition, because ethical and theological concepts all emerge through biocultural processes. At the same time, a Christian ethic is a “top-down” proposition, because the definitive revelation through Jesus Christ of what it is to bear the image of God imbues ethical concepts and actions with eschatological significance.

The insuperable horizons of human-being found in eschatology open up novel and potentially humanizing possibilities for behavior. Searching for guidance on how to describe ethics in terms of imaging God with a knowledge of good and evil, I consulted several theological ethicists and anthropologists whose meta-ethical concepts of the

negative contrast experience (NCE), foundational moral experience (FME), and mimetic desire (MD) support an ethic of the image of God in which these self-evidently constitutive dynamics of human-being provide the impetus and conditions of possibility for ethics. I showed that these meta-ethical concepts mutually support and inform one another while sharing an affinity for religious visions of wellbeing, wholesomeness, flourishing, or salvation.

This orientation toward ultimacy emerges from the fact that biocultural evolution cannot possibly keep pace with the moral imagination. Eschatological visions of history allow the moral imagination to reach in faith, hope, and love toward a co-created future marked by the negation of all negativity and the fulfillment of all flourishing. People of Christian faith may hold that although an eschatological vision of the creation's future is underdetermined by the data of human experience and behavior, the kingdom or reign of God revealed in the life and resurrection of Jesus Christ is "at hand" when human attitudes and actions reflect the non-violent, power-sharing spirit of the creator's "Let there be..." and "Let us make..."

Blending concepts gleaned from Hefner and Deacon, I suggested in chapters 3, 5, and 6 that what I have called the *teleodynamic axiom* supports the inference that bearing the image of the creator means, in part, ensuring the functional requirements and creative potential of all persons and their environments.⁵⁵⁸ Broadly speaking, therefore, to bear the image of God is to uphold the equal dignity of all others as other selves, the

⁵⁵⁸ See Hefner, *The Human Factor*, 40. Providing a "bottom-up" "basis for beginning to reflect upon values," Hefner's teleonomic axiom states: "The structure of a thing, the processes by which it functions, the requirements for its functioning, and its relations with and impact upon its ecosystem form the most reasonable basis for hypothesizing what the purpose and meaning of the thing are." I argued that Deacon's term *teleodynamic* refers more precisely and less mechanistically to the dynamical bases of end-directedness, functionality, normativity, and value.

epistemological privilege of the impoverished and those in solidarity with them, and the inherent value and creative potential of the nonhuman world through which our species has emerged. To bear the image of God with a knowledge of good and evil is to insist through word and deed, however provisionally and imperfectly, that altruistic love of neighbor and enemy comport with *what really is*. To bear the image of the God with eyes wide open to what really is “good” and “bad/evil” is to recall that according to opening chapter of Genesis, Yahweh Elohim “sees” the “good” in each and every aspect of the creation, prior to and independent of the arrival of human creatures. To bear the image of the God who does not create through violence is to adjust our vision—our knowledge of good and evil—accordingly.

Implications for future research

Ripples from the tectonic shifts I have proposed for Christian anthropology and ethics can be felt in many other areas of systematic theology. These final few pages outline some of these implications, describing topics I intend to explore more fully in my future research.

The imago trinitatis

As I alluded in chapter 3, the second naïveté interpretation of the *image of God* constructed in this study is conducive to an emergentist interpretation of the more speculative and particularly Christian concept of the *imago trinitatis*—the image of the Trinity. One of the most immediate effects of an emergentist anthropology on this concept is the implication that a physically-based, dynamic understanding of the *imago trinitatis* reframes the traditional psychological analogies of the Trinity found in the

works of Augustine, Aquinas, and others. Not only does evolutionary psychology discredit the faculty psychology on which these analogies are based, emergentism and its physicalist ontology preclude the possibility of separating the human psyche/soul/spirit from its physical embodiment and social embeddedness. Thus, the psychological analogy can only reemerge as a socio-psychosomatic analogy.

Theologian Karl Rahner's famed "trinitarian axiom," also known as "Rahner's Rule," has inspired many scholars at the intersections of theology and the natural sciences to explore the notion that a trinitarian conception of divinity has something substantial to add to the discussion of whether and how the eternal God of Christian theism interacts with a temporal world from within. I listed several of these scholars in chapter 3, citing works by Ted Peters, Denis Edwards, John Polkinghorne, Arthur Peacocke, and Robert John Russell.

Beginning with Rahner, all of these scholars develop or can be shown to endorse the following theses: (1) dynamic and relational creaturely personhood can be understood as analogous to divine (tri-)personhood; (2) God's threefold creative and redemptive activity within the cosmos is the ultimate cause of this *imago trinitatis*; and (3) the experience of God as Christ and the Holy Spirit in the (historically mediated) economy of salvation is the sole primary source for knowledge of God as Trinity.

According to Rahner, if Jesus of Nazareth is presupposed in faith to be an absolute self-revelation of God, then the incarnation reveals the dynamic trinitarian structure of both divine and human personhood. He claims:

We need only make the quite legitimate assumption that, on account of God's absolute *self*-communication in 'uncreated' Grace, the immanent Trinity [God *in se*] is strictly identical with the economic trinity [God *ad*

extra] and vice versa, and we are then able to read the doctrine of the Trinity ‘anthropologically’ without falsifying it.⁵⁵⁹

This quote contains a restatement of Rahner’s famous axiom, which he formulates in order to “do justice to the biblical statements concerning the economy of salvation and its threefold structure, and to the explicit biblical statements concerning the Father, the Son, and the Spirit.”⁵⁶⁰ If Jesus, as a human person, is an absolute self-revelation of God, and not just the Word/*Logos*/Son of God, then Christ’s humanity, and ours by extension, must bear a trinitarian structure. Rahner finds this image—this *analogia entis*—in the dynamic apperception and actualization of human personhood.⁵⁶¹ In this analogy, subjectivity—“the background ‘feeling of being here’”⁵⁶²—correlates to the Father; the linguistically-borne knowledge making subjectivity known to itself correlates to the *Logos*;⁵⁶³ and the social mediation of personhood orienting the self empathically to others as other selves correlates to the Spirit or love of God.

This hasty distillation of Rahner’s *imago trinitatis* anthropology must be unpacked at a later date. At the present time, I hope only to preview the manner in which

⁵⁵⁹ Karl Rahner, “Theology and Anthropology,” in *Theological Investigations*, vol. 9, *Writings of 1965-1967*, translated by Graham Harrison (New York: Herder and Herder), 32; cf. *The Trinity*, translated by Joseph Donceel, with introduction, index, and glossary by Catherine Mowry LaCugna (New York: Crossroad, 1997), 22.

⁵⁶⁰ Rahner, *The Trinity*, 22.

⁵⁶¹ See Karl Rahner, *Foundations of Christian Faith: An Introduction to the Idea of Christianity* (New York: Crossroad, 1978; reprint, New York: Crossroad, 2005), 71-75; cf. *The Trinity*, 104-15.

⁵⁶² Terrance W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York; London: W. W. Norton and Company, 2012), 486.

⁵⁶³ As a *communication*, God’s self-communication presupposes a personal recipient and respondent. Accordingly, linguistic ability is intrinsic to what Rahner calls the “obediential potency” of humanity to receive and embody (i.e., incarnate) a meaningful, recognizable self-revelation of God. Because human beings have been graced unto emerging as culturally-constituted creatures in the evolutionary history of the world, “the situation of the addressee is not an *a priori* obstacle to [God’s] arriving. Not so with animals. Their nature renders it apriorily impossible that a word *remains* a *human* word and does not turn, when addressed to them, into an animal signal” (*The Trinity*, 89; emphasis original). All of creation is “a moment of God’s self-communication” in that the cosmos “is the condition of possibility of constituting and addressee” (ibid.). When the conditions of possibility for embodied subjectivity (Father), conscientious self-possession (knowledge/word/*Logos*), and self-disposition (love/Spirit) emerge in the evolution of the world, so emerges the *potentia obædientialis* for the hypostatic union and the image of the Trinity (ibid., 90; cf. “Theology and Anthropology,” 28-29).

an evolutionary view of human personhood and its emergence has entered the hermeneutical circle of faith seeking understanding. For Rahner and the other scholars listed above, personhood, whether infinite or finite, emerges in relation to the other. However, as infinite, divine personhood cannot be mediated by an other apart from the self. In Christian theology, therefore, God must bear the relational dynamics of personhood *in se* and eternally (i.e., apart from the free act of creation *ex nihilo*). Hence, uncreated personhood is immanently tri-personal. Created personhood, by contrast, is mediated bodily and socially vis-à-vis myriad personal and impersonal beings. Hence, the analogy of created personhood to divine personhood is a socio-psychosomatic analogy.

I find Deacon's understanding of emergence to be a particularly apt tool for exploring this analogy. For Deacon the emergence of higher-order dynamic processes and their integration in phenomena like life, information, sentience, and consciousness are constituted diachronically through the self-propagating and mutually-constraining "fusion" of matter-energy across what he describes as three orders of emergent dynamics—thermo-/homeodynamics (cp. efficient and material causality), morphodynamics (cp. formal causality), and teleodynamics (cp. final causality). Borrowing a term from trinitarian theology, I mentioned in chapter 3 that the emergence of human personhood involves a kind of *perichoresis*—a mutual interpenetration or fusion of constituent "parts"—an irreducible, dynamically self-constituting unity-in-diversity. As a scientifically-informed development Christian anthropology, Christology, and trinitarian theology, I contend that personhood can be described as bearing a dynamic *imago trinitatis*. I hold that the tri-unity of divine personhood may be considered the supernatural condition of possibility for the natural emergence and evolution of living

beings, their constitutive properties, and causal powers, as emergentism characterizes these phenomena.

Creation, divine action, and Christology

A rekindled discourse on the Trinity and the *imago trinitatis* in light of current cosmological, biological, and psychological understandings begs several questions and generates profound implications for the doctrines of creation, divine action, and Christology. If the cosmos is a thermodynamically closed system, how can the infinite, eternal God be the creator and redeemer of a contingent, temporal world? How can God enter and interact with a causally closed universe? According to Ted Peters, “As part of the problem and perhaps also the door to the solution we find the doctrine of God as Trinity. The first thing to note is that the eternal immanent Trinity already includes relationality and dynamism.”⁵⁶⁴

In short, a dynamic conception of created being comports well with a dynamic conception of uncreated Being. The diachronic emergence of finite, cosmic being(s) may be understood as a function of the eternal emergence of infinite, divine Being. That which is not God—the creation—bursts forth as a manifestation of the fecund, free, self-giving love that is the perichoritic self-constitution of God among Father, Son, and Spirit. God gives being to nonbeing, while not taking away from or adding to divine Being. In a sense, the truism that love is the only thing one can give without giving *away* becomes a theological statement about the existence of the cosmos as a whole and the emergence of love within it.

⁵⁶⁴ Ted Peters, “The Trinity in and Beyond Time,” in *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, 2nd ed., ed. Robert John Russell et al. (Vatican City State: Vatican Observatory, 1996; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1996), 263.

While this brief description of *creatio ex nihilo* might shed some light on the birth of the space-time and matter-energy of our cosmos, what of the more interesting theistic questions of (1) whether and how God acts in the ongoing process of creation in general (*creatio continua*) and (2) whether and how God may be considered to interact with the creation in any but this general way? Where is there room for things like special revelation, the incarnation, and the resurrection in a closed universe?

Again, I can only allude to more complete responses to these questions in my future research. However, having already explored Deacon and Nancey Murphy's work in previous chapters, I believe that their distinction between "causal forces" (as materially-energetically present) and "causal powers" (as constitutively absent) provides a way of beginning to respond to these tough theological questions. Deacon's three-tiered emergentist ontology "requires reframing the way we think about the physical world in thoroughly dynamical, that is to say, process, terms, and recasting our notions of causality in terms of something like the geometry of this dynamics, instead of thinking in terms of material objects in motion affected by contact and fields of force."⁵⁶⁵

Allow me to be so bold as to suggest that revisiting the questions of divine action "requires reframing the way we think about [God's interaction with] the physical world in thoroughly dynamical, that is to say, process, terms, and recasting our notions of [divine] causality in terms of something like the geometry of this dynamics, instead of thinking in terms of material objects in motion affected by contact and fields of force." In this statement I find myself concurring with interdisciplinary scholar Ian G. Barbour when he places himself "in agreement with the 'Theology of Nature' position, coupled

⁵⁶⁵ Deacon, *Incomplete Nature*, 44.

with a cautious use of process philosophy.”⁵⁶⁶ Indeed, I believe that Christian conceptions of God’s activity *ad extra* must continue to begin with the raw data of “a religious tradition based on religious experiences and historical revelation.”⁵⁶⁷ In the same breath, however, theologians working from theology of nature perspective must hold “that some traditional doctrines need to be reformulated in light of current science.”⁵⁶⁸

Scholars writing from a theology of nature perspective generally presuppose a number of tenets designed to safeguard the freedom and indeterminacy of natural processes, including cognitive and cultural processes. Many, including myself, presume that Christological discourse must be conducted within an evolutionary conception of the world and the living human flesh God incarnates. We hold that divine activity, whether general or special, does not violate the causal closure of the cosmos at the thermodynamic level. In short, we assume that God’s self-revelation in/to the creation does not create or destroy matter-energy, negate the indeterminacy of quantum level events, or introduce new physical laws or forces.

In light of these exigencies, however, how does one open a door for divine action into a closed universe? Polkinghorne and Peacocke suggest finding an explanatory analogy in the concept of “top-down” or “whole-part” causation.⁵⁶⁹ This is not to say that

⁵⁶⁶ Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper Collins, 1997), 105; cf. 100-05. Concerning the “cautious” aspect of this cautious use of process thought, see Polkinhorne, *The Faith of a Physicist*, 65-68, 74, 80, 83, 173-74.

⁵⁶⁷ Barbour, *Religion and Science*, 100.

⁵⁶⁸ Ibid.

⁵⁶⁹ See John Polkinghorne, “The Laws of Nature and the Laws of Physics,” in *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, 2nd ed., ed. Robert John Russell et al. (Vatican City State: Vatican Observatory, 1996; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1996), 429-40; *Science and Providence: God’s Interaction with the World* (Philadelphia; London: Templeton Foundation Press, 2005); chapters by Arthur Peacocke, John Polkinghorne, and Denis Edwards, in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert John Russell et al. (Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995), 123-43, 147-56, 157-75, 263-87; Arthur Peacocke, *Paths from Science towards God: The End of All Our Exploring* (New York: Oneworld Publications, 2001), 51-59, 93-115, 138-43, 146, 163-68.

God can be identified as the highest-level cosmic entity or as coterminous with the whole of the cosmos. Rather, God can be understood as influencing the whole of the cosmos and complex emergent wholes within it through a form of “information input,” as opposed to “energy input.”

Once more, I believe that Deacon’s emergentist treatment of both *energy* and *information* elucidates this concept. If divine action involved energy input, it would violate the first law of thermodynamics (that matter-energy cannot be created or destroyed) and/or nullify the quantum indeterminacy and entropic tendencies of homeodynamics, which energize more complex dynamics at morphodynamic and teleodynamic levels.

This violation of the causal closure principle is potentially avoided if, on the other hand, one conceives of divine action in terms of information input. According to Deacon, information is a function of two or more mutually constraining teleodynamic processes.⁵⁷⁰ Thus, like all teleodynamics, information is a constitutively absent causal influence, which supervenes upon lower-level dynamics, as opposed to the matter-energy those dynamics employ to propagate themselves through various end-directed functions.

Thus, divine action may be thought of as a teleodynamic constraint bridging the ontological gap between eternity and time, infinite and finite, necessary and contingent, creator and creation. This conceptual shift entails a replacement of the notion of *intervention* with that of *supervenience*.⁵⁷¹ With this conceptual shift, creation may be

⁵⁷⁰ Deacon, *Incomplete Nature*, 286; cf. 371-91.

⁵⁷¹ Robert John Russell gives a systematic account of non-interventionist objective divine action (“NIODA”) in *Cosmology: From Alpha to Omega* (Minneapolis: Fortress Press, 2008). The terms “non-interventionist” and “objective” are selected to indicate divine acts of special providence which do not involve a violation of physical laws. NIODA is designed to safeguard the causal closure principle and quantum indeterminacy.

depicted as an act of grace by which finite being is allowed to emerge freely “within” infinite Being *ex nihilo*, from the “bottom-up,” from the “big bang” forward.

Evolutionary developments through various orders of emergence reflect the self-constituting, self-transcending character of divine selfhood, which “acts” as a sort of constraint, attractor, or boundary condition from the “top-down”—from infinite to finite. Nature is graced by God’s presence to it and its presence to God.

Describing the way in which the natural world partakes freely in grace, Rahner states:

The proper *topos* for achieving an understanding of the immanence of God in the world in theology, therefore, is not a treatise on God worked out in abstract metaphysical terms, but rather the treatise on grace, admittedly taking this as teaching not that some created quality of grace is instilled by a creative act, but rather as teaching that the existence of God bears a quasi-formal relationship to the world such that the reality of God himself is imparted to it as its supreme specification.⁵⁷²

The term “quasi-formal” partakes in the rich etymology behind the term “information.” To “inform” can be to communicate meaning or to give form to something. Rahner’s use of *quasi-formal* presupposed that God does both within the creation. Divine influence is *quasi-formal* because God’s Being and that of the creation remain distinct. God gives form to every aspect of the creation—including the process and products of evolution—without dissolving into it or overdetermining the courses of natural and cultural history.

This re-conception of the doctrine of creation yields a kind of strong anthropic principle, which holds that (finite) personhood was bound to emerge in the cosmos because the material cosmos and its history are emerging freely “within” (infinite)

⁵⁷² Karl Rahner, “Christology in the Setting of Modern Man’s Understanding of Himself and of His World,” in *Theological Investigations*, vol. 11, *Confrontations*, translated by David Bourke (New York: Crossroad, 1982), 125.

personhood. In contemporary theological parlance, the concept that the dynamic selfhood of infinite being informs the finite being emerging “within” it could be viewed as a form of *panentheism*—the principle that all reality is unfolding within God, as God also pervades all reality from within. Readily distinguishing itself from *pantheism*, this all-in-God, God-in-all view specifies that the creator is immanent to but distinct from the creation. In the language of Genesis 1, this non-deterministic form of immanence and creativity is able to “let there be” the evolutionary emergence of all that is and all we hold it to be in our symbolic worlds.

“Fall” and original sin, soteriology, and eschatology

When viewed through the hermeneutical lens through which I have developed a second naïveté interpretation of Christian anthropology, the doctrines of sin and salvation also take on new contours. For example, according to a biocultural model of human emergence colored by evolutionary psychology, *Homo sapiens* are more accurately described as originally ambivalent than originally sinful. There is no evidence that our species “fell” from a state of moral purity or juridical righteousness, no basis for claiming that every individual is born guilty of a damnable transgression. The more tenable position emerging from an evolutionary framework is that our species has stumbled upon the realization that our common biology and various cultures have predisposed us to “participat[e] through intent or act in unnecessary violence that contributes to the ill-being of any aspect of earth or its inhabitants.”⁵⁷³

Perhaps this “bottom-up” definition of *sin* by theologian Marjorie Suchocki hints at an intellectually and morally fruitful way to describe members of our species as

⁵⁷³ Marjorie Suchocki, *The Fall to Violence: Original Sin in Relational Theology* (New York: Continuum, 1994), 12.

originally sinful.⁵⁷⁴ An evolutionarily reconfigured understanding of humankind's ethical ambivalence would render moot the traditional Augustinian-Pelagian dichotomy between sin/guilt as inherited and sinful acts as merely imitated. From a perspective in which "more nature allows more nurture,"⁵⁷⁵ these positions are both wrong and both right in certain ways. From the standpoint of evolutionary psychology, the notion of inherited guilt is nonsensical. However, a biocultural perspective does provide ways of describing how humanity's biological and cultural inheritance has predisposed members of our species to act in ways deemed morally reprehensible. Human freedom is conditioned, positively *and* negatively, by both streams of its biocultural history. Human infants do not emerge from the womb saddled with an inherently "evil" or "good" disposition or a predetermined "guilty" or "justified" juridical status. Rather, they are born to emerge into persons bearing an ethically ambivalent condition of freedom.

Because suffering, death, and violence emerged long before any conscientious act that could be called sinful, a biocultural reframing of the doctrine of sin has a correlative impact on doctrines of salvation. In an evolutionary view of the world, *salvation* becomes much more than a juridical category. Redemption must come to be viewed as a divinely accomplished process which is cosmic in its scope, historical in its inauguration, nonviolent in its means, and eschatological in its fulfillment as a gift of grace.

First, not all negative aspects of creaturely existence are traceable to "sin" or even human activity. Therefore, Christian soteriology must expand to engage forms of ill-being and negation not attributable to human agency. In this way, a second naïveté

⁵⁷⁴ See Jason P. Roberts, "Emerging In the Image of God to Know Good and Evil," *Zygon: Journal of Religion and Science* 46 (2011): 471-81.

⁵⁷⁵ John Tooby and Leda Cosmides, "Conceptual Foundations of Evolutionary Psychology," in *The Handbook of Evolutionary Psychology*, edited by David M. Buss (Hoboken, N.J.: John Wiley & Sons, 2005), 30.

understanding of Christian anthropology may reinvigorate ancient “Christus Victor” conceptions of the Pascal mystery, in which suffering and death are “enemies” of creaturely existence distinguishable from moral evil.

Second, given that *Homo sapiens* have emerged from the material universe as one among many species sharing common evolutionary origins, there is little if any reason to assume that an eschatological future is an exclusively human prerogative. Why should all created entities co-emerge as interdependent in history and not in eschatology? Physicist John Polkinghorne expresses similar misgivings and offers the following form of resurrection faith and hope in his “reflections of a bottom-up thinker”:

Surely the “matter” of the world to come must be the transformed matter of this world. God will no more abandon the universe than he will abandon us. Hence the importance to theology of the empty tomb, with its message that the lord’s risen and glorified body is the transmutation of his dead body. The resurrection of Jesus is the beginning within history of a process whose fulfillment lies beyond history, in which the destiny of humanity and the destiny of the universe are together to find their fulfillment in a liberation from decay and futility (cf. Rom. 8:18-25).⁵⁷⁶

Third, this vision of “heaven” can be said to take its cues from earth in more ways than one. The fullest possible flourishing of any creature is anticipated by its functioning, “the processes by which it functions, the requirements for its functioning, and its relations with and impact upon its ecosystem.”⁵⁷⁷ As an eschatological extension of Hefner’s teleonomic axiom, these teleodynamic exigencies “form the most reasonable basis for hypothesizing what the purpose and meaning of the thing are”⁵⁷⁸ in this world and in “the life of the world to come.”⁵⁷⁹ One can reasonably conjecture that the natural course and

⁵⁷⁶ John Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-Up Thinker* (Minneapolis: Fortress Press, 1996), 164.

⁵⁷⁷ Hefner, *The Human Factor*, 40.

⁵⁷⁸ Ibid.

⁵⁷⁹ See Polkinghorne, *The Faith of a Physicist*, 162.

contents of evolutionary and cultural history give specific shape to the eschaton toward which they are proceeding. By extension, efforts to secure the wellbeing of persons and their environments in history are a form of partial salvation and an irruption of heaven into history.

Fourth, if God does not achieve creation through violence, there is no reason to conclude that God achieves redemption through violence. In broad strokes, substitutionary theories of atonement hold that all sin is meritorious of punishment, and that sin against an infinite, eternal God is liable to infinite, eternal punishment. Since mere humans, as finite beings, all sin and cannot possibly satisfy these juridical demands, a substitute victim is required—one who is both sinless and infinite. Hence Anselm's *Cur Deus Homo*. By this legal-transactional logic, God intends and utilizes the violent means of Jesus' crucifixion to accomplish redemption. In other words, God punishes Jesus violently for the benefit of the rest of humanity. According to the work of structural anthropologist René Girard showcased in chapter 6, this view of the atonement is a unique recapitulation of the myth of redemptive violence. From this point of view, Jesus' crucifixion is a singular form of ritualized violence in that its supposed finality forbids all subsequent forms of violent sacrifice or scapegoating.

However, to view Jesus as a surrogate victim of God or divine wrath is to assume that God requires mimetic rivalry and violence to accomplish salvation and forgiveness. A violent theology of atonement does not comport with a nonviolent theology of creation. The violence of the crucifixion may be instrumental toward certain ends, but not because God requires bloodshed in exchange for pardon. On the contrary, the revelatory nature of the violence Christ endured may lie in God's willingness to experience—as a creature—

the worst our biocultural world has to offer, to empathize with our shortcomings, to vindicate the innocent victim of violence, and to forgive the repentant without retribution. In light of the incarnation, Christ is the forbearing divine victim of human violence, not the human victim of divine violence. In light of the resurrection, the violent nature of the crucifixion simultaneously exposes the sinful nature of (creation through) violence and the nonviolent—anti-violent—nature of salvation.

A biocultural restatement of biblical myth-symbols of the *image of God* and the *knowledge of good and evil* emerges with the potential to reframe many anthropological and theological doctrines. I have listed the examples above in faith and hope that a post-critical blending of ancient and current conceptions of human uniqueness and its development will lend credence to my Ricoeurian wager, inspired by Hefner, that a second naïveté understanding of Christian anthropology is able to “provide genuine knowledge of reality, for the sake of our wholesome living.”⁵⁸⁰ I hope through this study to play some small role in the ongoing emergence of the image of God.

⁵⁸⁰ Hefner, *The Human Factor*, 142.

BIBLIOGRAPHY

THEOLOGICAL AND HISTORICAL SOURCES

Barth, Karl. *Church Dogmatics*, Vol III/1: *The Doctrine of Creation*. Edited by G. W. Bromiley and T. F. Torrance. Edinburgh: T & T Clark, 1958.

_____. *Die Kirchliche Dogmatic*, Vol III/1: *Die Lehre von der Schöpfung*. Zürich: Evangelischer Verlag A.G., 1945.

Gutiérrez, Gustavo. *A Theology of Liberation*. Maryknoll, N.Y.: Orbis, 1973.

MacDonald, Neil B. *Metaphysics and the God of Israel: Systematic Theology of the Old and New Testaments*. Grand Rapids: Baker Academic, 2006.

Niebuhr, Reinhold. *The Nature and Destiny of Man: A Christian Interpretation, Volume I: Human Nature*. Louisville: Westminster John Knox Press, 1996.

Rahner, Karl. "Christology in the Setting of Modern Man's Understanding of Himself and of His World." In *Theological Investigations*, vol. 11, *Confrontations*, 215-29. Translated by David Bourke. New York: Crossroad, 1982.

_____. "Christology within and Evolutionary View of the World." In *Theological Investigations*, vol. 5, *Later Writings*, 157-92. Translated by Karl-H. Kruger. Baltimore: Helicon Press, 1966.

_____. "The Concept of Mystery in Catholic Theology." In *Theological Investigations*, vol. 4, *More Recent Writings*, 36-73. Translated by Kevin Smyth. London: Darton, Longman & Todd, 1966.

_____. *Foundations of Christian Faith: An Introduction to the Idea of Christianity*. New York: Crossroad, 1978. Reprint, New York: Crossroad, 2005.

_____. *Grundkurs des Glaubens: Einführung in den Begriff des Christentums*. Basel: Freiburg im Breisgau; Wien: Herder, 1976.

_____. "Natural Science and Reasonable Faith." In *Theological Investigations*, vol. 21, *Science and Christian Faith*, 16-55. Translated by Hugh M. Riley. New York: Crossroad, 1988.

_____. "Theological Reflections on Monogenesis." In *Theological Investigations*, vol. 1, *God, Christ, Mary and Grace*, 229-96. Translated with introduction by Cornelius Ernst. New York: Crossroad, 1982.

_____. "On the Theology of the Incarnation." In *Theological Investigations*, vol. 4, *More Recent Writings*, 105-20. Translated by Kevin Smyth. London: Darton, Longman & Todd, 1966.

_____. "Theology and Anthropology." In *Theological Investigations*, vol. 9, *Writings of 1965-1967, I*, 28-45. Translated by Graham Harrison. New York: Herder and Herder, 1972.

_____. "The Theology of the Symbol." In *Theological Investigations*, vol. 4, *More Recent Writings*, 221-52. Translated by Kevin Smyth. London: Darton, Longman & Todd, 1966.

_____. *The Trinity*. Translated by Joseph Donceel, with introduction, index, and glossary by Catherine Mowry LaCugna. New York: Crossroad, 1997.

_____. "The Unity of Spirit and Matter in the Christian Understanding of Faith." In *Theological Investigations*, vol. 6, *Concerning Vatican Council II*, 153-77. Translated by Karl H. and Boniface Kruger. New York: Crossroad, 1982.

Scott, Mark S. M., "God as Person: Karl Barth and Karl Rahner on Divine and Human Personhood." *Religious Studies and Theology* 25 (2006): 161-90.

ETHICAL SOURCES

Floyd-Thomas, Stacy M. *Mining the Motherlode: Methods in Womanist Ethics*. Pilgrim Press, 2006.

Gustafson, James M. *Can Ethics Be Christian*. Chicago; London: University of Chicago Press, 1975.

_____. *Ethics from a Theocentric Perspective*. Volume 1: *Theology and Ethics*. Chicago: University of Chicago Press, 1981.

_____. *Intersections: Science, Theology, and Ethics*. Cleveland: Pilgrim Press, 1996.

_____. "The Use of Scripture in Christian Ethics." In *Moral Discernment in the Christian Life: Essays in Theological Ethics*. Edited and with introduction by Theo A. Boer and Paul E. Capetsz, 198-212. Louisville; London: Westminster John Knox Press, 2007.

Heim, S. Mark, "A Cross-Section of Sin: The Mimetic Character of Human Nature in Biological and Theological Perspective." In *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, edited by Philip Clayton and Jeffrey Schloss, 255-72. Grand Rapids: William B. Eerdmans, 2004.

Maguire, Daniel C. *Ethics: A Complete Method for Moral Choice*. Minneapolis: Fortress Press, 2010.

_____, and A. Nicholas Fargnoli. *On Moral Grounds: The Art/Science of Ethics*. New York: McGraw-Hill, 1999.

McAuliffe, Patricia. *Fundamental Ethics: A Liberationist Approach*. Washington, D.C.: Georgetown University Press, 1993.

Schillebeeckx, Edward. *Christ: The Experience of Jesus as Lord*. Translated by John Bowden. New York, Crossroad, 1981.

_____. *God the Future of Man*. Translated by N. D. Smith. London: Sheed & Ward, 1969.

_____. *The Schillebeeckx Reader*. Edited by Robert J. Schreiter. New York. Crossroad, 1984.

Sung, Jung Mo. *Desire, Market and Religion*. London: SCM Press, 2007.

Tucker, Mary Evelyn. *Worldly Wonder: Religions Enter Their Ecological Phase*. With a Commentary by Judith A. Berling. Chicago: Open Court, 2003.

EXEGETICAL SOURCES

Aland, Barbara, et al., ed. *The Greek New Testament*, 4th rev. ed. Stuttgart: Deutsch Bibelgesellschaft, 1994.

Auld, Graeme. “*imago dei* in Genesis: Speaking in the Image of God.” *Expository Times* 116.8 (2005): 259-62.

The Bible. *New American Standard Bible*.

Baker, John. “The Myth of Man’s ‘Fall’: A Reappraisal.” *Expository Times* 92 (1981): 235-37.

Bird, Phyllis A. “‘Male and Female He Created Them’: Genesis 1:27b in the Context of the Priestly Account of Creation.” *Harvard Theological Review* 74.2 (1981): 129-159.

Brueggemann, Walter. *Genesis: A Commentary for Teaching and Preaching*. Atlanta: John Knox Press, 1982.

_____. *Theology of the Old Testament: Testimony, Dispute, Advocacy*. Minneapolis: Fortress Press, 1997.

Callaway, Mary C. “Canonical Criticism.” In *To Each Its Own Meaning*, edited by Steven L. McKenzie and Stephen R. Haynes, 142-155. Louisville: Westminster John Knox Press, 1999.

Clark, W. Malcolm. “A Legal Background to the Yahwist’s Use of ‘Good and Evil’ in Genesis 2-3.” *Journal of Biblical Literature* 88 (1969): 266-78.

Clifford, Richard J. *Creation Accounts in the Ancient Near East and in the Bible*. Washington DC: Catholic Biblical Association of America, 1994.

_____. "The Hebrew Scriptures and the Theology of Creation." *Theological Studies* 46 (1985): 507-23.

_____. "A Note on PS 104 5-9." *Journal of Biblical Literature* 100 (1981): 87-89.

Clines, D. J. A. "The Image of God in Man." *Tyndale Bulletin* 19.1 (1968): 53-103.

_____. "The Tree of Knowledge and the Law of Yahweh (Psalm XIX)." *Vetus Testamentum* 24 (1974): 8-14.

Elliger, K, and W. Rudolf, ed. *Biblia Israelitea Stuttgartensia*. Stuttgart: Deutsch Bibelgesellschaft, 1997.

Freedman, David Noel. "The Law and the Prophets." *Supplements of Vetus Testamentum* 9 (1962): 250-265.

_____. "Canon of the Old Testament." in *Interpreter's Dictionary of the Bible, Supplementary Volume*, edited by Keith Crim et al., 130-136. Nashville: Abingdon, 1976.

Hasel, Gerhard F. "The Meaning of 'Let Us' in Genesis 1:26." *Andrews University Seminary Studies* 13 (1975): 58-66.

_____. "The Significance of the Cosmology in Genesis 1 in Relation to Ancient Near Eastern Parallels." *Andrews University Seminary Studies* 10 (1972): 1-20.

Heidel, Alexander. *The Babylonian Genesis: The Story of the Creation*. Chicago: University of Chicago Press, 1963.

Jónsson, Gunnlaugur A. *The Image of God: Genesis 1:26-28 in a Century of Old Testament Research*. Stockholm: Almqvist & Wiksell International, 1988.

Middleton, J. Richard. *The Liberating Image: The Imago Dei in Genesis 1*. Grand Rapids: Brazos Press, 2005.

Miller, J. Maxwell. "In the 'Image' and 'Likeness' of God." *Journal of Biblical Literature* 91 (1972): 289-304.

Morris, Paul. "Exiled from Eden: Jewish Interpretations of Genesis." In *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer, 117-66. Sheffield: JSOT Press, 1992.

Sarna, Nahum M. *The JPS Torah Commentary: Genesis*. Philadelphia; New York; Jerusalem: Jewish Publication Society, 1989.

Sawyer, J. F. A. "The Image of God, The Wisdom of Serpents, and the Knowledge of Good and Evil." In *A Walk in the Garden: Biblical, Iconographical and Literary Images of Eden*, edited by Paul Morris and Deborah Sawyer, 64-73. Sheffield: JSOT Press, 1992.

_____. "The Meaning of 'בעלם אלהים' in Genesis I-XI." *Journal of Theological Studies* 25 (1974): 418-26.

Schüle, Andreas. "Made in the 'Image of God': The Concepts of Divine Images in Gen 1-3." *Zeitschrift für die Alttestamentliche Wissenschaft* 117.1 (2005): 1-20.

Wenham, Gordon J. *Word Biblical Commentary, Volume 1: Genesis 1-15*. Waco: Word Books, Publisher, 1987.

Westermann, Claus. *Genesis 1-11*. Translated by John J. Scullion, S.J. Minneapolis: Augsburg Publishing House, 1984.

Wilder, William N. "Illumination and Investiture: The Royal Significance of the Tree of Wisdom in Genesis 3." *Westminster Theological Journal* 68 (2006): 51-69.

HERMENEUTICAL SOURCES

Barbour, Ian G. *Religion and Science: Historical and Contemporary Issues*. San Francisco: Harper Collins, 1997.

Ely, Peter B. "Revisiting Paul Ricoeur on the Symbolism of Evil: A Theological Retrieval." *Ultimate Reality and Meaning* 24.1 (2001): 40-64.

Fauconnier, Gilles, and Mark Turner. "The Origin of Language as a Product of the Evolution of Modern Cognition." In *Origin and Evolution of Languages: Approaches, Models, Paradigms*, edited by Bernard Laks et al., 133-56. London; Oakville: Equinox, 2008.

_____. "Principles of Conceptual Integration." In *Discourse and Cognition: Bridging the Gap*, edited by Jean-Pierre Koenig, 269-83. Stanford, Cal.: CSLI Publications: 1998.

_____. "Rethinking Metaphor." In *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs, 53-66. New York: Cambridge University Press, 2008.

_____. *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books, 2002.

LaCocque, André, and Paul Ricoeur. *Thinking Biblically: Exegetical and Hermeneutical Studies*. Translated by David Pellauer. Chicago; London: The University of Chicago Press, 1998.

Lakoff, George. "The Neural Theory of Metaphor." In *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs, 17-38. New York: Cambridge University Press, 2008.

_____, and Mark Johnson. *Metaphors We Live By*. Chicago: University of Chicago, 1980; with a new afterword, 2003.

Masson, Robert. "Analogy and Metaphoric Process." *Theological Studies* 62 (2001): 571-96.

_____. "Analogy as Higher-Order Metaphor in Aquinas." In *Divine Transcendence and Immanence in the Thought of Thomas Aquinas: A Collection of Studies Presented at the Third Conference of the Thomas Instituut te Utrecht, December 15-17, 2005*. Edited by Harm Goris et al., 111-28. Leuven: Peeters, 2009.

_____. "The Clash of Christological Symbols: A Case for Metaphoric Realism." In *Christology: Memory, Inquiry, Practice*, edited by Anne M. Clifford and Anthony J. Godzieba, 62-86. Maryknoll, N.Y.: Orbis, 2003.

_____. "The Force of Analogy." *Anglican Theological Review* 87.3 (2005): 471-86.

_____. "Interpreting Rahner's Metaphoric Logic." *Theological Studies* 71 (2010): 380-409.

_____. "Metaphor as Apt for Conversation: The Inherently Conversational Character of Theological Discourse." In *Theology and Conversation. Developing a Relational Theology*, edited by Jacques Haers, and Peter De Mey, 145-61. Leuven: Peeters, 2003.

_____. "Rahner's Primordial Words and Bernstein's Metaphorical Leaps: The Affinity of Art with Religion and Theology," *Horizons* 33.2 (2006): 276-97.

_____. "Reframing the Fields." *Zygon: Journal of Religion and Science* 39.1 (2004): 49-62.

_____. "Saving God." *Horizons* 31.2 (2004): 239-271.

_____. *Without Metaphor There Is No Saving God*. Leuven: Peeters Publishers: in press.

Ricoeur, Paul. "Du conflit a la convergence des méthodes en exégèse biblique." In *Exégèse et Herméneutique*, edited by Éditions du Seuil, 35-53. Paris: Éditions du Seuil, 1971.

_____. "On the Exegesis of Genesis 1:1-2:4a." In *Figuring the Sacred: Religion, Narrative, and Imagination*. Translated by David Pellauer, edited by Mark I. Wallace, 129-43. Minneapolis, Fortress Press, 1995.

- _____. *Philosophie de la volonté: Finitude et culpabilité, II: La symbolique du mal*. Paris: Aubier-Montaigne, 1960.
- _____. "Sur l'exégèse de Genèse 1,1-2,4a." In *Exégèse et herméneutique*, edited by Éditions du Seuil, 35-53. Paris: Éditions du Seuil, 1971.
- _____. *The Symbolism of Evil*. Translated by Emerson Buchanan. New York: Harper & Row, 1967.
- Taylor, Charles. *Human Agency and Language: Philosophical Papers*, vol. 1. Cambridge: Cambridge University Press, 1985.
- Wallace, Mark I. *The Second Naiveté: Barth, Ricoeur, and the New Yale Theology*. Macon, Ga.: Mercer University Press, 1990.
- Wittgenstein, Ludwig. *Philosophical Investigations*. 3rd ed. Translated by G. E. M. Anscombe. New York: Macmillan, 1973.

INTERDISCIPLINARY SCIENCE-THEOLOGY SOURCES

- Brown, Warren S. et al. ed. *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature*. Minneapolis: Fortress Press, 1998.
- _____. "The Emergence of Causally Efficacious Mental Function." In *Evolution and Emergence: Systems, Organisms, Persons*. Edited by Nancey Murphy and William R. Stoeger, SJ, 198-226. Oxford: Oxford University Press, 2007.
- Campbell, Donald T. "The Conflict Between Social and Biological Evolution and the Concept of Original Sin." *Zygon: Journal of Religion and Science* 10 (1975): 234-49.
- Clayton, Philip. "Conceptual Foundations of Emergence Theory." In *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, 1-31. Edited by Philip Clayton and Paul Davies. Oxford: Oxford University Press, 2006.
- _____. "Emerging from Physics to Theology: Toward a Panoramic View." *Zygon: Journal of Religion and Science* 41 (2006): 675-87.
- _____. *Mind and Emergence: From Quantum to Consciousness*. Oxford: Oxford University Press, 2004.
- _____. "Theology and the Physical Sciences." In *The Modern Theologians: An Introduction to Christian Theology Since 1918*. Edited by David F. Ford and Rachel Muers, 342-356. Malden, Mass.: Blackwell, 2006.

Edwards, Denis. "The Discovery of Chaos and the Retrieval of the Trinity." In *Chaos and Complexity: Scientific Perspectives on Divine Action*. Edited by Robert John Russell et al., 157-75. Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995.

_____. *The God of Evolution: A Trinitarian Theology*. New York: Paulist Press, 1999.

_____. "A Relational and Evolving Universe Unfolding within the Dynamism of the Divine Communion." In *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World*. Edited by Philip Clayton and Arthur Peacocke, 199-210. Grand Rapids; Cambridge, UK: William B. Eerdmans, 2004.

Girard, René. *Deceit, Desire, and the Novel: Self and Other in Literary Structure*. Translated by Yvonne Freccero. Baltimore: John Hopkins University Press, 1965.

_____. *Des choses cachées depuis la fondation du monde*. Paris: B. Grasset, 1978.

_____. *I See Satan Fall Like Lightning*. Translated with foreword by James G. Williams. Maryknoll: Orbis Books, 2001.

_____. *Je vois Satan tomber comme l'éclair*. Paris: Editions Grasset & Fasquelle, 1999.

_____. *Things Hidden Since the Foundation of the World*. Translated by Stephen Bann and Michael Metteer. Stanford, Cal.: Stanford University Press, 1987.

_____. *Violence and the Sacred*. Translated by Patrick Gregory. New York: Continuum, 2005.

Haight, John F. *Is Nature Enough?: Meaning and Truth in the Age of Science*. New York: Cambridge University Press, 2006.

Hefner, Philip. "Biocultural Evolution and the Created Co-Creator." *Dialog* 36.3 (1997): 197-205.

_____. "Biological Perspectives on Fall and Original Sin." *Zygon: Journal of Religion and Science* 28 (1993): 77-101.

_____. *The Human Factor: Evolution, Culture, and Religion*. Minneapolis: Fortress Press, 1993.

_____. "Imago Dei: The Possibility and Necessity of the Human Person." In *The Human Person in Science and Theology*. Edited by Niels Henrik Gregersen, Willem B. Drees and Ulf Görman, 73-94. Edinburgh: T & T Clark, 2000.

Korsmeyer, Jerry D. *Evolution and Eden: Balancing Original Sin and Contemporary Science*. New York: Paulist Press, 1998.

Murphy, Nancey. "Emergence and Mental Causation." In *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*. Edited by Philip Clayton and Paul Davies, 227-42. Oxford: Oxford University Press, 2006.

_____. "Nonreductive Physicalism: Philosophical Issues." In *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature*. Edited by Warren S. Brown et al., 127-48. Minneapolis: Fortress Press, 1998.

_____. "Reductionism: How Did We Fall Into It and Can We Emerge From It?" In *Evolution and Emergence: Systems, Organisms, Persons*. Edited by Nancey Murphy and William R. Stoeger, SJ, 19-39. Oxford: Oxford University Press, 2007.

_____, and George F. R. Ellis. *On the Moral Nature of the Universe: Theology, Cosmology, and Ethics*. Minneapolis: Fortress Press, 1996.

Peacocke, Arthur. "Chance and Law in Irreversible Thermodynamics, Theoretical Biology, and Theology." In *Chaos and Complexity: Scientific Perspectives on Divine Action*. Edited by Robert John Russell et al., 123-43. Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995.

_____. "God's Interaction with the World: The Implications of Deterministic 'Chaos' and of Interconnected and Interdependent Complexity." In *Chaos and Complexity: Scientific Perspectives on Divine Action*. Edited by Robert John Russell et al., 263-89. Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995.

_____. *Paths From Science towards God: The End of All Our Exploring*. New York: Oneworld Publications, 2001.

Peters, Ted. "The Trinity in and Beyond Time." In *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, 2nd ed., edited by Robert John Russell et al., 263-89. Vatican City State: Vatican Observatory, 1996; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1996.

Peterson, Gregory R. "Falling Up: Evolution and Original Sin." In *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, edited by Philip Clayton and Jeffrey Schloss, 273-86. Grand Rapids: William B. Eerdmans, 2004.

Polkinghorne, John. *The Faith of a Physicist: Reflections of a Bottom-Up Thinker*. Minneapolis: Fortress Press, 1996.

_____. "The Laws of Nature and the Laws of Physics." In *Quantum Cosmology and*

the Laws of Nature: Scientific Perspectives on Divine Action, 2nd ed., edited by Robert John Russell et al., 429-40. Vatican City State: Vatican Observatory, 1996; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1996.

_____. "The Metaphysics of Divine Action." In *Chaos and Complexity: Scientific Perspectives on Divine Action*. Edited by Robert John Russell et al., 147-56. Vatican City State: Vatican Observatory, 1995; Berkeley, Cal.: Center for Theology and the Natural Sciences, 1995.

_____. *Science and Providence: God's Interaction with the World*. Philadelphia; London: Templeton Foundation Press, 2005.

Roberts, Jason P. "Emerging in the Image of God to Know Good and Evil." *Zygon: Journal of Religion and Science* 46 (2011): 471-81.

Rolston, Holmes, III. "Does Nature Need to Be Redeemed?" *Zygon: Journal of Religion and Science* 29 (1994): 205-29.

Russell, Robert John. *Cosmology: From Alpha to Omega*. Minneapolis: Fortress Press, 2008.

_____. *Time in Eternity: Pannenberg, Physics, and Eschatology in Creative Mutual Interaction*. Notre Dame, Ind.: University of Notre Dame Press, 2012.

Suchocki, Marjory Hewitt. *The Fall to Violence: Original Sin in Relational Theology*. New York: Continuum, 1994.

Van Huyssteen, J. Wentzel. *Alone in the World? Human Uniqueness in Science and Theology*. Grand Rapids; Cambridge, U.K.: William B. Eerdmans, 2006.

_____. "Human Origins and Religious Awareness: In Search of Human Uniqueness." *Studia Theologica* 59 (2005): 104-28

SCIENTIFIC SOURCES

Ayala, Francisco. "Evolution and the Uniqueness of Humankind." *Origins* 27:34 (1998): 565, 567-574.

_____. "Human Nature: One Evolutionist's View." In *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature*. Edited by Warren S. Brown et al., 31-48. Minneapolis: Fortress Press, 1998.

Boyer, Pascal and H. Clark Barrett. "Domain Specificity and Intuitive Ontology." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 96-118. Hoboken, N.J.: John Wiley & Sons, 2005.

- Burnstein, Eugene. "Altruism and Genetic Relatedness." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 528-51. Hoboken, N.J.: John Wiley & Sons, 2005.
- Campbell, Anne. "Aggression." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 628-52. Hoboken, N.J.: John Wiley & Sons, 2005.
- Darwin, Charles. *The Origin of Species: By Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life; and, The Descent of Man, and Selection in Relation to Sex*. New York: Modern Library, 1990.
- Dawkins, Richard. "Afterword." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 975-79. Hoboken, N.J.: John Wiley & Sons, 2005.
- _____. *The God Delusion*. Boston; New York: Houghton Mifflin, 2006.
- Deacon, Terrence W. "The Aesthetic Faculty." In *The Artful Mind: Cognitive Science and the Riddle of Human Creativity*. Edited by Mark Turner, 21-53. New York: Oxford University Press, 2006.
- _____. "Emergence: The Hole at the Wheel's Hub." In *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*. Edited by Philip Clayton and Paul Davies, 111-50. Oxford: Oxford University Press, 2006.
- _____. *Incomplete Nature: How Mind Emerged from Matter*. New York; London: W. W. Norton and Company, 2012.
- _____. *The Symbolic Species: The Co-Evolution of Language and the Brain*. New York: W.W. Norton & Company, 1997.
- _____. "Three Levels of Emergent Phenomena." In *Evolution and Emergence: Systems, Organisms, Persons*. Edited by Nancey Murphy and William R. Stoeger, SJ, 88-110. Oxford: Oxford University Press, 2007.
- Gellese, Vittorio. "Two Sides of Mimesis: Mimetic Theory, Embodied Simulation, and Social Identification." In *Mimesis and Science: Empirical Research on Imitation and the Mimetic Theory of Culture and Religion*. Edited by Scott R. Garrels, 87-108. East Lansing: Michigan State University Press, 2011.
- Haag, James W. "Between Physicalism and Mentalism: Philip Clayton on Mind and Emergence." *Zygon: Journal of Religion and Science* 41 (2006): 633-47.
- Hagen, Edward H. "Controversial Issues in Evolutionary Psychology." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 145-72. Hoboken, N.J.: John Wiley & Sons, 2005.

Konner, Melvin. *The Tangled Wing: Biological Constraints on the Human Spirit*. New York: Harper Colophon, 1983.

Kim, Jaegwon. *Mind in a Physical World*. Cambridge, Mass.: MIT Press, 1998.

_____. *Philosophy of Mind*, 3rd ed. Boulder, Col.: Westview Press, 2011.

Krebs, Dennis. "The Evolution of Morality." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 747-71. Hoboken, N.J.: John Wiley & Sons, 2005.

Meltzoff, Andrew N. "Out of the Mouths of Babes: Imitation, Gaze, and Intentions in Infant Research—the 'Like Me' Framework." In *Mimesis and Science: Empirical Research on Imitation and the Mimetic Theory of Culture and Religion*. Edited by Scott R. Garrels, 55-74. East Lansing: Michigan State University Press, 2011.

Tattersall, Ian. *Becoming Human: Evolution and Human Uniqueness*. New York: Harcourt Brace, 1998.

_____. *The Monkey in the Mirror: Essays on the Science of What Makes us Human*. New York: Harcourt, 2002.

Tooby, John, and Leda Cosmides. "Conceptual Foundations of Evolutionary Psychology." In *The Handbook of Evolutionary Psychology*. Edited by David M. Buss, 5-67. Hoboken, N.J.: John Wiley & Sons, 2005.

Wilson, E. O. *Sociobiology: The Abridged Edition*. Cambridge, Mass.; London: Harvard University Press, 1980.

_____. *Sociobiology: The New Synthesis*. Cambridge, Mass.: Harvard University Press, 1975.