THE *IMAGO DEI*, TRANSHUMANISM, AND THE FUTURE GLORY OF HUMANITY: A CRITICAL INTERACTION WITH RAY KURZWEIL'S TECHNOLOGICAL SINGULARITY

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Jay Lennon George Williams

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APPROVAL SHEET

THE *IMAGO DEI*, TRANSHUMANISM, AND THE FUTURE GLORY OF HUMANITY: A CRITICAL INTERACTION WITH RAY KURZWEIL'S TECHNOLOGICAL SINGULARITY

Jay Lennon George Williams

Read and Approved by:

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John David Trentham (Chair)

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R. Albert Mohler Jr.

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Timothy Paul Jones

Date_____

To my beloved, Tanya, and our five children: Elijah, Zachary, Adelyne, Gabriel, and Louis. It is a true joy to share in this divinely inspired adventure called life with each of you. All glory to the Holy Trinity forever.

To know God is to love Him because He first loved us.

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LIST OF ABBREVIATIONS

BDAG	Danker, Frederick W., Walter Bauer, William F. Arndt, and F. Wilbur Gingrich. *Greek-English Lexicon of the New Testament and Other Early Christian Literature*. 3rd ed. Chicago: University of Chicago Press, 2000
CEJ	*Christian Education Journal*
LSJ	Liddell, Henry George, Robert Scott, Henry Stuart Jones. *A Greek-English Lexicon*. 9th ed. with revised supplement. Oxford: Clarendon, 1996
NSBT	New Studies in Biblical Theology
OWC	Oxford World's Classics
WSA	*The Works of Saint Augustine: A New Translation for the 21st Century*

PREFACE

The path that led me to writing this dissertation is predicated on a long journey through the ordinary comings and goings of life, but one punctuated with its fair share of divine promptings that have all served a central purpose in shaping this heart and mind to an acknowledgement and belief that this moving cosmos is governed and ruled by a just and gracious Creator who *cares* about the smallest of details all adding up to one consummate acclamation: the preeminence of Jesus Christ over all things. My passion for learning began shortly after my conversion to Christ in the summer of 2002. Up until that time, I saw very little purpose in learning outside of attaining a means to monetary prosperity. From an educational perspective, I was largely shaped by the prevalent mindset of utilitarianism. When the Holy Trinity chose to reveal Himself to me, my worldview was altered. Suddenly, education took on a higher purpose and I began to believe that as a creature made in the likeness of God that I might possess capacities for learning and influence previously foreign to my thinking. Moreso, I began to understand that my life was not my own, ultimately. While possessing free will, I came to understand that God may have created me for a specific calling that wanted the best from every part of me as a human being, even my intellect.

Born and raised in Southern Saskatchewan, Canada, I owe the highest honors to my mother and father. They have faithfully modeled for me an unflinching character of love. I cannot thank them enough for all their encouragement and prayer. As for my academic journey, I began my bachelor's degree at the University of Regina. After a year of studies, I felt God calling me into a life of ministry and I changed schools to Prairie College. At that time, my wife became pregnant with our first-born, and I needed to find work to help support our growing family. Consequently, I enrolled at Saskatchewan

Polytechnic to become an electrician. During the years that followed I worked on a Bachelor of Arts in Ministry (BAM) degree and my electrical certificate simultaneously. After graduating from both pursuits, I entered pastoral ministry for the next five years while operating my own electrical business.

While pastoring and running my electrical business I continued my educational journey by enrolling in the Advanced Master of Divinity (MDiv) program at The Southern Baptist Theological Seminary and in the Master of Arts Leadership and Management (MALM) at Briercrest College and Seminary. After spending almost twelve years in a field dedicated to working with electronics as a master electrician, God used two significant influences that directed my academic journey toward writing on the topic of artificial intelligence.

The first influence came through the reading of C. S. Lewis's *The Space Trilogy*. If that experience can be summed up, I will simply say that Lewis's belief that "great doings are on foot" in our generation—with all the force of a biblical and eschatological emphasis on the word "great"—is sufficient to summarize the central purpose of the intent and content of this work. The second major influence came after moving to Louisville in 2018 to complete my MDiv at Southern Seminary. During this time, I served as an intern in the President's Office under Dr. R. Albert Mohler Jr. Part of my role as an intern was to work with other interns in reading major newspapers for relevant topics to be recommended to Dr. Mohler for his daily podcast, *The Briefing*. During my tenure as an intern, the topic of artificial intelligence (AI) found its way through the headlines, but it had not really gained any significant traction on the world stage. Yet, I began to see an increased urgency in many of the articles I read on the subject and felt an intellectual draw toward the subject on a personal basis, especially toward the potential power that AI could possess—or grant—if sufficiently developed.

As I neared the end of my studies in the MDiv program, God began to direct my heart to furthering my education and to apply at Southern Seminary to take a PhD in

the faculty of Leadership in Higher Education. It was during this time that my doctoral supervisor, Dr. John David Trentham, recommended that I read Ray Kurzweil's seminal work *The Singularity Is Near*. After reading Kurzweil's vision of the technological Singularity, while recognizing a deeply diabolical undercurrent in the vision of the work, I was mostly staggered by the gravity and potential that the Singularity would possess as a false gospel. If brought to fruition, I believe Kurzweil's concept and vision of the technological Singularity has the potential to become the greatest challenge to the gospel of Jesus Christ that the world has ever seen. My hope is that this work will provide the church with an introduction to the potential that such a false gospel will have in challenging "the faith that was once for all delivered to the saints" (Jude 3), and my prayer is that it will help stir a Christian worldview response and representation within the circles of power directly involved in the development of artificial intelligence.

I owe a debt of gratitude to those individuals who have shaped my academic journey. In chronological order, I am indebted to Dr. Paul Magnus at Briercrest College and Seminary for modeling for me a vision of leadership that looks for the divine potential in every student. Dr. Magnus modeled for me how leadership power and influence can be used to leverage the potential in one's students over one's own platform. His enormous energy in the classroom and Christ-like spirit will forever be a model and inspiration to me of the truly *great* professor. I owe a debt of gratitude to Marsha Omanson. She has taught me much about the rigors of academic writing, the ability of a teacher to see the best in one's students, and to raise those students to a standard of academic excellence without compromise by holding them able. I thank God for Dr. R. Albert Mohler Jr. In his private life Dr. Mohler has modeled for me the character of a loving husband, father, and grandfather. In his public life, I can think of few individuals who have modeled so faithfully what it means to lead with both conviction and grace. Furthermore, I can think of even fewer who have done so while contending for the faith with all of his being because of his deep love for this precious gospel entrusted to the

saints. Dr. Mohler has modeled for me the character of a truly *great* man. It has been a true honor to have Dr. Mohler be a part of this dissertation process, and to be considered a colleague and friend. I am indebted to Dr. Timothy Paul Jones for his wise and architectural contributions to this project. His scholarly wisdom on Augustine and his sharp attention to theological detail has provided clear insight and strength to this work. Dr. Jones is not only a first-rate scholar, institutional leader, and teacher, but he is in every respect, a gentleman. Chiefly, I am indebted to my doctoral supervisor, Dr. John David Trentham. Dr. Trentham has exemplified for me the character of the *master* teacher. Dr. Trentham has modeled for me how to craft every aspect of one's personal pedagogy from best-practice principles. He requires the best from his students while demonstrating a consistent commitment to personal excellence. If I were to distill one element of Dr. Trentham's influence on my life that has shone brighter than all his fine qualities, he has modeled for me the central role of implementing a spirit of worship in personal pedagogy. For me, Dr. Trentham has modeled the character of the master teacher because of his spirit of excellence, but also because he truly cares for the souls of his students. Lastly, but certainly not least, I am deeply grateful to my "eagles," to my diligent editor, Jenn Stec, the faculty, students, and administration at Southern Seminary, and to the pastoral staff and congregation at Ninth and O Baptist Church. Without your collective prayer, wisdom, and encouragement, I would not be who I am today. The Lord knows every sacrifice and kindness you have shown—thank you. Lastly, to the immortal Trinity, I owe my very essence. Thank you for every good gift graciously given. Please receive this work as an offering of gratitude in your service (Eph 3:20-21).

Jay Lennon George Williams

Louisville, Kentucky

May 2024

CHAPTER 1

INTRODUCTION

Human innovation is one of the defining elements of what it means to be *human*. For millennia, on the individual level and collectively, human beings continue to strive toward a future that is better than the past. Each generation has sought and continues to seek new ways to improve the quality of living and human consciousness. For Ray Kurzweil, humanity is moving toward a defining moment in the evolution of innovation and a tipping point in the history of the cosmos—a Singularity. Not only will the technological Singularity assist humanity in casting off the restraints of suffering, sin, and death, but, within the framework of C. S. Lewis's work *Out of the Silent Planet*, it will open the door to exit the species' long silence and separation from extending dominion beyond earth and into the greater cosmos.[1]

Based upon what Kurzweil calls "the Six Epochs of History," humanity is now living in a period in technological history governed by *the law of accelerating returns*—an era where technology will advance to the point where reciprocal and exponential developments will reach an upswing guided by artificial intelligence that will increasingly excel beyond human control—a technological *Singularity*.[2] For Kurzweil, the Singularity will open a door that no one can shut—a doorway opening to a future where human beings will merge human biology with technology, but ultimately where

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[1] C. S. Lewis, *Out of the Silent Planet*, vol. 1 of *The Space Trilogy*, Anniversary Collector's ed. (London: HarperCollins, 2013), 138-40.

[2] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin Books, 1999), 29-30; Ray Kurzweil, *The Singularity Is Near* (New York: Penguin Books, 2005), 21-22.

technological intelligence will permeate every atom in the universe, enabling the cosmos to "wake up" to its true informational potential.[3]

When it comes to diminishing the pains of human suffering and the prolongation of human life, I believe Christians should join in the efforts and applaud technological progress. Jesus is the light and life of men (John 1:4), and as the Son of God and the divine *Logos*, wherever He went He gave health to the body (John 5:1-17) and light to the mind (John 17:6-26). Consequently, those who are in Christ should seek to do the same. Human beings are creatures made in the image of God (Gen 1:26), and as God has granted humanity dominion over the created order (Gen 1:28; 9:1-7), humanity was designed to push the boundaries of the imagination and innovation as tools to improve care for one another and the material order. In this regard, Kurzweil's vision for curing disease and suffering is a noble endeavor and one that should be supported where the means remain inside the boundaries of God's moral law (Exod 20:1-17; Deut 5:6-21). At the same time, where such innovations are used to support and construct a future trajectory that is antithetical to a Christian understanding of the *imago Dei*, the gospel, and the doctrine of glorification, much of what Kurzweil writes about his vision for the future of human nature is antithetical to the kingdom of God.

In this dissertation, I seek to engage Kurzweil's vision with Christian discernment and to provide a research project that will help Christian scholars to think through the theological challenges and implications that Kurzweil's vision will create if brought to fruition. For instance, how could his transhumanist vision for merging human biology with technology challenge the doctrine of the *imago Dei*? How could his vision for the incarnation of human mind files into post-biological bodies challenge the gospel and the doctrine of the resurrection? Ultimately, how could his vision for an all-

[3] Kurzweil writes, "In the aftermath of the Singularity, intelligence, derived from its biological origins in human brains and its technological origins in human ingenuity, will begin to saturate the matter and energy in its midst. It will achieve this by reorganizing matter and energy to provide an optimal level of computation . . . to spread out from its origin on Earth." Kurzweil, *The Singularity Is Near*, 21.

encompassing unity ideologically challenge the unity represented in the glorification of the saints—the synergy between heaven and earth lost at the fall but redeemed through the work of Jesus Christ at the cross (Eph 1:7-10)?

Thesis

In this dissertation, I will argue that the Kurzweilian vision of the Singularity will create an increasingly believable and fundamentally antithetical metanarrative to the biblical understanding of human nature, the gospel, and the restoration of all things accomplished by Jesus Christ on the cross of Calvary (John 17; Eph 1:7-10). While the advances toward eliminating human suffering should be celebrated and met with all support and charity, the concepts of ultimately casting off death and human beings transcending their biological framework is fraught with profound theological questions. In this dissertation, I address questions such as the following: How will the increasingly invasive nature of technology and the eventual merger between human biology and technology affect the *imago Dei*? How will a naturalistic promise of eternal life and humanity's ascension into the heavens offer a false gospel and challenge the doctrine of the resurrection? Ultimately, how will the Singularity's proposal to create a naturalistic, all-encompassing unity throughout the cosmos challenge the restoration of the divine unity created by the Trinity in the original creation, lost at the fall, and restored at the cross of Calvary? My intention in this work is to open worldview dialogue in a field that is in its *genesis*—a genesis that deals with realities, or perhaps *forms*, the trajectory of which will most likely be unalterable once they are set in motion.

Methodology

In this dissertation, I will be doing a text-based study on Ray Kurzweil's *The Singularity Is Near*. I will be implementing John David Trentham's *Inverse Consistency*

Protocol (hereafter ICP) for my methodological framework.[4] The ICP model that will guide my methodological approach offers a four-step protocol.

In step 1, the researcher seeks to *envision redemptive maturity* by identifying and asserting normative biblical priorities in confessing and contending for the "faith that was once for all delivered to the saints" (Jude 3).[5] However, rather than appealing merely to propositional statements, Trentham argues that *imagination* is where the hermeneutical process begins due to its critical function in actualizing how the Christian embodies such propositions, and thereby becomes an image of Christ Himself to the world.[6] In other words, biblical doctrine informs physical animation through the medium of the imagination—creating a living *embodiment* of truth. This aspect of my methodology will be developed in the "Doctrinal Foundations" section below and more fully in chapter 3.

Secondly, the ICP paradigm calls for a charitable commitment to *reading for receptivity*. Trentham writes, "Reading well is tantamount to thinking virtuously, and it is the prerequisite for carefully applying discernment and reflective judgment."[7] In what should be the aim of all researchers, it is incumbent upon the Christian thinker to seek to understand the research content with both intellectual honesty, precision, and respect. This process is predicated on the following: (1) reading and understanding primary resources; (2) gaining an understanding of the author's philosophical and ideological presuppositions; and (3) understanding the author's paradigm enough to defend their work in such a way that the author would recognize and commend as being faithful and

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[4] John David Trentham, "Reading the Social Sciences Theologically: Approaching and Qualifying Models of Human Development (Parts 1 and 2)," *CEJ* 16, no. 3 (October 2019): 458-75 [Part 1], 476-94 [Part 2].

[5] Unless otherwise noted, all Scripture quotations come from the English Standard Version. Further, any italics in Bible quotations are my own additions.

[6] David Peterson, *Possessed by God: A New Testament Theology of Sanctification and Holiness*, NSBT 1 (Downers Grove, IL: InterVarsity Press, 1995), 125-26.

[7] Trentham, "Reading the Social Sciences Theologically (Part 2)," 490.

representative of their own views.[8] This aspect of my methodology will be developed in chapter 2.

Thirdly, Trentham articulates the need for *employing reflective discernment*. He notes that convictional interpreters engage in research with a precommitment to their own presuppositions but also seek to consider points of varying differentiation or resonance. This ability enables the reader to try to see the point through the lens of the author, and thereby helps to grasp both critical and charitable reflection.[9] This element of my methodology will be developed in chapter 4.

The fourth and final step of the ICP paradigm appeals to the need to identify appropriate outlets. Trentham writes, "Step four is thus: Carefully identify the various contexts and processes in which the model may be utilized to inform or enhance the practice and administration of Christian education."[10] Thus, the ultimate end of the ICP methodology is for the furtherment of Christian maturity, whereby all truth is God's truth, which supplies maturing qualities for life and faith. This aspect of the ICP methodological approach will be developed in chapter 5.

Lastly, outside of the ICP model, but pertinent to the field of Higher education, is the ability of a scholar to stimulate and integrate[11] both the cognitive and affective domains of learning.[12] While the central body of this work will model the cognitive

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[8] Trentham, "Reading the Social Sciences Theologically (Part 2)," 490.

[9] Trentham, "Reading the Social Sciences Theologically (Part 2)," 491-92.

[10] Trentham, "Reading the Social Sciences Theologically (Part 2)," 492.

[11] James W. Guthrie, ed., *Encyclopedia of Education*, 2nd ed., Macmillan Reference Library (New York: Thomson Gale, 2003), 3:784.

[12] Arthur W. Chickering, *The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society*, Jossey Bass Higher and Adult Education Series (San Francisco: Jossey-Bass, 1984), 252. Regarding the *integration* of specialized knowledge and the benefits of classical literature, David A. Kolb recommends that the best learning environment and scholarship is found in a healthy balance of the two: "It would seem that a central function for the larger university organization is to provide the integrative structures and programs that counterbalance the tendencies toward specialization in student development and academic research. Continuous lifelong learning requires learning how to learn, and this involves appreciation of and competence in diverse approaches to creating, manipulating, and communicating knowledge" (252).

domains of scholarship, various sections will implement classical works that have been formational to Western civilization, along with other relevant cultural and literary artifacts, to leverage the imaginative function of the affective domains of human learning and scholarship.[13] Thus, the scope of this dissertation will reflect a liberal arts approach in its architectural breadth of scholarship.[14] For an overview of the classical and contemporary literary artifactual sources that will be utilized throughout the work, please see the "Summary of Research" section below.

As a note to the reader, while the ICP model was originally designed to interpret and respond to secular models of development, the model is also fitting for engaging in text-based research where a unique worldview is established, as represented in Ray Kurzweil's The Singularity Is Near*. Since this dissertation is a text-based study on Ray Kurzweil's* The Singularity Is Near*, supplemented with a larger census reading of Kurzweil's additional publications, I wish to give deference to the author in chapter 2. To maintain the ordering of the ICP methodology, I will provide an overview of step 1 (envisioning redemptive maturity) in the "Doctrinal Foundations" section below,*

Regarding the power of the imagination attached to cultural symbols from recent neuroscience research, Mary Helen Immordino-Yang writes, "They also influence brain systems for cognition, changing thought in characteristic ways—from the desire to seek revenge in anger, to the search for escape in fear, to the receptive openness to others in happiness, to the ruminating on lost people or objects in sadness. In each case, the emotion can be played out on the face and body, a process that is felt via neural systems for sensing and regulating the body. And in each case, these feelings interact with other thoughts to change the mind in characteristic ways and to help people learn from their experiences." Mary Helen Immordino-Yang, *Emotions, Learning, and the Brain: Exploring the Educational Implications of Affective Neuroscience* (New York: W. W. Norton, 2016), 183.

Helen Sword discusses the power of "allusion" in academic writing as a key means of stimulating the affective nature of the reader. See Helen Sword, *Stylish Academic Writing* (Cambridge, MA: Harvard University Press, 2012), 77).

Walker Percy offers insight regarding the expansion of consciousness through experiences both in the world and within, including the arts and its impact on learning. Walker Percy, *Sign Posts in a Strange Land*, ed. Patrick Samway (New York: HarperCollins, 1991), 125.

[13] Martha C. Nussbaum, *Love's Knowledge: Essays on Philosophy and Literature* (New York: Oxford University Press, 1990), 11.

[14] Edward Craig, ed., *Routledge Encyclopedia of Philosophy* (New York: Routledge, 1998), 6:694; David Dockery, *Christian Higher Education: Faith, Teaching, and Learning in the Evangelical Tradition* (Wheaton, IL: Crossway, 2018), 170-71; Arthur K. Ellis, *Exemplars of Curriculum Theory* (New York: Routledge, 2013), 94-96.

implement step 2 (reading for receptivity) in chapter 2, and then expand upon step 1 fully in chapter 3.

Summary of Research

I will be using Scripture as my primary reference work. Outside of Scripture, I will be utilizing resources from across the span of Christian history to present a historical voice in shaping the doctrines of the Trinity, the *imago Dei*, the fall, the incarnation, and Christ's earthly work and its effects on human justification, sanctification, and glorification.[15] Augustine's *The City of God against the Pagans* will serve as a primary resource for framing the historical analogy of the antithetical kingdoms of the City of God and the City of Man—extant in the ideological trajectories of Christianity as compared to Ray Kurzweil's vision of the technological Singularity. I will model the discipline of Christian higher education (CHE), particularly with a precommitment to the

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[15] Primary references for this section: Gregg R. Allison, *Embodied: Living as Whole People in a Fractured World* (Grand Rapids: Baker Books, 2021); Anselm of Canterbury, *The Major Works*, ed. Brian Davies and G. R. Evans, OWC (Oxford: Oxford University Press, 1998); Thomas Aquinas, *The Summa Theologica*, trans. Fathers of the English Dominican Province (Claremont, CA: Coyote Canyon Press, 2018); Augustine, *The City of God against the Pagans*, ed. and trans. R. W. Dyson, Cambridge Texts in the History of Political Thought (Cambridge: Cambridge University Press, 2016); Augustine, *Confessions*, trans. R. S. Pine-Coffin, Penguin Classics (London: Penguin Books, 1961); Augustine, *De Trinitate*, ed. John E. Rotelle, trans. Edmund Hill, vol. 5 of *WSA*, pt. 1, *Books* (New York: New City Press, 1991); Augustine, *The Enchiridion of Augustine Addressed to Laurentius: Being a Treatise on Faith, Hope, and Love*, Christian Classics Series 2 (London: Unwin Brothers, [1955?]); Augustine, *Essential Sermons*, ed. Boniface Ramsey, trans. Edmund Hill, in *WSA*, pt. 3, *Homilies* (New York: New City Press, 2007); Augustine, *On Christian Teaching*, trans. R. P. H. Green, OWC (Oxford: Oxford University Press, 2008); Herman Bavinck, *Reformed Dogmatics*, vol. 2, *God and Creation*, ed. John Bolt, trans. John Vriend (Grand Rapids: Baker Academic, 2004); Herman Bavinck, *Reformed Dogmatics*, vol. 3, *Sin and Salvation in Christ*, ed. John Bolt, trans. John Vriend (Grand Rapids: Baker Academic, 2006); John Calvin, *Institutes of the Christian Religion*, trans. Henry Beveridge (Grand Rapids: Wm. B. Eerdmans, 1989); John W. Cooper, *Body, Soul and Life Everlasting: Biblical Anthropology and the Monism-Dualism Debate* (Grand Rapids: William B. Eerdmans, 2000); Carl F. Henry, *God Who Speaks and Shows*, *Fifteen Theses, Part Two*, vol. 3 of *God, Revelation, and Authority* (Wheaton, IL: Crossway Books, 1999); Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 2015); John R. W. Stott, *The Cross of Christ* (Downers Grove, IL: InterVarsity Press, 2006); Fred Sanders, *The Deep Things of God: How the Trinity Changes Everything*, 2nd ed. (Wheaton, IL: Crossway, 2017); Thomas R. Schreiner, *New Testament Theology: Magnifying God in Christ* (Grand Rapids: Baker Academics, 2008); Bernardus Silvestris, *Cosmographia*, in *Poetic Works*, ed. Winthrop Wetherbee, Dumbarton Oaks Medieval Library (Cambridge, MA: Harvard University Press, 2015); Francis Turretin, *Institutes of Elenctic Theology*, vol. 3, ed. George Musgrave Giger, trans. James T. Dennison Jr. (Phillipsburg, NJ: P & R, 1997); Stephen Wellum, *Christ Alone: The Uniqueness of Jesus as Savior*, 5 Solas Series (Grand Rapids: Zondervan, 2017); Jay Lennon George Williams, "Omni-synergy and the Singularity: Looking Both Ways at the Intersection of Science and Theology," *Christian Education Journal* 19, no. 2 (August 2022): 232-46.

liberal arts, emphasizing a great tradition of faith-reason integration, and engage in this research methodology with a pedagogical style. Building on Augustine's own high view of classical Western literature and the classical tradition of the liberal arts and its contributary strength to Western civilization, education, and scholarship, along with other relevant contemporary literary artifacts, I will make connections and draw from an eclectic, but intentionally-selected set of sources, including Homer, Plato, Aristotle, Euripides, Cicero, Virgil, Milton, Lewis Carroll, Robert Browning, and Led Zeppelin's rock classic "Stairway to Heaven." Due to the potential of Ray Kurzweil's vision of the Singularity to change the trajectory of the future of humanity, my intent in implementing these resources is to leverage the power of the affective domains of scholarship to supplement the cognitive and to help substantiate a greater collective voice from the Western classical tradition, and in many instances, aspects of conceptual overlap where Western thought and Christianity find a powerful philosophical and ideological synthesis regarding metaphysics, epistemology, and axiology.[16] Furthermore, as a Christian, I do not believe that this synthesis is by chance, but reflective of the sovereign rule of the God of all nations.[17] A second primary resource that will be utilized throughout the work due to its own unique and contributory *vision* toward various aspects of the subject material, is C. S. Lewis's *The Space Trilogy*.[18]

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[16] George Knight, *Philosophy and Education: An Introduction in Christian Perspective*, 4th ed. (Berrien Springs, MI: Andrews University Press, 2006), 15-33.

[17] Aristotle, *The Nicomachean Ethics of Aristotle*, trans. D. P. Chase (London: George Routledge & Sons, 1910); Aristotle, *Physics*, trans. Robin Waterfield, OWC (New York: Oxford University Press, 2011); Aristotle, *On the Soul and Other Psychological Works*, trans. Fred D. Miller Jr., OWC (Oxford: Oxford University Press, 2018); Cicero, *The Republic and The Laws*, trans. Niall Rudd, OWC (Oxford: Oxford University Press, 2008); Euripides, *Medea and Other Plays*, ed. and trans. James Morwood, OWC (Oxford: Oxford University Press, 2008); Homer, *The Odyssey*, trans. Walter Shewring, OWC (New York: Oxford University Press, 2008); Plato, *Complete Works*, ed. John M. Cooper (Indianapolis: Hackett, 1997); Plato, *Five Great Dialogues*, trans. B. Jowett, ed. Louise Ropes Loomis (New York: Walter J. Black, 1942); Plato, *Timaeus and Critias*, trans. Robin Waterfield, OWC (New York: Oxford University Press, 2008); Virgil, *The Aeneid*, trans. David West (New York: Penguin Books, 2003).

[18] C. S. Lewis, *The Space Trilogy*, Anniversary Collector's ed. (London: Harper Collins, 2013).

For the doctrine of the Trinity, Augustine's *De Trinitate* provides a comprehensive and technical definition.[19] I supplement Augustine's work with Calvin's perspective on the unity and diversity of the Godhead, drawing attention to the synergy subsistent through the unity and diversity of the Godhead.[20] Building on Augustine's works in defining the Trinity, I utilize Thomas Aquinas's *Summa Theologica* to define the unity of God in His own *simple* and *good* nature as the source of the goodness of His creation (Gen 1:31).[21] I supplement Aquinas with Augustine's perspective of God's goodness in the original created order represented in *The Enchiridion*.[22] Building on Augustine, Aquinas, and Calvin, I establish Sanders's perspective on the ontological Trinity.[23]

I will utilize Bernardus Silvestris's definition of the unified dual-substance nature of man being made in the *imago Dei*.[24] I implement Peter Gentry's work on

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[19] "The purpose of all the Catholic commentators I have been able to read on the divine books of both testaments, who have written before me on the trinity which God is, has been to teach that according to the Scriptures Father and Son and Holy Spirit in the inseparable equality of one substance present a divine unity; and therefore there are not three gods but one God; although indeed the Father has begotten the Son, and therefore he who is the Father is not the Son; and the Son is begotten by the Father, and therefore he who is the Son is not the Father; and the Holy Spirit is neither the Father nor the Son, but only the Spirit of the Father and of the Son, himself coequal to the Father and the Son, and belonging to the threefold unity." Augustine, *De Trinitate*, 69.

[20] Calvin, *Institutes* 1.13.2.

[21] Aquinas, *Summa Theologica* I, q. 4. art. 1; q. 6, art. 3; q. 11, art. 1.

[22] Augustine, *The Enchiridion*, 23.

[23] Sanders, *The Deep Things of God*, 26-27. See also John Frame, *Systematic Theology: An Introduction to Christian Belief* (Phillipsburg, NJ: P & R, 2013), 489-90.

[24] "Man will be made, his form closely akin to the divine, a blessed and happy conclusion of my work, such as he has lived from eternity, a subject of the primary universe, a worthy and in no way inferior idea in my mind. He will derive his mind from heaven, his body from the elements, so that he may dwell bodily on earth, mentally in heaven. His mind and body, though diverse, will be joined into one, such that a sacred union may render the work agreeable to both. He shall be both divine and earthly, and will devote himself to both spheres, dealing wisely with the world, reverently with the gods. Thus, can he conform to his dual nature and remain in harmony with his two defining principles. That he may both worship things divine and fully embrace earthly life, and meet the demands of this double commitment, he will possess the gift of reason in common with higher powers; only a thin line will separate Man from the gods." Silvestris, *Cosmographia*, 140-41. For further doctrinal interaction on this subject, see Allison, *Embodied*, 21-38; Cooper, *Body, Soul, and Life Everlasting*, 158-78; Anthony A. Hoekema, *Created in God's Image* (Grand Rapids: Wm. B. Eerdmans, 1986), 203-26; Justin E. H. Smith, *Embodiment: A History*, Oxford Philosophical Concepts (New York: Oxford University Press, 2017), 89-101.

distinguishing between the etymological roots of the words "image" and "likeness."[25] Regarding the extent of the *imago Dei*, I supplement Calvin's depiction with the concept that humanity bears the image by participating both ontologically and through human dominion in the divine goodness as represented in Aquinas and Aristotle.[26] With regard to human language, rationality, and consciousness as aspects of the *imago Dei*, both individually and collectively, I use Mortimer Adler's *Intellect*, Owen Barfield's *Poetic Diction*, and John Calvin's *Institutes* as key resources.[27] Lastly, I establish a foundation for the dominion mandate and human innovation as elements of the *imago Dei* by utilizing Augustine's *The City of God* and *On Christian Teaching*, Gentry's essay on "Sanctification under the New Covenant," Tim Keller and Katherine Alsdorf's *Every Good Endeavor*, Michael Polanyi's *Personal Knowledge*, and John Polkinghorne's *One World*.[28] Drawing from Scripture and the previous sources, I will argue that in the original state humanity lived in a state of optimal goodness[29] predicated on an ontological reality of perfect unity and synergy with the Trinity.[30]

I will then give a theological overview on the biblical fall. For this portion, I will draw from Augustine's *The City of God* and *The Enchiridion*, John Milton's *Paradise Lost*, and Martin Luther's *Bondage of the Will*.[31] After establishing a biblical

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[25] Peter Gentry, *Biblical Studies* (Peterborough, ON: H & E Academic, 2020), 1:52.

[26] Aquinas, *Summa Theologica* I, q. 6, art. 4; Aristotle, *The Nicomachean Ethics*, 15, 24-26, 29, 40-41, 44; Calvin, *Institutes* 2.12.6.

[27] Mortimer Adler, *Intellect: Mind over Matter* (New York: Collier Books, 1990), 17, 28-30; Owen Barfield, *Poetic Diction: A Study in Meaning* (Middletown, CT: Wesleyan University Press, 1973), 23, 55-59; Calvin, *Institutes* 2.12.6.

[28] Augustine, *The City of God*, 464; Augustine, *On Christian Teaching*, 18; Timothy Keller and Katherine Leary Alsdorf, *Every Good Endeavor: Connecting Your Work to God's Work* (New York: Penguin Books, 2016), 35-36; Polanyi, *Personal Knowledge*, 83; John Polkinghorne, *One World: The Interaction of Science and Theology* (West Conshohocken, PA: Templeton Press, 2007), 8, 78.

[29] Augustine, *The City of God*, 602-3. Humanity's original state of highest good (Gen 1:31) is rooted in a perfect unity in relationship with the ontological Trinity and one another.

[30] Williams, "Omni-synergy and the Singularity."

[31] Augustine, *The City of God*, 198-206, 469; Augustine, *The Enchiridion*, 24-25, 27; John Milton, *Paradise Lost*, ed. George Stade, Barnes & Noble Classics (1674; repr., New York: Barnes &

foundation for the fall, I will argue that Christ's incarnation,[32] life, and ultimately the propitiatory work on the cross fulfilled God's promise in the protoevangelium in Genesis 3:15 and restored the unity between heaven and earth, reconciling human synergy with the Trinity and providing a way to increase human-to-human synergy through the indwelling presence of the Holy Spirit and personal sanctification. For this section, I will utilize John Stott's *The Cross of Christ*, Thomas Schreiner's *New Testament Theology*, and Stephen Wellum's *Christ Alone* as primary resources.[33]

While this dissertation will be a textual study on Ray Kurzweil's seminal work *The Singularity Is Near*, I will be using numerous additional publications by Kurzweil along with other publications about his work to support the claims made in *The Singularity Is Near*.[34] In his work *The Age of Spiritual Machines*, Kurzweil lays a foundation for his concept of the law of accelerating returns and the Singularity.[35] In his works *Fantastic Voyage* and *Transcend*, Kurzweil and co-author Terry Grossman offer insight into their vision of sustaining optimal physical health until the Singularity. Both works provide information about Kurzweil's gospel message of eternal life, nanobot technology, and the non-determinant nature of genetics.[36] In his work *How to Create a*

Noble Books, 2004), 266-67; Martin Luther, *The Bondage of the Will*, trans. J. I. Packer and O. R. Johnson (Grand Rapids: Fleming H. Revell, 1957), 80, 84, 123.

[32] Anselm, *The Major Works*, 320.

[33] John R. W. Stott, *The Cross of Christ* (Downers Grove, IL: InterVarsity Press, 2006); Schreiner, *New Testament Theology*; Wellum, *Christ Alone*.

[34] Ray Kurzweil, *Danielle: Chronicles of a Superheroine* (Colorado Springs: WordFire Press, 2019); Kurzweil, *How to Create a Mind: The Secret of Human Thought Revealed* (New York: Penguin Books, 2012); Kurzweil and Terry Grossman, *Fantastic Voyage: Live Long Enough to Live Forever* (New York: Rodale, 2004); Kurzweil, *The Age of Spiritual Machines*; Kurzweil, *The Singularity Is Near*; Kurzweil and Terry Grossman, *Transcend: 9 Steps to Living Well Forever* (New York: Rodale, 2009).

[35] Kurzweil, *The Age of Spiritual Machines*. In this early work, Kurzweil frames his concept of technological evolution and the transcendent nature of technological innovation to become more than the sum of its parts. Here, Kurzweil provides a number of helpful definitions to understand concepts presented in his works, such as "Moore's Law," "information," "order," "complexity," "simulated intelligence," "narrow and general Artificial Intelligence," and "human intelligence." The author also gives early insight into his vision for the destiny of intelligence on earth.

[36] Kurzweil and Grossman, *Transcend*, 148.

Mind, Kurzweil provides the foundational vision as to how it is plausible to use the digital realm as a mind-extension of the human brain's neocortex—a critical element to his vision for transhumanism.[37] Kurzweil also provides a helpful layout as to how language can be leveraged to decode the patterns of our neural synapses,[38] how machines will master the content of the internet and become superintelligent, how we might utilize algorithms to turn a computer into an entity equivalent to the human brain,[39] and an ultimate technological Singularity.[40] In his work *Danielle*, Kurzweil offers a vision for a coming Messiah out of the Singularity.[41] The protagonist of the story embodies the impact that a transhuman child will have on the world. For example, with superintelligence, Danielle brings peace to the Middle East and between East and West, she meets humanity's food and water crises in Africa, she wins all the Grammy awards, and ultimately solves the mysteries of quantum mechanics (to name a few). While my focus will be primarily on Kurzweil's *The Singularity Is Near*, I will supplement and provide counter-perspectives into this dissertation from some primary sources within the

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[37] Kurzweil, *How to Create a Mind*, 116-23.

[38] Kurzweil, *How to Create a Mind*, 159. The brain is capable of receiving sound waves and light waves and encoding those signatures to symbols and language. The neural synapses of the brain, in correspondence with language, will provide pattern signatures for interpreting thought.

[39] Kurzweil, *How to Create a Mind*, 181; Martin Davis, *The Universal Computer: The Road from Leibniz to Turing* (New York: W. W. Norton, 2000), 206.

[40] Kurzweil, *How to Create a Mind*, 194.

[41] Kurzweil, *Danielle*, 118. In a fictional dialogue between Danielle and a Jewish Rabbi, Kurzweil hints at the coming of the Messiah, who will solve all the world's problems. In similar fashion to twelve-year-old Jesus in the temple (Luke 2:41-52), Danielle is visiting with a respected Jewish scholar at the same age: "The Meeting took place in his cramped office, which was lined with shelves of centuries-old Hebrew volumes and an ornate carved menorah. Danielle spoke to the Rebbe. 'Moshiach revealed the primacy of the word of'—here she gestured with her open hand and face toward heaven instead of speaking the name of God—'in contrast with the idolatry of the golden calf.' The Rebbe smiled, but corrected Danielle. 'The Moshiach has not yet appeared, but yes, he surely will do that when he assumes his role.' Danielle continued, 'Ah yes, of course. So, from this day forward we establish the transcendence of words over material objects. Words symbolize ideas that humans can share with each other, even if these thoughts derive from . . .' The Rebbe and Danielle gestured toward the heavens. The Rebbe responded, 'Everything derives from . . .' and they again gestured together toward the sky. 'It started with the apple,' Danielle observed. 'The fruit of knowledge which gave us understanding and responsibility—' '—and shame,' the Rebbe completed her thought. They continued like this for three hours speaking in Talmudic metaphors and the Rebbe was profoundly impressed with her deep understanding and wisdom. 'This is a sacred and wise child,' Rabbi Schneerson said bidding Danielle goodbye. 'We should follow closely what she has to say'" (118). The inference is that Danielle is the Messiah.

field of Artificial Intelligence (AI) and transhumanism when necessary.[42] Author Thomas Malone offers a helpful perspective into how narrow and artificial intelligence differ,[43] the power of collective intelligence over the individual,[44] and the uploading of information to AI via a future collective intelligence generated out of a human and machine intelligence synchronization.[45] Max Tegmark's work *Life 3.0* provides both support and critical analysis of Kurzweil's vision. Tegmark deals with theoretical outcomes in the advent of true Artificial Intelligence and considers Kurzweil's vision for the intelligent awakening of matter.[46] Yuval Harari offers a similar vision to Kurzweil in his work *Homo Deus*. Harari provides insight into the use of computer algorithms to analyze the human brain. In creating a digital map of human online interaction, technology will be able to determine a person's identity in a clearer way than the individuals themselves.[47] Furthermore, Harari argues that a utilitarian ethic combined with a godlike machine intelligence will enable humanity to access the perfect oracle for personal happiness. In *On the Future*, Martin Rees offers insight into the extremes of hard determinism on his interpretation of social Darwinism and the future value of

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[42] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (New York: Oxford University Press, 2017); Peter H. Diamandis and Steven Kotler, *The Future Is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives*, Exponential Mindset Series (New York: Simon & Schuster, 2020); Yuval Noah Harari, *Sapiens: A Brief History of Humankind* (New York: Harper Perennial, 2015); Harari, *Homo Deus: A Brief History of Tomorrow*, A Brief History Series (New York: Harper Perennial, 2017); Thomas Malone, *Superminds: The Surprising Power of People and Computers Thinking Together* (New York: Little, Brown, 2018); Martin Rees, *On the Future: Prospects for Humanity* (Princeton, NJ: Princeton University Press, 2018); Murray Shanahan, *The Technological Singularity*, MIT Press Essential Knowledge Series (Cambridge, MA: MIT Press, 2015); Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Vintage Books, 2017); Rizwan Virk, *The Simulation Hypothesis: An MIT Computer Scientist Shows Why AI, Quantum Physics, and Eastern Mystics Agree We Are in a Video Game* (Mountain View, CA: Bayview Books, 2019).

[43] Malone, *Superminds*, 25.

[44] Malone, *Superminds*, 33.

[45] Malone, *Superminds*, 317-27.

[46] Tegmark, *Life 3.0*, 49, 68-69, 155, 167.

[47] Harari, *Homo Deus*, 332-46.

transhumanism.[48] Rees also addresses several issues presented in *The Singularity*, such as humanity's ascension into the heavens, humanity populating the greater cosmos, [49] and the Simulation Hypothesis. Also supplementing the concept of the Simulation Hypothesis is Rizwan Virk's work *The Simulation Hypothesis*. Virk offers insight into the road to creating an immersive digital reality simulation,[50] mind-broadcast technology,[51] and the potential to download human consciousness into a post-biological body.[52] Furthermore, Nick Bostrom's work *Superintelligence* engages Kurzweil's predictions about when the Singularity will be viable, in assessing the concept of superintelligence, and the Simulation Hypothesis. Bostrom's work is also helpful in supplementing Kurzweil's predictions about whole brain emulation as presented in *How to Make a Mind*. Finally, I will utilize Peter Diamandis and Steven Kotler's work *The Future Is Faster Than You Think* to supplement Kurzweil's vision and to substantiate the financial support Kurzweil's vision has received from countries such as Saudi Arabia and corporations such as Apple to see his vision of the Singularity come to fruition.[53] In addition to these primary works from the field of Artificial Intelligence and transhumanism, I will be supplementing his arguments with those of other researchers within this field primarily in the footnotes to add greater weight to Kurzweil's vision, but also to provide counter perspectives for the reader.

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[48] Rees, *On the Future*, 88, 153, 164, 170.

[49] Rees, *On the Future*, 164.

[50] Virk, *The Simulation Hypothesis*, 25.

[51] Virk, *The Simulation Hypothesis*, 75.

[52] Virk, *The Simulation Hypothesis*, 103.

[53] Diamandis and Kotler, *The Future Is Faster Than You Think*, 76-77.

Significance

According to Ray Kurzweil, technological advancements have moved humanity toward a fast-approaching tipping point that he has coined as *the Singularity*—"a future period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed."[54] As technology continues to break down the dividing boundaries of language, enabling greater human interaction and connectivity, the convergence of that group flow of intelligence is rapidly enabling human beings to exponentially move the boundaries of human and machine learning (see Dan 12:1-4).[55] Based upon the progress of the data transfer rate (DTR) resulting from this convergence, along with the rapidly growing and successful development of large language models, I will recommend that the language barrier placed upon humanity by God at Babel may indeed be the restrainer Paul speaks of in 2 Thessalonians 2. The unlocking of the language barrier will produce a global and unified stream of information, unimpeded, leading to a group flow of human intelligence corrupted by original sin that may enable an ultimate rebellion of cosmic proportions.[56] The City of Man began with the subjugation of human freedom and authority over the earth to the will of Satan in the garden and will end in a consummate City of Man where Satan empowers a singular human ruler who subjugates the whole world under his authority, and where unredeemed humanity unites their fallen wills with his in a mutual effort to *reascend*.[57] Kurzweil writes, "The Singularity will allow us to transcend these limitations of our biological bodies and brains. We will gain power over our fates. Our mortality will be in our own hands. We will be able to live as long as we want."[58] Again,

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[54] Kurzweil, *The Singularity Is Near*, 7.

[55] Diamandis and Kotler, *The Future Is Faster Than You Think*, 257.

[56] Malone, *Superminds*, 74-75, 317-27.

[57] Augustine, *The City of God*, 603-17.

[58] Kurzweil, *The Singularity Is Near*, 9.

Kurzweil writes, "The Singularity will represent the culmination of the merger of our biological thinking and existence with our technology. . . [a point of convergence where] there will be no distinction, post-Singularity, between human and machine or between physical and virtual reality."[59] Furthermore, Kurzweil envisions a day when a great all-encompassing unity is brought about throughout the cosmos through the infusion of computronium into the atomic structure of the cosmos—indeed, where all the material realm is connected through a vast technological synergy and the universe itself becomes conscious, and Kurzweil's *god* "awakens" as an *artificially* omniscient intelligence ready to utilize a *corporeal* omnipresence and omnipotence.[60] For Kurzweil, this new entity will elevate humanity into deity and generate a new religion where men and women will worship the Singularity.[61] Due to the universal effects of this vision, I believe that this topic is significant and worthy of a sound biblical interlocutor, along with a much larger conversation in academic scholarship represented by various fields and worldviews.

Doctrinal Foundations

In keeping with the *Inverse Consistency Protocol*, this section will briefly articulate the doctrinal foundations that will inform step 1 of the ICP methodology in *envisioning redemptive maturity*. This section will serve as a brief overview of the doctrinal and confessional foundations of step 1 of the ICP methodology, which will be fully developed in chapter 3. Due to the more expansive nature of chapter 3, I will implement a point form overview here for the benefit of the reader:

- Foundational to this dissertation is the universal and deep-rooted longing in the human experience for a lasting home—a place of *permanence* (Eccl 3:11; Heb 11:10, 16). Whether from a Christian or Kurzweilian worldview, each system of thought (worldview) offers its own metaphysical, epistemological, and axiological presuppositions regarding the past, present, and future of humanity. According to Ray

[59] Kurzweil, *The Singularity Is Near*, 9.

[60] Kurzweil, *The Singularity Is Near*, 15, 375.

[61] Kurzweil, *The Singularity Is Near*, 370.

Kurzweil, humanity is moving toward an eternal existence brought about by an anthropic principle origin,[62] wrought by a Darwinian metaphysic and augmented by punctuated equilibrium,[63] and ultimately through advances wrought by technological evolution, via the law of accelerating returns, leading to a technological point of Singularity as represented in *The Singularity Is Near*.[64] While not denying the *limited* adaptive potential in genetics, from a Christian worldview, humanity was created by an eternal and good triune Creator (Gen 1:31; Exod 33:19),[65] free of genetic defect, suffering, or death in the original created order (Gen 1:31). In this original state, human beings dwelt in perfect synergy with God and one another, cleaving to and participating in His own goodness as His image bearers and as vice-regents over the corporeal order.

- Augustine's *The City of God against the Pagans* serves as a primary resource to establish the antithetical natures of the enduring and historical struggle between the City of God and the City of Man as two antithetical and competing factions seeking to attain an enduring state for humanity.[66] The doctrinal vision of the eternal City of God is developed throughout the Old and New Testaments (Ps 46:4; 48:1, 8; 87:3; Isa 46:4; Heb 12:22; 13:14; Rev 21:2; 22:1). The City of God is inhabited by those angels who remained in their original and blessed state, along with those human beings who, after the fall, have believed on the sacrificial death of the Lord Jesus Christ for the propitiation of their sins (Rom 3:21-26; 2 Cor 5:18-21; Eph 2:8). Those creatures who withdraw from the divine City, beginning with the devil and the fallen angels (Isa 14:12-17; Ezek 28:11–19; Matt 25:41; Rev 12:7-10), and extended to Adam and Eve and their offspring through their rebellion (Gen 3:6; Matt 25:41; Rom 5:12-21; Rev 20:10-15), represent the citizens of the City of Man.[67]

- I establish a doctrinal foundation for the ontological Trinity[68] rooted in His divine simplicity and goodness[69] as foundational to the character of God and inherent to His creative acts in the creation of the cosmos, but chiefly to the corporeal realm, in the creation of humanity (Gen 1:4, 10, 12, 18, 21, 25, 31).[70] Furthermore, as derived from the active goodness of God in His creative acts, this goodness was imparted generally throughout the created order but also with greater intentionality in humanity, whose faculties combine both a rationality patterned to comprehend the actions of divine

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[62] Kurzweil, *The Singularity Is Near*, 15, 359-60.

[63] Kurzweil, *The Singularity Is Near*, 44-45.

[64] Kurzweil, *The Singularity Is Near*, 16-17.

[65] Augustine, *The City of God*, 499.

[66] Augustine, *The City of God*, 216, 401, 429-30, 447, 449, 609, 632.

[67] Augustine, *The City of God*, 471.

[68] Augustine, *De Trinitate*, 69; Frame, *Systematic Theology*, 489-90; Sanders, *The Deep Things of God*, 95.

[69] Augustine, *The Enchiridion*, 22.

[70] Aquinas, *Summa Theologica* I, q. 2, art. 3; q. 3, art. 1; q. 3, art. 7; q. 4, art. 2; q. 6, art. 1.; Augustine, *The City of God*, 474-75.

goodness, and a will to freely participate in this goodness in exercising dominion over corporeal realm after the similitude of God's own goodness.[71]

- Vital to human ontology and identity, the doctrine of the *imago Dei* is developed extensively due to the vital role it will play as the foundation for a Christian response to Kurzweil's vision for a biological and technological transhumanism. Etymologically, the implications of the *imago Dei* are represented in the terms *image* and *likeness*. The word "image" implies a vertical relationship with God as a copy of an original (sons of God),[72] while the term "likeness" signifies a horizontal relationship between a copy and others, implying a servant-kingship relationship between human beings and the mutual responsibility of human vice-regency (Gen 1:28).[73] The vertical and horizontal aspects of the *imago Dei* are reflected in the unified dual-substance nature of the human form (corporeal and incorporeal). Each individual can relate to both the heavenly realm as an incorporeal being, and to the earthly, as a corporeal being (Gen 2:7).[74] Thus, while retaining the Creator-creature distinction, principally the doctrine of the *imago Dei* establishes a biblical foundation for the inherent *dignity* and *worth* of every human being as an ontological reflection of the divine likeness and image.[75] One of the central elements of the *imago Dei* in relation to the content of this dissertation is the magnificence of human rationality and consciousness, both individually and collectively.[76] Furthermore, while reflected in each individual, and the human capacity for relationship in general, the *imago Dei* is also reflected in the cogenerate and complementary nature of marriage that functions as the foundation of the family, and through the nucleus of the family, human culture and community.[77] Chiefly, the *imago Dei* finds its greatest expression in the human capacity to worship, a central function in the original order, lost at the fall, and restored by the redeemed work of Jesus Christ.[78] Humanity is uniquely equipped to participate both ontologically and through the dominion mandate in the goodness of God.[79] Lastly, in a post-fall reality, every individual who is redeemed by

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[71] Aquinas, *Summa Theologica* I, q. 6, art. 4.

[72] Calvin, *Institutes* 2.12.6.

[73] Gentry, *Biblical Studies*, 1:22; Williams, "Omni-synergy and the Singularity, 232-46.

[74] Allison, *Embodied*; Cooper, *Body, Soul and Life Everlasting*, 158-78; Hoekema, *Created in God's Image*, 213-18; Gary S. Selby, *Pursuing an Earthy Spirituality: C. S. Lewis and Incarnational Faith* (Downers Grove, IL: InterVarsity Press, 2019) 6-11; Smith, *Embodiment*, 89.

[75] "The analogy between God and ourselves will always have disanalogy with it. So we are looking for qualities in man that constitute finite replicas of God's infinite qualities." Frame, *Systematic Theology*, 785.

[76] Adler, *Intellect*, 17, 28-30; Barfield, *Poetic Diction*, 23, 56-57; Samuel E. Balentine, ed., *The Oxford Encyclopedia of the Bible and Theology* (Oxford: Oxford University Press, 2015), 1:517; Calvin, *Institutes* 2.12.6.

[77] Allison, *Embodied*, 32; Bavinck, *God and Creation*, 787-90; J. H. Bavinck, *Personality and Worldview*, ed. and trans. James Eglinton (Wheaton, IL: Crossway, 2023), 52-53; Bruce M. Metzger and Michael D. Coogan, ed., *The Oxford Companion to the Bible*, Oxford Companions (New York: Oxford University Press, 1993), 141; Frame, *Systematic Theology*, 787-90.

[78] Calvin, *Institutes* 1.15.3; Frame, *Systematic Theology*, 470, 790-91.

[79] Aquinas, *Summa Theologica* I, q. 6, art. 4; Aristotle, *The Nicomachean Ethics*, 15, 24, 29, 40-41, 44; Calvin, *Institutes* 2.12.6.

Jesus Christ is renewed into the image of Christ (Rom 8:29) who Himself is the exact imprint of the nature of the Father in human form (Heb 1:1-3).[80]

- Building on the doctrinal foundation of human dominion as an aspect of the *imago Dei* (Gen 1:28), I argue that human *innovation*[81] is reflective of the capacity to imitate God's own creative acts as sub-creators (Ps 8:6). I establish the scientific method and early developments of the expansion of human consciousness in human potential as being actuated by God when He commanded Adam to name the animals (Gen 2:19).[82] As beings made in the image of God, I develop a theological emphasis on humanity's capacity and responsibility to innovate as an example of participating in the goodness of God through loving stewardship—seeking to generate and contribute one's faculties both individually and collectively for the universal good of humanity and the glory of God (Eph 2:10).[83]

- I recommend a biblical foundation for human free will as expressing true freedom prior to the fall—wills perfectly aligned and participating in the goodness of the ontological Trinity—and flourishing as rooted in the full blessing of God in the pursuit of life, liberty, and happiness. I then offer an overview of the doctrine of sin (Gen 3:6-7),[84] divine justice (Gen 3:8-24; Isa 45:21), Satan's role in God's good creation, the promise of the protoevangelium (Gen 3:15), along with an overview of the prophecy's progression throughout the Old Testament (Gen 12:1-3; 14:17-20; 15:1-21; 17:1-8; 22:16; 26:1-5; 28:11-17; 2 Sam 7:12-14; Ps 22; Isa 7:14; 42:1-4, 53; Jer 23:5-6; Mic 5:2-4). I then provide a systematic interpretation of the prophecy as being fulfilled in Jesus Christ. His victory over sin, death, and the devil accomplished by His redemptive work on the cross secures humanity's future glory in the City of God.[85]

- While not developing a full eschatology, due to the eschatological nature of the doctrines of the resurrection and the glorification of the saints, and due to recent technological developments provided throughout the entirety of this work on machine intelligence, developments inconceivable to biblical scholars of previous generations—including Ray Kurzweil's depiction of a Messiah figure in his work *Danielle*—I will recommend that the restrainer of 2 Thessalonians 2:7 is the restraint of *language* itself imposed by God at Babel (Gen 11:7). My hope is that this recommendation will be considered by my colleagues and, if proven to be a viable interpretation, better established in various academic disciplines through both charitable and critical integration and scholarly work.

- Finally, contrary to the Kurzweilian belief in post-biological bodies and humanity creating a god in their own image who will then raise them into the heavens, in Jesus

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[80] Balentine, *The Oxford Encyclopedia of the Bible and Theology*, 1:516-17.

[81] Polanyi, *Personal Knowledge*, 37.

[82] Adler, *Intellect*, 133; Aristotle, *On the Soul and Other Psychological Works*, 59-60; Bavinck, *God and Creation*, 560.

[83] Gottfried Wilhelm Leibniz, *The Philosophical Works of Leibnitz* (New Haven, CT: Tuttle, Morehouse & Taylor, 1890), 79.

[84] Bavinck, *Sin and Salvation in Christ*, 169.

[85] Anselm, *The Major Works*, 351-52.

> Christ, the church is comprised of pilgrim citizens (1 Pet 2:11; Heb 11:13) of the eternal City whose participatory role in this world is to cleave to God through faith in the substitutionary death of Jesus Christ for the forgiveness of sin (2 Cor 5:18-21). Already forgiven of their sins, the saints are promised by God to receive the help of the Holy Spirit (John 16:7-8; 13; Rom 8:1-17), to contend for the faith once for all delivered to the saints (Jude 3), and to preach this gospel throughout the earth (Matt 28:19-20; Luke 24:44-53) until the measure of the saints is completed throughout history (Eph 4:13) and Jesus returns, having all authority in heaven and on earth (Dan 7:13-14; Matt 28:18) to judge the living and the dead (Rom 2:1-16; 1 Thess 4:13-18; Rev 19-20) and to restore the unity between heaven and earth (Eph 1:10).

Argument

In this dissertation, I seek to fulfill my calling as a Christian scholar in "contending for the faith that was once for all delivered to the saints" (Jude 3) as a response to those ideologies that would "pervert the grace of our God into sensuality and deny our only Master and Lord, Jesus Christ" (Jude 4). In the name of our LORD, may this work be used to destroy the works of the devil (1 John 3:8). Ray Kurzweil's vision of the Singularity directly challenges fundamental doctrines of the Christian faith that have been contended for through millennia. If permitted to be brought to fruition, the Singularity will challenge the aforementioned doctrines through real signs and wonders—albeit false signs and wonders—that have the capacity to create a great cosmological deception.

In chapter 2, I apply the second step of the ICP model in reading for receptivity. In this chapter, I will provide a comprehensive assessment of the writings of Ray Kurzweil but specifically articulate his vision for transhumanism and the future of humanity as represented in *The Singularity Is Near*. Three core elements of Kurzweil's writings will offer an antithetical gospel to the world. First, Kurzweil proposes a future where Strong AI and nanotechnology enable a viable merger between human biology and technology that will pave the way to eliminating biological suffering and expand human intelligence by connecting the superior parallel processing capacities of the human neocortex in the brain to the cloud, enabling almost perfect memory and instantaneous access to the World Wide Web. Furthermore, this merger will also enable an immersive

virtual reality (IVR) that will become indistinguishable from true reality when nanobot technology enables a seamless stimulation of the nervous system as individuals navigate a simulated reality.

Secondly, once the cloud becomes an extension of the human brain, Kurzweil predicts that computers will finally be able to capture every salient neural detail from inside—an *internal eye* watching every thought and intent of the heart, enabling the attainment of a pure algorithmic pattern of each mind.[86] These salient algorithmic details will create a perfect image of an individual's mind to be uploaded to a hard drive, providing an individual "mind file."[87]

Ultimately, while Kurzweil believes that human biological bodies will be sustainable indefinitely, human mind files will be downloadable into post-biological bodies.[88] While these ideas will be expanded upon in greater detail within this dissertation, this section reflects his vision for the Singularity to provide a false resurrection out of the technological innovations destined to arise from the merger of human and machine intelligence. The final element of Kurzweil's vision is that the Singularity will lead to the unification and conscious awakening of all the matter in the cosmos—creating one all-encompassing unity between humanity, matter, and technology.[89] Kurzweil believes that this ultimate merger will enable the universe to enter a fully conscious state of being, and in this conscious transformation, "god" itself will awaken and raise humanity into the heavens.

In chapter 3, I implement the second step of the ICP methodology in *envisioning redemptive maturity* by establishing a biblical foundation for the doctrine of

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[86] Kurzweil, *The Singularity Is Near*, 199.

[87] Kurzweil, *The Singularity Is Near*, 329.

[88] Kurzweil, *The Singularity Is Near*, 198.

[89] Kurzweil, *The Singularity Is Near*, 389-90.

the *imago Dei* as the basis for the antithetical implications regarding transhumanism and artificial intelligence. I will also seek to create a robust theology for the unity established by God out of His perfect and divine goodness (Gen 1:31), both lost and restored through Jesus Christ. Christ Jesus has already dealt with human sin and restored the unity lost at the fall through His death, burial, and resurrection (Eph 1:7-10). He now sits at the right hand of the Father (Phil 2; Rev 5) until the appointed time when He will return and bring judgment on those who have rejected the gospel through unbelief (Zech 14:1-9; Rom 2:16; 2 Thess 2:5-10; Rev 19:11-21), judge the devil and those fallen angels who have rebelled against God (Rev 20:1-10), and then do away with death, sin, and the effects of the fall forever (1 Thess 4:13-5:11; Rev 21:3-4).

In chapter 4, the study will interact with Kurzweil's work according to the third step of the ICP model, providing both charitable and critical reflection. In charitable reflection, though antithetical to my own world vision, I will engage Kurzweil's vision with academic charity by offering his own published works as the foundation for his own arguments. From a critical perspective, the study will engage those elements of Kurzweil's work that directly challenge the biblical worldview as represented in chapter 3. I will argue that Kurzweil's techno-humanist vision of eternal life, the great awakening of all the material Universe—the ultimate City of Man—is also a false wonder that replicates God's ultimate vision of the glorification of His saints to be restored and enveloped in perfect unity with Himself in the eternal City of God. In this chapter, I will recommend—on the basis of recent developments in machine learning, the immanent merger between the human neocortex, the World Wide Web, the cloud, and the trajectory of the Singularity as developed by Kurzweil—that the great restrainer of 2 Thessalonians 2 may be the restraint of language itself imposed by God at the tower of Babel (Gen 11). On the basis of the technological developments regarding large language models, such as ChatGPT, and the importance of language as a precursor to the Singularity, and based upon the general fallen nature of humanity, once the restraint of language is overcome, an

unredeemed and fallen humanity will naturally move toward a global and unified rebellion against God. Kurzweil's Singularity proposes a vision to overcome human sin, suffering, death, and ultimately humanity's greater presence throughout the cosmos without the work of Jesus Christ.

In chapter 5, while this field is largely in its genesis, after engaging Kurzweil's concept of transhumanism and the Singularity as a vision for the ultimate City of Man, and arguing for the sufficiency of God's design in the *imago Dei*, the gospel of Jesus Christ, and the ultimate restoration of the unity between heaven and earth, I will seek to appropriate concepts and ideas gained from my research as it applies to Christian higher education (in general, and more pointedly, theological education. Specifically, I will address the implications of Kurzweil's worldview pertaining to individual identity and human nature in light of the Simulation Hypothesis, specifically regarding how these developments will change the nature of education and challenge student identity.[90] Furthermore, as technology becomes increasingly invasive and viable, I will seek to contribute to how we can leverage these technologies for good while trying to formulate a Christian response to transhumanism and the techno-humanist gospel suggested in Kurzweil's writings. At the end of chapter 5, I will list a number of concepts derived from my research to recommend for future scholarly work within the field of higher education regarding AI and transhumanism.

In the appendix, I will provide a list of topics for future scholarship that are more general in scope than those presented in chapter 5 that arose throughout my research.

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[90] Kurzweil, *The Singularity Is Near*, 385, 405.

CHAPTER 2

THE SINGULARITY IS NEAR: TRANSHUMANISM AND THE GENESIS OF GOD

Pleasant and fitting both their use will be
When time and mode and measure do agree,
Else withering from the root all lives would fail
And that old Chaos o'er the wreck prevail.
Conquerors of Death! They fill each empty place
In Nature and immortalize the race.

Ovid, *Metamorphoses*

The Formation of a Visionary

Ray Kurzweil is one of the foremost technological innovators of the twentieth and twenty-first centuries. In similar spirit to Benjamin Franklin, he is a paragon of successful innovation and invention with break-through patents in optical character recognition (OCR), text-to-speech synthesis, speech recognition technology, and electronic synthesizers—fields which have greatly enhanced many of the devices that have improved human leisure and global connectivity over the last several decades. Similarly, and more to the purposes of this project, much like Franklin, Kurzweil is a *visionary* who believes in the power of ideas.[1]

Reared by parents who fled the Holocaust and who deeply cherished the arts, Kurzweil inherited a legacy modeling the value of human freedom, appreciating beauty, and the capacity to see a brighter future. Reflecting upon his childhood, Kurzweil speaks of several formative experiences that inspired his worldview perspective. One of the most important elements of his childhood came from the formative influence of the Unitarian

[1] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin Books, 2005), 1.

Church as a community that embodied the concept that there are many paths to the truth. For Kurzweil, this is a fundamental epistemological belief that connects all worldview perspectives: "In a Unitarian Church, where we studied all the different religions, and the theme was many paths to the truth. We noticed that even though they use different metaphors in different stories, the religions all described god in the same way as being unlimited using language like: God is all-knowing; God is infinitely creative, infinitely loving, and infinitely intelligent."[2]

Another deeply formative experience Kurzweil shares is a memory passed down from his grandfather. Upon returning to Europe for the first time since fleeing the Nazi invasion, his grandfather was privileged to hold "Leonardo da Vinci's personal notebooks containing descriptions and illustrations of his inventions"—an experience he always spoke about with deep reverence.[3] Describing the influence this story had on his own philosophical shaping, Kurzweil writes, "[Grandfather] described this experience in reverential terms. Yet these were not documents written by God, but by a human. This was the religion, if you will, I grew up with: the power of human ideas to change the world. This philosophy was personalized: you, Ray, can find those ideas."[4]

In another instance, Kurzweil writes about the influence of his mother's grandmother, Regina Stern, who *embodied* his elementary philosophy. In the late nineteenth century, Kurzweil's great-grandmother became a key voice in advocating for female education across Europe in a time when most females did not receive an education beyond grade nine.[5] Out of this vision, the Stern family founded in Vienna the *Stern*

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[2] Christopher Hrynkow, *Spiritualities, Ethics, and Implications of Human Enhancement and Artificial Intelligence* (Wilmington, DE: Vernon Press, 2020), 10.

[3] Ray Kurzweil, preface to *Danielle: Chronicles of a Superheroine* (Colorado Springs: WordFire Press, 2019), xv.

[4] Kurzweil, preface to *Danielle*, xv.

[5] Hrynkow, *Spiritualities, Ethics, and Implications of Human Enhancement and Artificial Intelligence*, 7.

Schule, the first female school for higher education in Europe. Regina became one of the first women in Europe to receive a PhD in chemistry.[6] Upon the completion of her degree, Regina and one other woman would take over the school and run it for the next seventy years until the annexation of Austria in 1938 by Nazi Germany. For Kurzweil, his great-grandmother's achievements changed the world, but as for her influence on a young boy, it was her mechanical typewriter that became the central object that inspired him to become an inventor.

Finally, from the typewriter to the computer, Kurzweil describes his draw toward computers at an early age. In fact, in 1960, there were only twelve computers in all of New York City.[7] With a vision that computers could change the world, Kurzweil began learning computer programming by accessing one of these twelve computers at Flower-Fifth Avenue Hospital, in Spanish Harlem. If the saying "hard work over privilege" has ever found a champion, Kurzweil is a model example, describing how, at twelve years of age, he would catch a train to the hospital, where he was allowed to use the computer from midnight until 8:00 a.m.[8]

Today, these familial and early childhood influences continue to catalyze Kurzweil's vision of a future generation destined to transcend the limits of human biology beyond the edges of what was once seen as mere fantasy. While many elements lead toward a single moment in time where advances in technology will reach an incomprehensible point of *Singularity*, for Kurzweil, humanity is destined for a future in which the advances in knowledge and technology born out of the Singularity will enable human and non-human intelligence to transcend the great barriers that have restrained

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[6] Kurzweil, preface to *Danielle*, xvi.

[7] Ray Kurzweil, "What Will Happen after the Technological Singularity?," The Artificial Intelligence Channel, April 22, 2018, YouTube video, https://youtu.be/lAJkDrBCA6k?si=biyEe92I_FYBtmLY.

[8] Hrynkow, *Spiritualities, Ethics, and Implications of Human Enhancement and Artificial Intelligence*, 9.

humanity since the beginning—the problems of evil and suffering, human mortality, the limiting factors of language, and the physical restraints of the speed of light that hold humanity back from becoming a space-faring civilization.

As a disclaimer, in accord with my methodological approach to this document in *reading for receptivity*, the rest of this chapter will seek to represent the thinking of Ray Kurzweil in such a manner that Kurzweil himself would approve as being a true reflection of his own views. As stated in the methodological aspect of chapter 1, this step of the ICP model is predicated on the following: (1) reading and understanding primary resources; (2) gaining an understanding of the author's philosophical and ideological presuppositions; (3) understanding the author's paradigm enough to defend their work in such a way that the author would recognize and commend as being faithful and representative of their own views.[9]

The Six Epochs: A Metaphysical Narrative Arch

While the Singularity will be expanded in greater detail later in this chapter, Kurzweil summarizes his vision for a technological Singularity as "a future period during which the pace of technological change will be so rapid, [and] its impact so deep, that human life will be irreversibly transformed."[10] That is, out of the Singularity of technological evolution will arise a *transhuman* version of humanity in which human and machine intelligence merge, enabling humanity to transcend their biological roots and create an augmented reality where there will be no distinction "between human and machine or between physical and virtual reality."[11]

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[9] John David Trentham, "Reading the Social Sciences Theologically: Approaching and Qualifying Models of Human Development (Part 2)," *CEJ* 16, no. 3 (October 2019): 490.

[10] Kurzweil, *The Singularity Is Near*, 7.

[11] Kurzweil, *The Singularity Is Near*, 9.

Kurzweil begins his seminal work *The Singularity Is Near* with an all-encompassing metaphysical narrative-arch of the past, present, and future of human history, referred to as *The Six Epochs*. For Kurzweil, the ultimate story of the world is built upon the evolution of increasingly sophisticated *patterns*: "Evolution is a process of creating patterns of increasing order. . . . it's the evolution of patterns that constitutes the ultimate story of our world. Evolution works through indirection: each stage or epoch uses the information-processing methods of the previous epoch to create the next. I conceptualize the history of evolution—both biological and technological—as occurring in six Epochs."[12]

Kurzweil describes Epoch 1 as the fundamental stage in history in which basic patterns of matter and energy began to form elementary atomic structures.[13] During this epoch, molecules became relatively stable as carbon gave rise to the ability for bonds to form in four directions, which then gave rise to more complex, information-rich, three-dimensional structures. Expanding on these early developments, Epoch 2 categorizes the era when carbon-based compounds became increasingly intricate, self-replicating mechanisms formed, and *life* originated along with its precise digital mechanism (DNA).

In Epochs 3 and 4, DNA began to guide evolution toward organisms that began to utilize sensory organs able to process and store that information with an elementary brain and nervous system—the systems responsible for early forms of pattern recognition. Out of this development evolved the human capacity for rational and abstract thought, along with an opposable thumb, each leading to a unique capacity in human beings for abstract thought and the emergence of technological innovation. This last development is fundamental to Kurzweil's vision, as technological evolution eventually

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[12] Kurzweil, *The Singularity Is Near*, 14.

[13] Kurzweil, *The Singularity Is Near*, 14-15.

led to devices capable of sensing, storing, and evaluating patterns of information, stimulating an exponential upswing in innovation.

Finally, in Epochs 5 and 6, Kurzweil predicts the merger between biological and technological intelligence. He writes, "Looking ahead several decades, the Singularity will begin with the fifth Epoch. It will result from the merger of the vast knowledge embedded in our own brains with the vastly greater capacity, speed, and knowledge-sharing ability of our technology."[14] The Singularity will enable human beings to transcend the limitations of biological evolution and open vast new horizons for innovation. In the last epoch, Kurzweil hypothesizes that intelligence will begin to permeate all matter and energy in the universe. If Epoch 5 can assist in overcoming the bounding factor of the speed of light (become superluminal), the current limiting factor of information transfer, then the entire universe will become sentient, creating a vast and interconnected unity; like the ultimate version of Frankenstein, Kurzweil argues that *god*, or the closest thing to god he can imagine, will *wake up*—creating one vast and all-encompassing technological unity capable of computation.[15] Kurzweil places our current state of development as being far into Epoch 4; therefore, this is the best place to begin developing his argument toward the Singularity and how this event will transform not only human nature, but reality itself.

The Emergence of Technological Evolution

Based upon the combined factors of *acceleration* and *singularity*, the concept of a technological Singularity was first envisioned by Princeton Professor Jon von

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[14] Kurzweil, *The Singularity Is Near*, 20.

[15] Kurzweil, *The Singularity Is Near*, 375. Light travels at 186,000 miles per second. Given the enormous distance of the universe, the speed of light is too slow for any feasible timeframe to accomplish Kurzweil's vision of the permeation of all matter. Kurzweil suggests that human technology will enable our ability to generate wormholes, which will in turn become portals useful to accomplish this end (CERN). Could the dark realm provide a substrate for quantum entanglement? Quantum entanglement provides a theoretical example of how information transfer may exceed the speed of light. Kurzweil, "Ray Kurzweil: What Will Happen after the Technological Singularity?" See also Martin Rees, *On the Future: Prospects for Humanity* (Princeton, NJ: Princeton University Press, 2018), 8.

Neuman in the 1950s and later coined as the *technological Singularity* by Vernor Vinge in 1993.[16] For Kurzweil, von Neuman's original prediction was based upon a pattern that carried over from biological evolution. Though Kurzweil would credit the *anthropic principle*[17] as the ultimate benefactor for the fine-tuning of the universe, he attributes the mechanism of natural selection through a Darwinian model of evolution, though augmented by rapid changes of punctuated equilibrium,[18] as having provided the optimal environment out of which human intelligence emerged, and through intelligence, the capacity to begin to guide biological evolution.

In *The Singularity Is Near*, Kurzweil's suggestion of the anthropic principle emerges from a rejection of any traditional concept of God. He writes, "Where some see a divine hand, others see our own hands—namely, the anthropic principle, which holds that only in a universe that allowed our own evolution would we be here to ask such questions."[19] In other words, such a finely tuned universe exists for no other reason than, "it exists." In similar fashion to the genetic code developed by biological evolution, Kurzweil argues that a technological genetic code emerged at some point as a result of beneficial mutations in the evolving human brain—a development pertinent to the

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[16] Kurzweil, *The Singularity Is Near*, 10; Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (New York: Oxford University Press, 2017), 60.

[17] Kurzweil, *The Singularity Is Near*, 357. Kurzweil evokes the anthropic principle as the metaphysical principle as to why all things exist: "Equally unlikely is the existence of our universe, with its set of laws of physics and related physical constants, so exquisitely, precisely what is needed for the evolution of life to be possible. But by the anthropic principle, if the universe didn't allow the evolution of life we wouldn't be here to notice it. Yet here we are" (357).

[18] Kurzweil, *The Singularity Is Near*, 44-45. Kurzweil does not believe that Darwinian evolution, a slow and progressive model of evolution, is optimal for human evolution. He writes, "The evolutionary theory of punctuated equilibrium (PE) describes evolution as progressing through periods of rapid change followed by periods of relative stasis. Indeed, the key events of the epochal-event graphs do correspond to renewed periods of exponential increase in order (and, generally, of complexity), followed by slower growth as each paradigm approaches its *asymptote* (limit of capability). So PE does provide a better evolutionary model than a model that predicts only smooth progression through paradigm shifts" (44-45). A punctuated equilibrium augments Darwin's own conjecture that an incomplete fossil record would falsify his theory of evolution, "If the geological record be as imperfect as many believe . . . the theory of natural selection are greatly diminished or disappear." Charles Darwin, *The Origin of Species* (New York: Modern Library, 2009), 481.

[19] Kurzweil, *The Singularity Is Near*, 15.

innovation and use of elementary tools. In his book *The Age of Spiritual Machines*, Kurzweil writes, "The 'genetic code' of the evolutionary process of technology is the record maintained by the tool-making species. Just as the genetic code of the early life forms was simply the chemical composition of the organisms themselves, the written record of early tools consisted of the tools themselves."[20] In other words, there was an emergent change from an unguided process toward a guided process when biological evolution provided the evolving brain with the foundational capacity for *innovation*—intelligence transcended *natural limitations*.[21] Particularly, Kurzweil points to the significance of the neocortex: "The neocortex is biology's greatest creation. In turn, it is the poems about love—and all of the other creations—that represent the greatest inventions of our neocortex."[22] With the development of the neocortex, the human capacity for *pattern recognition* emerged, creating an increasingly sophisticated competence for improving previous innovations and giving rise to the earliest iterations of human technology.[23] But, what is technology?

As developed already, technology is often described as finding its genesis in the creation of tools for the manipulation of an environment. Elementary tools like hammers and shovels are used for work (examples of Kurzweil's *mind* extensions). From the earliest of ages, human beings have demonstrated a significant capacity for innovating new technologies that enhance and improve life and commercial progress. But based on this kind of definition, human beings are not the only species represented. For example, orangutans utilize rocks and sticks for many different applications. What

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[20] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin Books, 1999), 14.

[21] Ray Kurzweil, *How to Create a Mind: The Secret of Human Thought Revealed* (New York: Penguin Books, 2012), 1.

[22] Kurzweil, *How to Create a Mind*, 120.

[23] Kurzweil, *How to Create a Mind*, 29-33, 57. Kurzweil considers himself a "patternist" and ascribes human existence and the capacity of the neocortex in recognizing patterns as elementary to humanity's transcendence.

distinguishes human beings from other animals is the "application of knowledge—recorded knowledge—to the fashioning of tools."[24] Kurzweil argues that this knowledge base represents the genetic code for evolving technology—a process that is itself evolving. Moving from elementary forms represented by early oral traditions to today's artificially intelligent computer assistants like Siri or Alexa, this knowledge base is expanding exponentially. For Kurzweil, there is a *transcendent* nature to human technology that helps understand his vision for the Singularity:

> Technology also implies a transcendence of the materials used to comprise it. When the elements of an invention are assembled in just the right way, they produce an enchanting effect that goes beyond the mere parts. When Alexander Graham Bell accidentally wire-connected two moving drums and solenoids (metal cores wrapped in wire) in 1875, the result transcended the materials he was working with. For the first time, a human voice was transported, magically it seemed, to a remote location. Most assemblages are just that: random assemblies. But when materials—and in the case of modern technology, information—are assembled in just the right way, transcendence occurs. The assembled object becomes far greater than the sum of its parts.[25]

From the advent of technological innovation, Kurzweil posits that this same transcendent technological reality enabled early subspecies to supersede the process of natural selection and human evolution in its primitive form—creating a new legacy in the development of human biology that might be aptly described as *the survival of the technologically fittest*. Again, Kurzweil writes,

> We're not entirely sure what happened to our *Homo sapiens* cousins, but they apparently got into conflict with our own immediate ancestors *Homo sapiens*, who emerged about 90,000 years ago. Several species and subspecies of humanoids initiated the creation of technology. The most clever and aggressive of these subspecies was the only one to survive. This established a pattern that would repeat itself throughout human history, in that the technologically more advanced group ends up being dominant.[26]

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[24] Kurzweil, *The Age of Spiritual Machines*, 16.

[25] Kurzweil, *The Age of Spiritual Machines*, 16.

[26] Kurzweil, *The Age of Spiritual Machines*, 15.

Thus, the emergence of human technology enabled early generations to overcome the unguided restrictions of biological evolution.[27] As advanced species became increasingly technologically superior to competitive species, their advanced weapon systems enabled them to kill off other species, and their technological developments were passed on to their offspring through the medium of language (the medium of information transfer).

On the development of language, Kurzweil refers to Noam Chomsky's concept of the human capacity for *recursion*. Kurzweil writes, "Recursion, according to Chomsky, is the ability to put together small parts into a larger chunk, and then use that chunk as a part in yet another structure, and to continue this process iteratively. In this way we are able to build the elaborate structures of sentences and paragraphs from a limited set of words"—another function of the neocortex.[28] This transfer of information enabled future generations to build on the knowledge of previous generations, and human intelligence began to increase cross-generationally. With the *collective* expansion of human intelligence, Kurzweil writes, "Intelligence is arguably the most important phenomenon in the world because intelligence allows us to understand and shape our environments."[29] Kurzweil recognizes this change as the genesis of human *consciousness*, and while he is a self-professed atheist, he does not negate the existence of a spiritual nature in the cosmos.

Consistent with the fundamental belief presented from his unitarian roots, Kurzweil postulates that human consciousness is the ultimate *spiritual quality* whether one believes in a god or not. He describes consciousness as the quintessential "seed of value" that distinguishes one species from all others.[30] For Kurzweil, one's actions are

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[27] Kurzweil, *How to Create a Mind*, 1.

[28] Kurzweil, *How to Create a Mind*, 56.

[29] Ray Kurzweil and Terry Grossman, *Transcend: 9 Steps to Living Well Forever* (New York: Rodale, 2011), 4.

[30] Hrynkow, *Spiritualities, Ethics, and Implications of Human Enhancement and Artificial Intelligence*, 9. Kurzweil notes that ultimate value is contingent upon ultimate influence.

"only important in so far as they affect the conscious experience of conscious beings."[31] Again, if biological evolution through the means of natural selection has enabled early species of human beings to transcend the whole of their parts, and if that concept is paid forward to technological evolution, then the combination of biological and technological evolution has indeed enabled human beings to transcend the whole of their parts within the structure of an evolutionary worldview paradigm. Consequently, human consciousness is central to evolutionary trajectory, and for Kurzweil, evolution itself becomes a spiritual development directly proportionate to the scale of its beneficial increase—an increase ultimately leading to the Singularity—and through the Singularity strong artificial intelligence, advanced robotics, immersive virtual reality, and ultimately transhumanism. Consequently, he describes the capacity for human beings to overcome the restrictions of a biological heritage through the means of advanced technology as the beginning of an exponential process that is subject to what Kurzweil coined as *the law of accelerating returns*.[32]

The Law of Accelerating Returns

Building upon von Neuman's vision of acceleration and singularity, acknowledging that early technological innovations developed slowly, Kurzweil notes that the present situation of innovation that is building upon thousands of years of human innovation has provided an environment aided by computer technology where "the pace of change of our human-created technology is accelerating and its powers are [now] expanding at an exponential pace."[33] Rather than being *linear*, where growth is steady and quantifiable, exponential growth is *explosive*. While early versions of homo-sapiens

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[31] Hrynkow, *Spiritualities, Ethics, and Implications of Human Enhancement and Artificial Intelligence*, 9.

[32] Kurzweil, *The Singularity Is Near*, 7.

[33] Kurzweil, *The Singularity Is Near*, 7-8.

experienced slow technological progress, forming their expectations that their present would largely be the same as their past, Kurzweil argues that even though our modern innovations are changing almost on a momentary basis, there still exists a similar mindset that cloaks the explosive trajectory currently underway. Indeed, rather than taking the current rate of innovation and projecting it forward as a linear prediction of scientific advancement moving into the future, Kurzweil argues an alternative perspective.

Exponential growth itself is inherent to the process of technological evolution. Whereas Kurzweil believes that biological evolution may at times be subject to punctuated equilibrium, in like manner he reasons that technological evolution experiences a sudden "doubling" of growth on a consistent basis due to its directed nature—meaning that the exponent is *itself* multiplying exponentially. This doubling effect, coupled with the reality that no innovation exists on an island, occurs across all technological fields, pushing developments in every field and creating reciprocal improvement.[34] While the functions of the neocortex are at the heart of all innovation, the accelerating advancements in computation have created a unique relationship between human biology and technology.

The exponential growth of computation has provided a vastly superior capacity to store extensive memories and recognize patterns in visual, auditory, and tactile stimuli.[35] As computational power becomes increasingly powerful, so do the practical benefits for human innovation. Central to the increasing power of computation is a phenomenon first identified by former chairman of Intel, Gordon Moore, called *Moore's law*. In 1965, Moore noticed that the surfaces of transistors were shrinking by half on a bi-annual basis.[36] Thus, every two years a microchip could double the number of

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[34] Kurzweil, *The Singularity Is Near*, 12.

[35] Kurzweil, *The Age of Intelligent Machines*, 18.

[36] Kurzweil, *The Age of Spiritual Machines*. The transistor was invented by William Bradford Shockley, Walter Hauser Brattain, and John Bardeen in 1947. "This tiny device functions like a vacuum

transistors on integrated circuit and consequently double its memory and computational output (speed). The reduction in size meant that electrons had to travel half the distance in the transistor; thus, having twice as many transistors enabled designers to consistently double the output. If this development was not exciting enough, Moore also noted that even though a transistor's quantity and processing speed increased, the cost of each transistor remained relatively stable. Moore predicted that every two years developers could produce chips that performed at twice the speed for the same cost, and his predictions have held true for the last forty years (even amid war and peace, recessions and prosperity).[37] While today the rate described in Moore's law is beginning to slow down,[38] by the time Kurzweil wrote *The Singularity Is Near*, transistors were doubling at twice the speed of Moore's environment in the 1960s.[39] Recently, researchers from Georgia Tech University and Tianjin, China, successfully utilized a graphene semi-conductor "compatible with conventional microelectronic processing methods" as a viable alternative to silicon.[40] Key to this development is that the non-insulating properties of graphene will enable three dimensional microprocessors—a development that will revolutionize the acceleration of computing power.

While Moore's law is just one example of a paradigm shift in the law of accelerating returns, *computational power* is another. A simple definition of computation

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tube but is able to switch currents on and off at substantially higher speeds. The transistor revolutionizes micro-electronics, contributing to lower costs of computers and leading to the development of mainframe and minicomputers" (*The Age of Spiritual Machines*, 269).

[37] Kurzweil, *How to Create a Mind*, 250.

[38] Ray Kurzweil, "The Future Grows Exponentially Better," January 21, 2022, YouTube video, 4:00, https://www.youtube.com/watch?v=wkY_1Y7edhU.

[39] Kurzweil, *The Singularity Is Near*, 41.

[40] Georgia Tech, "Researchers Create First Functional Semiconductor Made from Graphene," *Georgia Tech Research*, January 4, 2024, https://research.gatech.edu/feature/researchers-create-first-functional-semiconductor-made-graphene. See also Nvidia's new Blackwell chip: Jensen Huang, "Nvidia 2024 AI Event: Everything Revealed in 16 Minutes," *CNET*, March 18, 2024, https://www.youtube.com/watch?v=bMIRhOXAjYk.

is the ability of a program or intelligence to systematically follow an input of rules.[41] Kurzweil dates the rise of exponential computational power to the 1890 US census, which was the first to be automated. With regard to the law of accelerating returns, Kurzweil writes, "Computation is the most important example of the law of accelerating returns, because of the amount of data we have for it, the ubiquity of computation, and its key role in ultimately revolutionizing everything we care about."[42] On the internet, the number of bits per second being transferred doubles every sixteen months.

Finally, in combining the innovational power of Moore's law and computation, another information technology that is subject to the law of accelerating returns is the exponential increase of human connectivity. Referred to as *Cooper's law*, there has been a smooth exponential growth "to communicate and transfer vast repositories of human knowledge."[43] According to Kurzweil, Cooper's law says that "the total bit capacity of wireless communications in a given amount of radio spectrum doubles every thirty months, has held true from the time Guglielmo Marconi used the wireless telegraph for Morse code transmissions in 1897 to today's [5G] communications technologies."[44] Consequently, the amount of information that is transmitted wirelessly has also been doubling every few years.

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[41] Stephen Wolfram, "What Is Computation? AI Podcast Clips," Lex Fridman Clips, April 21, 2020, YouTube video, 0:10, https://www.youtube.com/watch?v=sDSA3MtvBDo; Kurzweil, *How to Create a Mind*, 184-85. Kurzweil defines computation as consisting of three elements: "Computation consists of three elements: communication—which, as I mentioned, is pervasive both within and between computers—memory, and logic gates (which perform the arithmetic and logical functions) (*How to Create a Mind*, 185). Kurzweil offers a breakdown of the Turing machine as an example.

[42] Kurzweil, *How to Create a Mind*, 251.

[43] Kurzweil, *How to Create a Mind*, 253.

[44] Kurzweil, *How to Create a Mind*, 253; Scientific American, "What Is 5G and How Does It Actually Work?," October 13, 2021, YouTube video, https://youtu.be/01Nc1ORIosg?si=H24Y0l6hY678srgj. Whereas previous 4G devices generally transmitted at around 400mb/s, 5G enables devices to transfer information at 1gb/s—significantly reducing latency and lag. With a greater ability to transfer information without lag, 5G is more optimal for embedding significantly more devices with connectivity and bringing the digital world closer to an "internet of things." Utilizing the mm wave spectrum (a faster wave capable of carrying more data), 5G devices are able to connect in crowded areas due to its ability to utilize a wider range of frequencies.

When factoring in each of these developments, and how each element is co-generative, Kurzweil's law of accelerating returns presents nothing less than the ascendence of an incomprehensible dynamo of potential innovative power. But where does it all lead? Can this kind of doubling proceed forever? If potential continues to rise, and price-point continues to drop, what does this ratio mean for the future of humanity and technology? For Kurzweil, humanity will be able to expand its intelligence a trillion-fold with the development of molecular computing (developed below). But more important to his thesis, each of these elements and much, much more will coalesce toward a point of Singularity.

Three Revolutions Leading to an Inevitable Singularity

The Singularity represents the culmination of the merger between human biology and technology. For Kurzweil, the first half of the twenty-first century will experience three overlapping revolutions in the fields of *Genetics* (G), *Nanotechnology* (N), and *Robotics* (R) that will initiate Epoch 5.[45] With advancements in "G," Kurzweil foresees a future enabling "the virtual elimination of disease, dramatic expansion of human potential, and radical life extension."[46] In "N," engineers will be able to construct and design at the atomic level enabling technological innovations to work at the cellular level within the body and brain.[47] But the biggest revolution for Kurzweil is the "R" revolution, where robots will be designed that are indistinguishable from human beings in form, but far exceed human ability—a development that will generate an explosion of AI intelligence.[48]

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[45] Kurzweil, *The Singularity Is Near*, 205-6.

[46] Kurzweil, *The Singularity Is Near*, 205.

[47] Kurzweil, *The Singularity Is Near*, 206.

[48] Kurzweil, *The Singularity Is Near*, 206.

The Genetics Technological Revolution

Building on the three GNR revolutions, Kurzweil predicts a period of time when human disease, negative traits (some would call sinful traits), and even biological death will be fully accessible to computer extrication. While Kurzweil has provided extensive research in his books *Fantastic Voyage* and *Transcend* on how to reprogram one's genetics to be able to slow down disease and aging, he believes that the "G" revolution will soon enable the capacity to reprogram human DNA on an individual basis through the manipulation of a gene's expression.

According to Kurzweil, "Gene expression is the process by which specific cellular components (specifically RNA and the ribosomes) produce proteins according to a specific genetic blueprint."[49] While every cell contains the body's full genetic signature, each type of cell receives its genetic information from a small fraction of that total signature. When *The Singularity Is Near* was written, many emerging therapies were based upon the ability to manipulate individual cells by telling them to either turn off a specific expression, such as a disease-causing gene, or to turn on a specific expression for a desirable gene.[50]

One example of this technology is the use of RNA Interference (RNAi). With this technology, RNAi can be used to turn off specific genes and block the creation of proteins (mRNA) that feed viral diseases, cancer, and many other pathogens. Kurzweil notes that multiple diseases are caused by only one defective gene. Since every person receives two copies of every gene, one from each parent, the ability to manipulate the defective gene simultaneously enables the non-defective gene in the pair to be used to create the corresponding protein, which will be used for normal and healthy function. In

[49] Kurzweil, *The Singularity Is Near*, 213.

[50] Kurzweil, *The Singularity Is Near*, 213-14.

the case where there are two defective genes, Kurzweil states that a new healthy gene could then be inserted.[51]

Another example considered the holy grail of bioengineering, is a therapy referred to as Somatic Gene Therapy. In Somatic Gene Therapy, scientists will be able to insert DNA directly into the nucleus of a cell and create new genes. While this kind of modification would lead to the ability to create designer babies, Kurzweil writes that the greatest benefit would come from being able to modify the genes of a grown adult—developments that are very beneficial for treating disorders such as Parkinson's disease or epilepsy.[52]

A final genetic innovation that will only improve as technology accelerates toward the Singularity will be the improvement of *cloning technology*. While Kurzweil sees full-human cloning as unethical due to the current rate of genetic mutations caused by the fusion process of the sperm and the egg, he believes that cloning is important, specifically for breeding animals for any desirable trait.[53] In fact, this kind of cloning will enable the ability to preserve animal species on the verge of extinction and, in *Jurassic Park* parlance, perhaps even resurrect species from the ancient past. Currently, Kurzweil has a company that specializes in the cloning of human organs. At this point, his company is experimenting with installing "grown" organs into animals, and he believes that in the near future, human customers will be able to replace existing organs with brand-new organs.[54]

Fundamentally, the "G" revolution will enable scientists and researchers to utilize the genetic structure of living organisms to manipulate both defective and

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[51] Kurzweil, *The Singularity Is Near*, 214.

[52] Kurzweil, *The Singularity Is Near*, 216.

[53] Kurzweil, *The Singularity Is Near*, 222.

[54] Ray Kurzweil, "Ray Kurzweil Predicts a Revolution in Health and Medicine Due to Biotechnology Breakthroughs" James Bedsole, April 1, 2017, YouTube video, https://www.youtube.com/watch?v=G7zmLndvWlk

beneficial genetic traits, however one defines those traits, with the hoped-for outcome that in the future human beings will be in full control of their biological destinies. With this technological innovation, human intelligence could endlessly evolve new concepts from genetic technology. Kurzweil argues that this technology could potentially solve world hunger by using meat and other protein sources grown in factories without the express need to feed and slaughter animals in the process.[55]

The Nanotechnological Revolution

Merging the Human Neocortex with a Digital Neocortex

The human brain is a massive concerto of artistry, but in relation to information processing, the neocortex solos with rock-star flair. Unlike non-mammals who do not possess a neocortex, what distinguishes the human neocortex from all other mammals is its capability for *hierarchical* thinking, or the capacity to understand how patterned elements comprise a greater structure. This is also true of the neocortex's ability to utilize language and discern written symbols, functions that represent an even more complex hierarchical system.[56]

Within the neocortex, there are nearly a half million cortical columns, each containing roughly 60,000 neurons, creating a total of about 30 billion neurons within its structure—a structure that makes up around 80 percent of the mass of the brain.[57] For Kurzweil, this mass of neurons is divided into a series of *assemblies* (modules) comprised of 100 neurons each. Other neuroscientists, such as Donald O. Hebb (1904-1985), theorized that individual neurons change physiologically based on their experience, where the individual neuron is the fundamental unit. However, building on the work of

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[55] Kurzweil, *The Singularity Is Near*, 224.

[56] Kurzweil, *How to Create a Mind*, 5.

[57] Kurzweil, *How to Create a Mind*, 38.

neuroscientist Henry Markram, Kurzweil predicts an alternative perspective—that the fundamental unit is each assembly. In this model, whenever learning takes place, connections are formed between assemblies, not individual neurons,[58] which means the brain is much more compartmentalized than previously thought. Kurzweil also notes that recent neurological research with magnetic resonance imaging (MRI) has provided insight into the neurological pathways in the brain, revealing a configuration that is relatively patterned in a cube-like structure (three-dimensional).[59]

Within the cube, studies by Harvard neuroscientist and physicist Van J. Wedeen have shown that in embryogenesis, initial neural connections form an orderly grid-pattern of modular preestablished connections. How these grid patterns form around conceptual thought is a mystery. As an individual begins to learn, the grid pattern in the neocortex guides connectivity. These grid patterns are also three-dimensionally hierarchical, enabling communication between the higher and lower areas within the cortical columns. Regarding pattern recognition, neuroscientists have concluded that different areas within the hierarchy provide different information. For instance, Kurzweil notes that in the best-known area of the visual cortex comprised of separate areas known as V1, V2, and MT (V5), "V1 recognizes very basic edges and primitive shapes. V2 can recognize contours, the disparity of images presented by each of the eyes, spatial orientation, and whether or not a portion of the image is part of an object or the background. Higher-level regions of the neocortex recognize concepts such as the identity of objects and faces and their movement."[60] In 2008, a study published by Princeton psychology professor Uri Hasson and his colleagues found that the processes of

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[58] Kurzweil, *How to Create a Mind*, 80.

[59] Kurzweil, *How to Create a Mind*, 82.

[60] Kurzweil, *How to Create a Mind*, 85.

the visual cortex did not remain local to any one area but spread throughout the neocortex.

These new findings increasingly confirm that the original hypothesis of right and left brain is simply not true. In recent studies on the *plasticity* of the neocortical structure, particularly with individuals who experienced a stroke, researchers now have extensive evidence that individuals who experience brain damage to one area of the brain can *relearn* lost function caused by the damaged tissue by developing connections in another area of the neocortex.[61]

Now, whereas the sheer size of the neocortex denotes importance, its function of pattern recognition is itself difficult to "patternize." Kurzweil writes,

> The brain starts out with a very large number of "connections-in-waiting" to which the pattern recognition modules can hook up. Thus, if a given module wishes to connect to another, it does not need to grow an axon from one and a dendrite from the other to span the entire physical distance between them. It can simply harness onto one of the existing axonal connections-in-waiting and just hook up to the ends of the fiber.[62]

Unlike an approaching storm whose trajectory and size can be measured and predicted long before it passes over a certain geographical location, when it comes to assessing what initiates the lightning storm in the grey space of the human brain, neuroscientists are at a loss because everything fires up simultaneously. But what they do know is that the primary function of the neocortex is pattern recognition. This capacity for pattern recognition is responsible for the development of verbal and written language, the invention of tools, and all other creative innovations produced over the centuries. What this means is that in real-time, the neocortex takes in all the information that is being

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[61] Kurzweil, *How to Create a Mind*, 87.

[62] Kurzweil, *How to Create a Mind*, 82-83.

processed through the central inputs of the eyes, ears, nose, mouth, and the range of touch without experiential lag.[63]

Linking the dimensional design and hierarchical function, as signals go up and down the conceptual hierarchy, the ascending signals mean that the brain has detected a pattern, while the descending signals mean that the brain is expecting a pattern to occur.[64] With each pattern representing another pattern, current neurobiological research attributes the human brain's excellent capacity for general intelligence (competency on a variety of subjects) to the brain's depth of pattern redundancy.[65] But why does this function matter? Kurzweil writes,

> The techniques that we have evolved over the past several decades in the field of artificial intelligence to recognize and intelligently process real-world phenomena (such as human speech and written language) and to understand natural-language documents turn out to be mathematically similar to the model I have presented . . . The AI field was not explicitly trying to copy the brain, but it nonetheless arrived at essentially equivalent techniques.[66]

As it turns out, there is a corresponding technological design link between the neocortical function of the brain and AI.

Despite all that humanity has accomplished, Kurzweil argues that the limiting factor of potential human intelligence is governed by the density of the neocortex contained within a hard skull. In other words, the human frame, ultimately, will restrain progress. But what if that was no longer a limiting factor? Since the brain is electric, it is

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[63] Kurzweil, *How to Create a Mind*, 53; Samuel Alexander, *Space, Time, and Deity: The Gifford Lectures at Glasgow, 1916-1918* (London: Macmillan, 1920), 1:74. Just as the lightning flash hits our senses faster than the sound of the explosion, though in the present point and moment in time and space the lag is extremely small, the further from the event, the more lag is experienced by the senses. Technically, we perceive all events in some form of the past, but we conceive of them as being in the present.

[64] Kurzweil, *How to Create a Mind*, 91.

[65] Kurzweil, *How to Create a Mind*, 184. Pattern redundancy is the process of repeating an experiment enough until there is an increasingly predictable outcome. Kurzweil writes, "If I transmit each bit three times and take the majority vote, I will have substantially increased the reliability of the result. If that is not good enough, simply increase the redundancy until you get the reliability you need" (184).

[66] Kurzweil, *How to Create a Mind*, 92.

essentially a massive conglomeration of electrical connections; therefore, it is possible to design a chip, or as Kurzweil surmises, an internal nanobot technology (discussed below), that learns to read a synaptic discharge (electrical patterns synonymous with thought) in correspondence to what an individual is thinking along with what areas of the brain light up with each corresponding thought. At an elementary level, this kind of technology could bridge the gap between the human brain and the digital cloud.

In this scenario, the cloud will essentially become a *digital* neocortex—an extension of every human being's neocortex—granting a seemingly unlimited potential to each enhanced user. Kurzweil writes, "As soon as we start thinking in the cloud, there will be no natural limits—we will be able to use billions or trillions of pattern recognizers, basically whatever we need, and whatever the law of accelerating returns can provide at each point in time."[67] Though dependent on voice, typing speed, and the speed of one's thumbs through text, this process is already taking place at a much slower speed. Once Kurzweil's vision is achieved, the data rate will travel at the speed of thought, enabling an almost unlimited memory capacity, combined with a communication data rate far exceeding natural limitations.[68]

Furthermore, in a purely biological state, the brain has a very low retention of knowledge. When a person dies, if they have not recorded their thoughts by directly communicating knowledge to another person, writing it down, or using some form of digital medium, the information in that brain is essentially lost. On the contrary, with the digital link, "a single digital neocortex somewhere and at some time learns something, it can share that knowledge with every other digital neocortex without delay. [Furthermore,

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[67] Kurzweil, *How to Create a Mind*, 123. This concept gives an *ironic* twist to having one's head "in the clouds."

[68] Kurzweil, *The Singularity Is Near*, 144.

we] can each have our own private neocortex extenders in the cloud, just as we have our own private stores of personal data today."[69]

At this stage, prior to the Singularity, the merger between the human neocortex and a digital neocortex will create the perfect combination of human pattern recognition with the power of almost perfect memory and instantaneous access to the internet. In such a scenario, the threat of artificial intelligence becoming exceedingly more intelligent than human beings may find some level of mitigation. Furthermore, if successful, this hybrid scenario would enable human beings to work with AI because essentially the brain will sync up with the same capabilities. The foregoing is only the beginning of Kurzweil's transhumanist vision.

Scanning Mind Files into Post-Biological Bodies

Whereas initial connections between the biological neocortex and the digital neocortex will likely occur by inserting a chip into the human skull, connecting to the neocortex through small wires (exemplified in Elon Musk's company Neuralink),[70] Kurzweil foresees a *nanobot* technology that will eventually be injected into the bloodstream.[71] Nanotechnology describes technological innovation, micro-sized brain extensions,[72] that take place at the atomic level—a billionth of a meter.[73] In a similar fashion to ribosomes in the human cell, which build the human body one amino acid at a time and are self-replicating, nanobot technology seeks to create a computational technology "that will ultimately exceed the capacity of natural computation (electronic

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[69] Kurzweil, *How to Create a Mind*, 123.

[70] Elon Musk, "Musk's Neuralink to Start Human Trial of Brain Implant," Reuters, September 20, 2023, YouTube video, https://www.youtube.com/watch?v=I7pn66iO58M.

[71] Kurzweil, *The Singularity Is Near*, 254-55. This technology was already seeing successful results in animals at the time of the Singularity's publishing in 2005.

[72] Kurzweil and Grossman, *Transcend*, 420.

[73] Kurzweil, *The Age of Spiritual Machines*, 137.

circuits are already millions of times faster than human neural circuits), our twenty-first-century physical technology will also greatly exceed the capabilities of the amino acid-based nanotechnology of the natural world."[74]

If nanotechnology can develop to the extent of self-replication, a great frontier will be crossed due to the sheer number that will be needed for the viability of the technology, which Kurzweil estimates will be in the trillions.[75] Not only could a nanobot technology innovate almost every application, but pertinent to transhumanism, these devices could be injected into the bloodstream to support the immune system and destroy arterial plaque, cancer cells, or other harmful organisms like parasites from attacking the body.[76] Kurzweil argues that these bots will work with the body to repair even damaged organs or, if need be, even build new organs from the inside.[77] But the more vital application of nanobot technology will be the ability to sync with the human brain. Rather than having thousands of wires surgically implanted in the neocortex, nanobots

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[74] Kurzweil, *The Age of Spiritual Machines*, 138.

[75] Kurzweil, *The Age of Spiritual Machines*, 141. Kurzweil argues that without a mechanism for self-replication, nanotechnology is neither practical nor economically feasible. He captures the development of such tiny fingers as "something of a holy grail for nanotechnologists. With little fingers and computation, nanomachines would have in the Lilliputian world what people have in the big world: intelligence and the ability to manipulate their environment. Then these little machines could build replicas of themselves, achieving the field's key objective. The reason that self-replication is important is that it is too expensive to build these tiny machines one at a time. To be effective, nanometer-sized machines need to come in the trillions. The only way to achieve this economically is through combinatorial explosion: let the machines build themselves" (139).

[76] Kurzweil, *The Singularity Is Near*, 232-33. Kurzweil describes this scenario: "With the advent of full-scale nanotechnology in the 2020s we will have the potential to replace biology's genetic-information repository in the cell nucleus with a nanoengineered system that would maintain the genetic code and simulate the actions of RNA, the ribosome, and other elements of the computer in biology's assembler. A nano-computer would maintain the genetic code and implement the gene-expression algorithms. A nanobot would then construct the amino-acid sequences for the expressed genes . . . . We could eliminate the accumulation of DNA transcription errors, one major source of the aging process. We could introduce DNA changes to essentially reprogram our genes (something we'll be able to do long before this scenario, using gene-therapy techniques). We would also be able to defeat biological pathogens (bacteria, viruses, and cancer cells) by blocking any unwanted replication of genetic information" (232-33).

[77] Kurzweil, *The Age of Spiritual Machines*, 140.

will be small enough to cross the *blood-brain barrier* (BBB) and sync with the brain from the inside.[78]

A primary application of using nanotechnology will be initially in providing real-time brain-scanning data: "Nanobots are robots that will be the size of human blood cells . . . . Billions of them could travel through every brain capillary, scanning each relevant neural feature from up close. Using high-speed wireless communication, the nanobots would communicate with one another and with computers compiling brain-scan database (In other words, the nanobots and computers will all be on a wireless local area network."[79] While Kurzweil postulates a number of scenarios by which the nanobots could scan the brain from the inside, the ultimate outcome would be that the bots would provide vital information about the basic patterns of *neural wiring* function.[80] Combining the function of the neural wiring with the operation patterns of the limited *types of neurons* in the local area will enable the potential to witness in detail the real-time function of an individual brain and then open a door toward reverse engineering the brain's structure.

Once the brain is scannable and its functions are determined for reverse engineering purposes, Kurzweil surmises that the brain will be ready for *scanning* and *uploading*. He writes, "Uploading a human brain means scanning all of its salient details and then reinstating those details into a suitably powerful computation substrate. This process would capture a person's entire personality, memory, skills, and history"—a digital doppelganger.[81] This process will begin with the gradual transfer of an

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[78] Kurzweil, *The Singularity Is Near*, 163. The blood-brain barrier was first found when late-nineteenth-century researchers discovered that when blue dye was injected into an animal's bloodstream, the dye permeated all the organs of the animal except the spinal cord and the brain.

[79] Kurzweil, *The Singularity Is Near*, 163.

[80] Klaus Schwab, *The Fourth Industrial Revolution* (New York: Currency, 2016), 98. If the real-time assessment of the human mind were not invasive enough, Klaus Schwab notes the technological development of "memory extraction."

[81] Kurzweil, *The Singularity Is Near*, 198-99.

individual's intelligence, personality, and skills to the digital neocortex. When this technology is fully developed, each person's *mind file* will ultimately need to pass the Turing test on an individual basis. For example, someone who knows Ray Kurzweil well will be unable to determine whether they are talking with the *real* Ray or a mind file algorithm of Ray being utilized by an AI.[82] Again, Kurzweil writes, "Although we are likely to retain the biological portion for a period of time, it will become of increasingly little consequence. So we will have effectively uploaded ourselves, albeit gradually, never quite noticing the transfer. There will be no 'old Ray' and 'new Ray,' just an increasingly capable Ray."[83]

Entering the Matrix: Immersive Virtual Reality

While post-biological bodies grant the ability for humans and machines to affect the physical universe, which, according to Kurzweil, may itself be a universe cast in a vast multiverse reality,[84] he also projects a vast and *digital multiverse* reality that human users will populate and interact through—a vision of human transcendence that is both material and immaterial in nature. Originating out of the video game revolution, the concept of virtual reality had humble beginnings: "The first [simulated environment] was Space War, written by early artificial-intelligence researchers to pass the time while waiting for programs to compile on their slow 1960s computers . . . synthetic space surroundings were easy to render on low-resolution monitors: Stars and other space

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[82] Kurzweil, *The Singularity Is Near*, 201. One of the criticisms of Roger Penrose's theory that the link between quantum computing and consciousness will make uploading impossible due to the change in an individual's quantum state is refuted by Kurzweil's retort: "I would point out that my quantum state has changed many times in the time it took me to write this sentence, and I still consider myself to be the same person (and no one seems to be objecting)" (201).

[83] Kurzweil, *The Singularity Is Near*, 202.

[84] Kurzweil, *The Singularity Is Near*, 360.

objects were just illuminated pixels."[85] However, these humble beginnings spawned a technology destined for the stars and beyond.

Kurzweil posits a rapidly approaching nanobot technology that will create simulation from within the human body. These nanobots (foglets)[86] will be able to manipulate the central nervous system and the brain directly, creating real-world stimuli as the user lives in a virtual reality. Increasingly, as technology and biology converse, virtual reality will evolve into immersive virtual reality, leading to the era where there will be no distinction between what is truly *real* and what is *virtual*. For Kurzweil, this environment will be so immersive that any attempt to describe the virtual universe as *not real* would be to completely misrepresent its technological potential:

> The word "virtual" is somewhat unfortunate. It implies "not real," but the reality will be that a virtual body is just as real as a physical body in all the ways that matter. Consider that the telephone is auditory virtual reality. No one feels that his voice in this virtual-reality environment is not a "real" voice. With my physical body today, I don't directly experience someone's touch on my arm. My brain receives processed signals initiated by nerve endings in my arm, which wind their way through the spinal cord, through the brain stem, and up to the insula regions. If my brain—or an AI's brain—receives comparable signals of someone's virtual touch on a virtual arm, there's no discernible difference.[87]

Based on this direct connection to the virtual stimuli, including the emotions, sexual pleasure, and all the other aspects of sensory inputs, Kurzweil argues that a person will experience reality in exactly the same way one experiences reality in the "real" world. However, in the virtual world, a human user will not be limited to their own experience.

In similar fashion to YouTube, Facebook, Instagram, or TikTok, not only will "experience beamers" post their pics and videos, but users will now be able to beam experiences that capture their bodily stimuli and experiences from the inside. Users will be able to connect their own nervous systems to the algorithmic correlates of the virtual

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[85] Kurzweil, *The Age of Spiritual Machines*, 142.

[86] Kurzweil, *The Age of Spiritual Machines*, 145.

[87] Kurzweil, *The Singularity Is Near*, 203.

beamer and enter their experience. Kurzweil writes, "'Experience beamers' will send the entire flow of their sensory experiences as well as the neurological correlates of their emotional reactions out onto the Web, just as people today beam their bedroom images from their Web cams. A popular pastime will be to plug into someone else's sensory-emotional beam and experience what it's like to be that person."[88]

While Kurzweil goes into great depths as to what these advancements will mean for prostitution and unending sexual fantasies that would become "real,"[89] his vision implies almost a limitless application of virtual world experience that would train the nervous system as if those experiences happened in the real world. However, because the virtual reality will be so appealing, Kurzweil believes that people will increasingly want to disconnect from the real world and live within the virtual world.[90]

In step with the ultimate picture of transhumanism, people will be able to identify in the virtual world in whatever form(s) they choose. Gender fluidity, along with any imaginable creature, will permeate the digital multiverse creating a fantasy world beyond anything seen before. From these identities will come a revolution of human relationships. Users will be able to manifest all their deepest longings with real-time engagement and interaction, eventually leaving digital legacies of their virtual lives.

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[88] Kurzweil, *The Singularity Is Near*, 316. With this kind of technology, there will need to be an extremely important think tank monitoring and guiding how both government and the military utilize the experiences of the citizens they represent and protect. How will Western nations utilize this information in competition with Eastern communist countries that place a low value on human freedom?

[89] Kurzweil, *The Singularity Is Near*, 319.

[90] Kurzweil, *The Age of Spiritual Machines*, 147-48. Kurzweil goes into greater detail about his vision for sexual freedom: "Today, lovers may fantasize their partners to be someone else, but users of virtual sex communication will not need as much imagination. You will be able to change the physical appearance and other characteristics of both yourself and your partner. You can make your lover look and feel like your favorite star without your partner's permission or knowledge. Of course, be aware that your partner may be doing the same to you. Group sex will take on a new meaning in that more than one person can simultaneously share the experience of one partner. . . . Prostitution will be free of health concerns . . . [and] legally tolerated. . . . How will such an extensive array of sexual choices and opportunities affect the institution of marriage and the concept of commitment in a relationship? The technology of virtual sex will introduce an array of slippery slopes, and the definition of a monogamous relationship will become far less clear" (147-48).

As for real estate, Kurzweil argues that there will no longer be a need for workers to gather in brick-and-mortar offices. People will go to work in virtual offices. In fact, people may even work within multiple organizations at the same time. He writes, "The full-immersion visual-auditory virtual-reality environments which will be ubiquitous during the second decade of this century, will hasten the trend toward people living and working wherever they wish. Once we have full-immersion virtual-reality environments incorporating all of the senses . . . there will be no reason to utilize real offices. Real estate will become virtual."[91]

Finally, and the list is as high as the imagination can reach (currency, international travel, globalism, etc.), Kurzweil gives the example of virtual extreme sports.[92] With the advent of immersive virtual reality, users will abandon the threat of the real world and perform in virtual competitions while experiencing all the normal sensations of a real-world experience. In an imaginative conversation, Kurzweil relates his recent adventures, "This past month I've been skydiving, mountain climbing, helicopter skiing, and drag racing—all in full immersion virtual reality incorporating all of the senses. I could feel the moist snowy air in my face as I skied down the mountain. And I really enjoyed them, knowing that I didn't have to worry about getting hurt or killed no matter what I did."[93]

In Kurzweil's vision for virtual human transcendence, there is no limit to the adventure, spatial reality, or the extent of learning that will be available in the virtual world. As this reality expands, Kurzweil summarizes the infinite potential that awaits in the virtual realm:

> Nonbiological intelligence should still be considered human, since it is fully derived from human-machine civilization and will be based, at least in part, on reverse

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[91] Kurzweil, *The Singularity Is Near*, 105.

[92] Kurzweil and Grossman, *Transcend*, 186.

[93] Kurzweil and Grossman, *Transcend*, 205.

> engineering human intelligence. . . . The merger of these two worlds of intelligence is not merely a merger of biological and nonbiological thinking mediums, but more importantly, one of method and organization of thinking, one that will be able to expand our minds in virtually any imaginable way.[94]

The Robotics Revolution

Of the three revolutions, Kurzweil notes that "R" will be the most important. The future of robotics will have a radical impact on physical labor. Already, companies are developing AI robotic assistants who will take over a majority of menial jobs (Tesla is currently developing an AI robot that will be deployed for large scale manufacturing).[95] Kurzweil envisions a future where most homes will have AI robots for personal assistants—capable of cleaning the house, watching children, and even getting the groceries. As with the virtual reality connection to sex, Kurzweil describes the health benefits that will accompany *sexual surrogates*.[96]

But while "R" stands for Robotics, the most important aspect of this field will be in creating a "nonbiological intelligence that exceeds that of unenhanced humans . . . making intelligence the most powerful force in the universe."[97] Yet, Kurzweil also acknowledges that in a physical reality, intelligence needs embodiment to affect that reality. Robotics will develop and create ways for this to happen with increasing potential. But as for intelligence, the greatest development in the "R" revolution will be what Kurzweil refers to as *strong AI*.[98] In its present development, AI has achieved a very sophisticated level of *narrow* intelligence. That is, AIs can perform *specific* functions with narrow pattern recognition, equally well or better in tasks that once required human intelligence. With strong AI, the ability for AIs to compare *parallel* pattern recognition

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[94] Kurzweil, *The Singularity Is Near*, 317.

[95] Tesla, "AI and Robotics," Tesla, accessed on October 17, 2023, https://www.tesla.com/AI.

[96] Kurzweil and Grossman, *Transcend*, 96-97.

[97] Kurzweil, *The Singularity Is Near*, 260.

[98] Kurzweil, *The Singularity Is Near*, 260.

for broad function, something the human brain does exceedingly well, the technology is not yet viable.

However, once AI becomes both narrow and strong, Kurzweil argues that machines will outpace the unenhanced human on almost every level. While humans are increasingly able to pool resources across the internet, supercomputers will be able to pool incalculable numbers of files simultaneously, and because they have exacting memories, they will master billions of facts with naked accuracy.[99] Furthermore, while on an individual basis a human might master a particular field of knowledge, strong AI will have a capacity to master all forms of peak fields of human knowledge simultaneously, with the capacity to cross reference each field and then improve and develop the individual and composite parts with "double-exponential ascent."[100]

For Kurzweil, the best way to move forward in developing strong AI will be to create a cross-platform of existing narrow AIs that could begin communicating with one another. As AIs in military and intelligence, space exploration, science and math, commerce, healthcare, and manufacturing and robotics, to name a few, begin to work across each platform with synergy, the acceleration toward strong AI will speed up exponentially. But the education for strong AI will be fundamentally human. Kurzweil writes, "The three tasks that have to do with human-level understanding of natural language—reviewing a movie, holding a press conference, and translating speech—are the most difficult. Once we can take down these signs, we'll have Turing-level machines, and the era of strong AI will have started."[101] Drawing from the information gained from the nanotechnological scanning of the human brain, Kurzweil concludes,

> When we get to the mid-to-late 2020s, we will have access to a generation of extremely detailed brain-region models. Ultimately the toolkit will be greatly

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[99] Kurzweil, *The Singularity Is Near*, 261.

[100] Kurzweil, *The Singularity Is Near*, 261.

[101] Kurzweil, *The Singularity Is Near*, 292.

> enriched with these new models and simulations and will encompass a full knowledge of how the brain works. As we apply the toolkit to intelligent tasks, we will draw upon the entire range of tools, some derived directly from brain reverse engineering, some merely inspired by what we know about the brain, and some not based on the brain at all but on decades of AI research. Part of the brain's strategy is to learn information, rather than having knowledge hard coded from the start. ("Instinct" is the term we use to refer to such innate knowledge.) Learning will be an important aspect of AI, as well. In my experience in developing pattern-recognition systems in character recognition, speech recognition, and financial analysis, providing for the AI's education is the most challenging and important part of engineering. With the accumulated knowledge of human civilization increasingly accessible online, future AIs will have the opportunity to conduct their education by accessing this vast body of information.[102]

Once the individual brain is captured, the "new man" will be ready for a dual reality. In similar fashion to the power of the imagination, capable of playing out any given scenario through the mind's eye, the mind file of an individual will be downloadable into a post-biological body and/or a virtual reality that will be indistinguishable from true reality.

The Inevitable Singularity

With the alteration of human biology through technology and the development of an immersive virtual reality indistinguishable from the real world, an age of *transhumanism* will emerge out of the Singularity event, bringing Epoch 5 to full fruition. At some point—Kurzweil targets the year 2029—artificial intelligence will meet the standards of the *Turing test* and match human intelligence.[103] At such time, or perhaps beforehand, if companies like Elon Musk's Neuralink company can achieve viability in the next few years, either humanity will be left behind, or humans will merge with AI, combining the human capacity for general intelligence with the machine capacity for a vastly superior memory and processing speed. In the same way that every human innovation produces outcomes greater than its own individual parts, Kurzweil's

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[102] Kurzweil, *The Singularity Is Near*, 293-94.

[103] Kurzweil, *The Singularity Is Near*, 200; Ray Kurzweil, "Ray Kurzweil: Singularity, Superintelligence, and Immortality," Lex Fridman, September 17, 2022, YouTube video, https://www.youtube.comwatch?v=ykY69IspDdo. The Turing test refers to the event where a third party is unable to determine whether they are talking to a biological human or an artificial computer intelligence. Since publishing *The Singularity Is Near*, Kurzweil remains committed to a 2029 projection for this to be accomplished.

transcendence perspective, the Singularity, like its mathematical definition, will represent the ultimate point of human transcendence over all finite limitations presently conceived.[104] He writes, "Can the pace of technological progress continue to speed up indefinitely? Isn't there a point at which humans are unable to think fast enough to keep up? For unenhanced humans, clearly so. But what would 1,000 scientists, each 1000 times more intelligent than contemporary humans (because the information processing in their primarily nonbiological brains is faster) accomplish?"[105] For Kurzweil, one year to the enhanced scientists will be like as a thousand years to the unenhanced, and a thousand years as a year. Technological growth will develop at the speed of artificial intelligence, creating an exponential growth in the rate of exponential growth itself.[106] At that point, the kind of research that is necessary to win the acclaimed Nobel Prize will occur daily, if not faster. Language will evolve in unknown directions. Innovation will reach heights beyond the wildest of imaginations.

Ultimately, if human beings are enabled to coexist with AI, Kurzweil foresees the day where we will cast off the limitations of suffering, evil, death, and a destiny limited to earth: "The Singularity will represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but that transcends our biological roots. There will be no distinction post-Singularity, between human and machine or between physical and virtual reality."[107] Nanobot technology will travel throughout the cardiovascular system assisting biological cells on every level. They will interact with the human brain, scanning every detail of the individual mind, and create corresponding mind files—files ready for upload into post-

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[104] Kurzweil, *The Singularity Is Near*, 22.

[105] Kurzweil, *The Singularity Is Near*, 24.

[106] Kurzweil, *The Singularity Is Near*, 25.

[107] Kurzweil, *The Singularity Is Near*, 9.

biological bodies.[108] These downloaded mind files will not be limited to simply one body or virtual body but will be fully able to incarnate in any form they wish and in as many multiples as they wish. In other words, whereas stand-alone AIs will populate post-biological bodies, whether physically or a virtually, in the same way that AIs will be inspired by individual mind files, one's mind file will possess an unlimited number of post-biological bodies.

The Genesis of God

Epoch 5 stretches the mind far into the unknown. But Epoch 5 is not the final frontier of what the outcome of the Singularity might be. In Epoch 6, Kurzweil foresees the time where information will permeate every atom in the universe through a medium called computronium,[109] creating a vast and interconnected matrix toward the ultimate unification of the natural order and technology.

To grasp this kind of thinking, Kurzweil poses a question, "how smart is a rock?" While a rock may appear to the naked eye as having absolutely no intelligence to its structure, Kurzweil notes that a 2-pound rock contains around ten trillion trillion atoms, atoms not only generating their own energy in a constant state of motion while interacting with one another, but also generating their own electromagnetic fields. Fantastically, these interchanges and interactions represent *computation*.[110] At the time of Kurzweil's publication of *The Singularity Is Near*, the University of Oklahoma had already successfully stored 1024 bits of information in "magnetic interactions of the protons of a single molecule containing nineteen hydrogen atoms."[111] Kurzweil calculates

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[108] Rizwan Virk, *The Simulation Hypothesis: An MIT Computer Scientist Shows Why AI, Quantum Physics and Eastern Mystics Agree We Are in a Video Game* (Mountain View, CA: Bayview Books, 2019), 103.

[109] Kurzweil, "What Will Happen after the Technological Singularity?"; Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Vintage Books, 2017), 64.

[110] Kurzweil, *The Singularity Is Near*, 131.

[111] Kurzweil, *The Singularity Is Near*, 131.

that based on the density of a 2-pound rock, at any one moment this seemingly inanimate object represents the capacity of 10^{27} bits of memory, and 10^{42} (a million trillion trillion trillion) calculations per second (cps), whilst generating almost no heat—the first cold laptop. Still, one might be tempted to say, "So what? It is still just a rock!" Kurzweil writes,

> Despite all this activity at the atomic level, the rock is not performing any useful work aside from perhaps acting as a paperweight or a decoration. The reason for this is that the structure of the atoms in the rock is for the most part effectively random. If, on the other hand, we organize the particles in a more purposeful manner, we could have a cool, zero-energy-consuming computer with a memory of about a thousand trillion trillion bits and a processing capacity of 10^{42} operations per second, which is about ten trillion times more powerful than all human brains on Earth, even if we use the most conservative (highest) estimate of 10^{19} cps.[112]

While the potential energy in the atomic structure has been widely known since the splitting of the atom, what storehouses of power await computational potential in the vast atomic womb distributed throughout the universe?

For Kurzweil, Epoch 6 represents the era in history where mind will fuse with this atomic potential. Taking the computational potential of the 2-pound rock, Kurzweil notes that this rock represents the equivalent of ten billion human brains thinking over a period of ten thousand years. Once the transhuman generation can leverage the potential for computation on this scale, Kurzweil argues that it is only logical that they will not stop there.[113]

Moving out from the scale of the baseball-sized rock, engineers have estimated the computation potential of an object 1.8 times the size of planet earth. After reviewing the simulated "object," called "Zeus," computational neuroscientist Anders Sandberg estimates that Zeus would house a computational potential of 10^{61} cps. Kurzweil goes on to suggest that by the early twenty-second century humanity will reach the limits of the

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[112] Kurzweil, *The Singularity Is Near*, 131, 349.

[113] Kurzweil, *The Singularity Is Near*, 349.

computational capacity of the solar system, which he calculates to be in the range of 10^{70} and 10^{80} cps.[114] Beyond the solar system, Kurzweil suggests that in time information will eventually permeate all matter in the cosmos.

The primary agent that will be used to organize matter's natural computational potential will be similar to the technology that will merge human biology with technology. Nanobot sentries will be sent out in the trillions into the universe—seeds cast into a new Eden. These seeds will take root in other planetary systems and utilize the existing material in those systems to self-replicate and synchronize the atomic structure to the expanding all-encompassing unity. Eventually, matter will no longer be needed for the transfer of information. Kurzweil writes,

> Unlike large organisms such as humans, these nanobots, being extremely small, could travel at close to the speed of light. Another scenario would be to dispense with the information transmissions and embed the information needed in the nanobots' own memory. That's an engineering decision we can leave to these future super engineers. . . . Once one or a few of them get a "foothold" by self-replicating at a destination, the now much larger system could gather up the nanobots traveling in the vicinity so that from that time on, the bulk of the nanobots sent in that direction do not simply fly by. In this way, the now established colony can gather up the information, as well as the distributed computational resources, it needs to optimize its intelligence.[115]

Key to the permeation of reality with information will be the ability to communicate information beyond the perceived limiting factor of the speed of light. While recent developments have confirmed that photons can travel at nearly twice the speed of light, Kurzweil suggests that the phenomenon of *quantum entanglement* may ultimately be the key to the enormity of space in relation to quantum disentanglement which travels at a much greater speed than the speed of light. In quantum entanglement, two particles are ultimately linked despite vast distances to the extent that if the manipulation of one particle takes place, the other will mirror that manipulation across

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[114] Kurzweil, *The Singularity Is Near*, 349-51.

[115] Kurzweil, *The Singularity Is Near*, 352.

the expanse—they are entangled despite distance.[116] This phenomenon confirms that there is a transferal of information between the particles that happens instantaneously despite the gap in their separation.[117] Thus, if quantum entanglement can be further studied, and if it provides the potential of distributing information over vast distances faster than the speed of light, then Kurzweil's law of accelerating returns will spin out into the universe with unimaginable synergy.[118]

What will the ultimate end be? For Ray Kurzweil, as mind travels and expands, transhuman consciousness will buy up all the real estate in the universe, climaxing in the awakening of "god." In a fictional dialectic between Molly and Ray, the two ponder this prediction together:

> Ray: The universe is not conscious—yet. But it will be. Strictly speaking, we should say that very little of it is conscious today. But that will change and soon. I expect that the universe will become sublimely intelligent and will wake up in Epoch Six. The only belief I am positing here is that the universe exists. If we make that leap of faith, the expectation that it will wake up is not so much a belief as an informed understanding, based on the same science that says there is a universe. Molly 2004: Interesting. You know, that's essentially the opposite view that there was a conscious creator who got everything started and then kind of bowed out. You're basically saying that a conscious universe will "bow in" during Epoch Six.[119]

A New Religion: The Rise of the Singulatarian

But how should people receive this kind of awe-inspiring vision? Kurzweil argues that while the Singularity is not a cult or a particular dogma (though Kurzweil's argument that it is a religious belief is presented below), he does see it as the ultimate

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[116] Kurzweil, *Danielle*, 148-49. In his fictional account of young Danielle, Kurzweil relates the relational love between an enhanced female's love for her friend Liu to quantum entanglement.

[117] Kurzweil, *The Singularity Is Near*, 353. Kurzweil notes an experiment performed by Dr. Nicholas Gisin of the University of Geneva, who sent quantum-entangled photons in opposite directions in a fiber optics cable toward a glass plate. For particles that were not entangled, the outcome of whether they would bounce off or circumnavigate the plate was random. But for the entangled particles, they made the exact same decisions at the exact same time.

[118] Kurzweil, *The Singularity Is Near*, 354-67. Kurzweil also discusses the potential uses of multiple entities such as wormholes.

[119] Kurzweil, *The Singularity Is Near*, 390.

savior of meaning.[120] For Kurzweil, the entire purpose of the universe mirrors the purpose of human life—to expand human consciousness and move toward greater intelligence and knowledge. Though not seeking to undermine traditional faith systems, he does affirm that his Singularity vision does give new perspectives to topics deeply rooted in those systems, topics such as "the nature of mortality and immortality, the purpose of our lives, and intelligence in the universe."[121] For Kurzweil, the main reason for writing this work was to promote the Singularity worldview perspective. Looking toward the Singularity, Terry Grossman and Kurzweil have produced significant research in their books *Fantastic Voyage* and *Transcend*, which offer extensive research on the benefits of supplementation, diet, and routine exercise. Seeing the human body and brain as a system designed on particles based on patterns, Kurzweil believes that humanity should seek to improve these patterns by optimizing biological health through supplementation, diet, and exercise until technology reaches the potential where it will do that for humanity.[122]

In contemplating the value of human knowledge and information, Kurzweil believes that knowledge is precious and, therefore, any loss in human knowledge is tragic, even knowledge that is embedded in the human body and brain. Therefore, Kurzweil foresees the Singularity vision of transhumanism as a way to retain knowledge that would otherwise go unheeded needlessly. While some see the Singularity event as a dystopian disaster and death as the only way to escape the tragedies of this life, Kurzweil argues that the "explosion of art, science, and other forms of knowledge that the

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[120] Kurzweil, *The Singularity Is Near*, 370, 372.

[121] Kurzweil, *The Singularity Is Near*, 370.

[122] Kurzweil, *The Singularity Is Near*, 371. For more than twenty years, Kurzweil has taken over 150 supplements a day and used multiple blood therapies and a tailored fitness plan to reprogram his biological structure and optimize his chances of living to see the day when technology will overcome the great limiter of death.

Singularity will bring will make life more than bearable; it will make life truly meaningful."[123]

As for the *urgency* of seeking to achieve the Singularity, Kurzweil sees two threats to his vision's coming to fruition. He argues that time is of the essence. Since the Singularity is poised to save millions of suffering people from disease and biological death, he believes that a *passive* response to the Singularity is antithetical to the unending good that it will bring to humanity.[124] Secondly, he shares contemporary philosopher Max More's philosophy about a cultural rebellion against the Singularity by people who are "seduced by religious and cultural urgings for 'stability,' 'peace,' and against 'hubris' and 'the unknown' that may derail technological acceleration."[125] While Kurzweil does not believe the overall advancement of technology is likely to be deterred, citing that all the great wars over the last 100 years have failed "to put a dent" in its advancement, he sees the "thoughtless antitechnology sentiments increasingly being voiced in the world today [as having the] potential to exacerbate a lot of suffering."[126]

Finally, while Kurzweil's Singularity envisions a transhuman reality for the future, for those that would argue that his vision is leading toward a *posthuman* reality, Kurzweil argues to the contrary. For the Singulatarian, the Kurzweilian vision is merely doing what all human innovation has done in the past—seeking to extend its boundaries. He poses a very logical and real question:

> If we regard a human modified with technology as no longer human, where would we draw the defining line? Is a human with a bionic heart still human? How about someone with a neurological implant? What about two neurological implants? How about someone with ten nanobots in his brain? How about 500 million nanobots? Should we establish a boundary at 650 million nanobots: under that, you're still

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[123] Kurzweil, *The Singularity Is Near*, 373.

[124] Kurzweil, *Danielle*, 123. Kurzweil's book *Danielle* is an imaginative supposal of what it will look like to become a Singulatarian, referred to in the book as a Daniellite.

[125] Kurzweil, *The Singularity Is Near*, 373.

[126] Kurzweil, *The Singularity Is Near*, 374.

> human and over that, you're posthuman? Our merger with our technology has aspects of a slippery slope, but one that slides up toward greater promise, not down into Nietzsche's abyss. Some observers refer to this merger as creating a new "species." But the whole idea of a species is a biological concept, and what we are doing is transcending biology. The transformation underlying the Singularity is not just another in a long line of steps in biological evolution. We are upending biological evolution altogether.[127]

In a fictional dialogue between Bill Gates and himself, Gates sees Kurzweil's optimism in human innovation as being almost a "religious faith."[128] While Kurzweil previously argues that people do not need a new dogma, Kurzweil responds to Gates's statement with the positive affirmation that the world needs a new religion.[129] Basing all religious thought on the premise of providing humanity with a coping mechanism in rationalizing biological death, Kurzweil believes the Singularity has something greater to offer: it can actually do something about it.

For the new religion, Kurzweil posits keeping two principles. First, from traditional religion, he sees a need for retaining a strong affirmation of *human consciousness*, basing consciousness as the foundation for human morality and the legal system. Second, from the secular arts and sciences, he argues that a Singulatarian worldview will retain the importance of *knowledge* rooted, not merely in information, but in information that gives meaning for human consciousness.[130]

However, while retaining a high value of human consciousness and knowledge, Gates argues that there will be a need to acquire some new charismatic leaders to develop the new religion and of the importance of moving away from the "ornate and strange stories in contemporary religions."[131] While Kurzweil agrees with the

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[127] Kurzweil, *The Singularity Is Near*, 374.

[128] Kurzweil, *The Singularity Is Near*, 374.

[129] Kurzweil, *Danielle*, 224-31. Kurzweil argues with a radical Muslim that it is "arrogant to think that we can know the mind of God . . . [because we are so] much lesser than God, we cannot hope to correctly understand [His revelation]" (225-26) Though reasoning with a Muslim, the implication holds for all faiths that believe in divinely inspired revelation.

[130] Kurzweil, *The Singularity Is Near*, 375.

[131] Kurzweil, *The Singularity Is Near*, 375.

plan to move away from the stories behind the main religious belief systems, he argues that charismatic leaders are a problem for the new system. In response, Gates suggests that, perhaps, the new charismatic leader will not be human.[132] Alas, Kurzweil and Gates conclude their ultimate hypothesis about God:

> Bill: Okay, a charismatic computer, then. Ray: How about a charismatic operating system? Bill: Ha, we've already got that. So is there a God in this religion? Ray: Not yet, but there will be. Once we saturate the matter and energy in the universe with intelligence, it will "wake up," be conscious, and sublimely intelligent. That's about as close to God as I can imagine.[133]

Thus, not only will God come to life out of human innovation, but after the Singularity and the merger between human biology and technology, human beings will live forever with their savior. Human beings will be one with the Singularity, and the Singularity will be one with them. Humanity will create "god" in their image, and He will raise them to the heavens.

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[132] Kurzweil, *The Singularity Is Near*, 375. See also Kurzweil, *Danielle*, 118.

[133] Kurzweil, *The Singularity Is Near*, 375.

CHAPTER 3

THE TRINITY, THE *IMAGO DEI,* AND THE CITY OF GOD: A REDEMPTIVE VISION OF HUMANITY'S GOOD AND FUTURE GLORY

For which to th' infinitely Good we owe
Immortal thanks, and his admonishment
Receive, with solemn purpose to observe
Immutably his sov'reign will, the end
Of what we are. But since thou has vouchsaf'd
Gently for our instruction to impart
Things above earthly thought, which yet concern'd
Our knowing, as to highest wisdom seem'd,
Deign to descend now lower, and relate.

John Milton, *Paradise Lost*

An Odyssey toward Permanence

While giving immediate and due honor to Homer's two great classical works, *The Oxford English Dictionary* defines the word *odyssey* with no less tribute as "a long series of wanderings to and fro; a long adventurous journey."[1] Without straying too far into the Homeric epic, perhaps what connects *The Odyssey* to the history of humanity so deeply is the ironic perspective the tale offers. Usually, when one considers a long, adventurous journey, there is an outward posture. A whisper of the idea of an odyssey occurs in Tolkien's *The Lord of The Rings* when Frodo recalls Bilbo's counsel about the happenings in the wider world: "'It's a dangerous business, Frodo, going out of your door,' he used to say. 'You step into the Road, and if you don't keep your feet, there is no

[1] J. A. Simpson and E. S. C. Weiner, eds., *The Compact Edition of the Oxford English Dictionary* (Oxford: Oxford University Press, 1985), s.v. "odyssey."

knowing where you might be swept off to.'"[2] In Homer's *The Odyssey*, the concept carries an opposite posture—the wanderings run inward all the way through. The hero has already been swept away. Perhaps what forms the great bond between the reader and King Odysseus is a tacit coinherence of the nostalgia of longing for *home*. The familiar signs that travel through time and memory; the sanctuary of nurture and protection; the doorway to love's stronghold; hospitality's jovial warmth; and, in a much deeper way, the one place that helps to grasp most whatever it is that the idea of one's home might look like, and feel like, whatever and wherever home *is*, home is that place in the wide-world that best captures the idea of *permanence*. In Homer's words, the place where "dawn comes early, with rosy fingers."[3]

A powerful connection exists between the Homeric tale of Odysseus and the long story of humanity.[4] In a fallen world, the tale is almost as old as time. As a Christian, it is my conviction that this deep yearning for permanence runs right through the core of the human heart. Directly applicable to this dissertation, whether from a Kurzweilian vision of the Singularity, or from the rich and enduring Judeo-Christian heritage, there is a universal longing for a place that will never change, one that will *endure*, and yet there is an equal and opposite *haunting* that one day those familiar faces, walls, and gatherings will succumb to the boundaries of time. Thus, the psalmist wrote, "As for man, his days are like grass; he flourishes like a flower of the field; for the wind

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[2] J. R. R. Tolkien, *The Fellowship of the Ring*, vol. 1 of *The Lord of the Rings* (New York: Houghton Mifflin, 2004), 74.

[3] Homer, *The Odyssey*, trans. Walter Shewring, OWC (New York: Oxford University Press, 2008), 42.

[4] Owen Barfield, *Poetic Diction: A Study in Meaning* (Middletown, CT: Wesleyan University Press, 1973), 87-88. Barfield's concept of *the principle of living unity* adds further insight into the power of true poetic metaphor over time: "In the whole development of consciousness, therefore, we can trace the operation of two opposing principles, or forces. . . . The second principle [the principle of living unity] . . . is interested in knowing what things *are* whereas the first discerns what they are not. Accordingly, at a later stage in the evolution of consciousness, we find it operative in individual poets [Homer], enabling them . . . to intuit relationships which their fellows have forgotten—relationships which they must *now* express as metaphor. Reality, once self-evident, and therefore not conceptually experienced, but which can *now* only be reached by an effort of the individual mind—this is what is contained in true poetic metaphor; and every metaphor is 'true' only so far as it contains such a reality, or hints at it" (87-88).

passes over it, and it is gone, and its place knows it no more" (Ps 103:15-16). What are our lives but momentary realities that bind and cling to other momentary realities? Why do human beings feel life's loves, sorrows, and joys so deeply—why is reality so *raw* and *real* if it is only a passing and seemingly momentary existence?

In the book of Ecclesiastes, looking out on the sunset of Israel's Solomonic glory, the preacher (King Solomon) laments the brevity of life and the fading glories of all his possessional and positional wealth:

> I became great and surpassed all who were before me in Jerusalem. Also, my wisdom remained with me. And whatever my eyes desired I did not keep from them. I kept my heart from no pleasure, for my heart found pleasure in all my toil, and this was my reward for all my toil. Then I considered all that my hands had done and the toil I had expended in doing it, and behold, all was vanity and a striving after wind, and there was nothing to be gained under the sun. (Eccl 3:18-19)

One cannot help but feel the ringing of the word *vanity* resonating deeply in the ancient king's heart. In his work *Knowing God*, J. I. Packer calls the reader to consider Solomon's bane:

> Take off your rose-colored spectacles, rub your eyes, and look at it long and hard. What do you see? You see life's background set by aimlessly recurring cycles in nature (1:4ff.). You see its shape fixed by times and circumstances over which we have no control (3:1ff.; 9:11f.). You see death coming to everyone sooner or later, but coming haphazard; its coming bears no relation to good or ill desert (7:15; 8:8). Men die like beasts (3:19f.), good men like bad, wise men like fools (2:14, 17; 9:2f.). You see evil running rampant (3:16; 4:1; 5:8; 8:11; 9:3); rotters get on, good men don't (8:14). Seeing all this, you realize that God's ordering of events is inscrutable; much as you want to make it out, you cannot do so (3:11; 7:13f.; 8:17 RV; 11:5). The harder you try to understand the divine purpose in the ordinary providential course of events, the more obsessed and oppressed you grow with the apparent aimlessness of everything, and the more you are tempted to conclude that life really is as pointless as it looks.[5]

In the book of Ecclesiastes, an ominous sense of disillusionment overshadows all of life. Solomon had plumbed the depths of every pleasure—a consummate hedonist long before Epicurus.[6] He had built one of the greatest kingdoms in the ancient world. In the

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[5] J. I. Packer, *Knowing God* (Downers Grove, IL: InterVarsity Press, 1973), 94-95.

[6] Augustine, *The City of God against the Pagans*, ed. and trans. R. W. Dyson, Cambridge Texts in the History of Political Thought (Cambridge: Cambridge University Press, 2016), 582.

attainment of wisdom, Solomon claims, "I have acquired great wisdom, surpassing all who were over Jerusalem before me" (Eccl 1:16; cf. 1 Kgs 4:29-34; 10:1-13, 24). Regarding public works, he writes, "I made great works. I built houses and planted vineyards . . . gardens and parks . . . pools from which to water the forest of growing trees. I bought male and female slaves . . . . [acquired] great possessions of herds and flocks" (Eccl 2:4-5, 7). With regard to luxury, he writes, "I also gathered for myself silver and gold . . . singers . . . and many concubines. . . . So I became great and surpassed all who were before me in Jerusalem" (Eccl 2:8-9; cf. 1 Kgs 7:1-8; 10:14-23). He married into Egyptian royalty (1 Kgs 7:8), was respected internationally (1 Kgs 4:20-28), and established a kingdom that dwelt in relative peace. Yet, with all this earthly achievement, he could not find any *true* and *lasting* contentment "under the sun." For Solomon, the sting of death was the great leveler of all men: "I said in my heart that this also is vanity. For of the wise as of the fool there is no enduring remembrance, seeing that in the days to come all will have been long forgotten. How the wise dies just like the fool! So I hated life, because what is done under the sun was grievous to me, for all is vanity and a striving after wind" (Eccl 2:15-17).

Echoing in the background of Solomon's thought is this same longing for permanence: "What gain has the worker from his toil? I have seen the business that God has given to the children of man to be busy with. He has made everything beautiful in its time. Also, he has put eternity into man's heart, yet so that he cannot find out what God has done from the beginning to the end" (Eccl 3:9-11). He has put eternity, permanence, into man's heart. Reflecting on the brevity of life, and from the pen of a genius who died before the age of forty, Blaise Pascal wrote, "Returning to himself, let man consider what he is in comparison with all existence; let him regard himself as lost in this remote corner of nature; and from the little cell in which he finds himself lodged, I mean the universe,

let him estimate at their true value the earth, kingdoms, cities, and himself. What is a man in the infinite?"[7]

What is man in the infinite? From Ray Kurzweil's perspective, man is ultimately what he makes of himself—a pattern of matter and energy whose ultimate future rests in the expansion of human consciousness.[8] Human beings are nothing more than the product of the anthropic principle, biological evolution, natural selection, and the ultimate development of the human neocortex for pattern recognition and the acceleration of technological innovation. For Solomon, if life were merely an earthly and temporary existence focused on the passing nature of reality, the book would be woefully nihilistic, but that is not what Solomon ultimately concludes. While pointing to the inability of every reality under the sun to satisfy, he tells the reader that these momentary afflictions and joys are given to us to keep our eyes fixed on *eternity*—the greater life beyond the sun.

Drawing attention to Solomon's greater purpose, Derek Kidner comments, "Looked at in this way . . . [Solomon's] conclusions are very different from those of the secularist, in whose shoes he is standing for the purpose of his thesis. Without these signals and their final confirmation (12:13-14) the book would simply preach despair."[9] In other words, from Kidner's analysis, Solomon the preacher stands in the place of the secular mindset as one who had achieved the highest level of earthly glory *in order to* draw attention to his conclusion that life apart from an eternal trajectory is ultimately meaningless. However, from a perspective that reality is *not* temporary in nature,

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[7] Blaise Pascal, *Pascal's Pensées* (Charleston, SC: Bibliobazaar), 44-45.

[8] Harry Blamires, *The Christian Mind: How Should a Christian Think?* (Vancouver: Regent College, 1963), 44. To define a broader secular mindset that would encompass Kurzweil's view, Harry Blamires writes, "To think secularly is to think within a frame of reference bounded by the limits of our life on earth: it is to keep one's calculations rooted in this-worldly criteria" (44). That is to say, Solomon's "life under the sun."

[9] Derek Kidner, *The Wisdom of Proverbs, Job and Ecclesiastes: An Introduction to Wisdom Literature* (Downers Grove, IL: InterVarsity Press, 1985), 93.

Solomon is then able to admonish and encourage the despairing soul. Kidner concludes, "As a real citizen of this tantalizing world, [Solomon] feels acutely the futility that he describes. . . . he bids us set our hearts not on earthly vanities themselves but on our Creator, from whom we can gladly, responsibly, accept them for what they are, but in whom alone is the 'eternity', the 'for ever' (3:11, 14) of which he has made us conscious" (see also, Paul in 1 Cor 15:32).[10] In other words, death is not the end, but only part of a greater beginning. A beginning whose reality leaves one to dwell in true permanence in the presence of God: a reality where in true Homeric *veritas*, "dawn comes early with rosy fingers."[11]

A Tale of Two Cities: The City of God and the City of Man

One of the most enduring theological works of Christianity and Western cultural history is found in St. Augustine of Hippo's *The City of God against the Pagans*. Augustine began writing what is regarded as his greatest work shortly after the sack of Rome by the invading Alaric and Visigoths on August 24, in the year AD 410.[12] While Augustine began writing *The City of God* in AD 413, the book would take him fourteen years to complete.[13] Arguing that the Goths had been more gracious to the Romans due to their shared Christian heritage over historical examples of paganism, from a pastoral heart Augustine set out, in part, to help the Roman citizens to understand and think through the long held belief that Rome was to be an eternal city,[14] along with many of the

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[10] Kidner, *The Wisdom of Proverbs, Job, and Ecclesiastes*, 94.

[11] Homer, *The Odyssey*, 42.

[12] R. W. Dyson, ed. and trans., introduction to Augustine, *The City of God*, xi.

[13] Henry Chadwick, *Augustine of Hippo: A Life* (Oxford: Oxford University Press, 2010), 129.

[14] Virgil, *The Aeneid*, trans. David West (New York: Penguin Books, 2003), 10-11. See Jupiter's words to Venus.

resulting moral questions that lingered from the sacking of their nation including, but not limited to, those struggling with the memories of rape,[15] suicide,[16] and homicide.[17]

But more pointedly, while Christianity had become the largest religion in Rome by the fifth century, many of her citizens who held to the more ancient Roman and pagan belief systems began to blame the fall of Rome on Christianity. In response to this allegation, Augustine set his pen to expose the hypocrisy of the accusers who had received mercy from the barbarian invaders by seeking sanctuary within Rome's churches, where Christ stood as their protector.[18] In response, Augustine asks where the pagan gods who had once been the glory of Rome were amid her fall.[19]

Turning to his main argument for the duration of the work, Augustine seeks to encourage the defeated Roman citizens to remember that no earthly city or nation is *eternal*.[20] Pertinent to this dissertation, Augustine begins his response to the pagans by noting that the very gods they worshipped weakened Rome by leading her citizens into the depths of immorality before the coming of the Christ. While not denying their power, but only their intentions, Augustine labors to expose the immoral character of the gods as being mere idols empowered by demonic forces to deceive and destroy all that was truly good in Rome. Drawing from her history, he writes,

> It was necessary, therefore, to demonstrate from the books in which their own authors have recorded and published the history of times gone by, that matters are far other than the ignorant suppose. . . . it was necessary to teach that the false gods

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[15] Augustine, *The City of God*, 27.

[16] Augustine, *The City of God*, 29, 32.

[17] Augustine, *The City of God*, 33.

[18] "What [the pagan critics] ought rather to attribute to Christ is the fact that, for His name's sake, and against the laws and customs of war, the barbarians provided the largest churches as places of freedom in which men might take refuge, and in many cases showed such honor, not only to the true servants of Christ, but even to those who pretended to be such out of fear, that they pronounced unlawful for themselves things that would otherwise have been permitted them under the rules of war." Augustine, *The City of God*, 52. See also pp. 7, 25, 139.

[19] Augustine, *The City of God*, 44.

[20] Augustine, *The City of God*, 216-17.

> whom once they worshipped openly, and still worship in secret, are most vile spirits and malignant and deceitful demons: so much so that they take delight in crimes which, whether real or fictitious, are nonetheless their own, and which they have desire to have celebrated for them at their own festivals. For human infirmity cannot be restrained from the perpetration of damnable deeds for as long as a seemingly divine authority is given to the imitation of such deeds.[21]

In referring to the pagan gods, Augustine draws attention to their desire to be worshipped, even in the midst of perpetrating the most immoral and indecent acts within the theatres, and how these plays propitiated the gods while leading Rome's citizens into the vilest behavior.[22] Again he writes, "The gods do not hear you: they are demons who teach depravity and rejoice in vileness. Not only do they not consider it an injury if these things are falsely ascribed to them; on the contrary, it is an injury which they cannot endure if these things are not enacted at their solemn festivals."[23] Furthermore, Augustine argues that Rome's rulers wanted her citizens to worship the pagan gods in their immorality because it weakened the people as a whole. He writes, "Men like the demons—have persuaded the people in the name of religion to accept as true those things which they knew to be false: they have done this in order to bind men more tightly, as it were, in civil society, so that they might likewise possess them as subjects. For what weak and untutored men could escape the simultaneous falsehoods of both the rulers of the city and the demons."[24] In the midst of Rome's internal moral corruption under the pagan gods, he reminds the Roman citizens that her earlier immorality created more internal conflict than the wars Rome engaged in with other nations and that it was from *within* that the men of the greatest renown were slain.[25]

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[21] Augustine, *The City of God*, 143.

[22] Augustine, *The City of God*, 47, 93, 175, 853; Cicero, *The Republic and the Laws*, trans. Niall Rudd, OWC (Oxford: Oxford University Press, 2008), 78.

[23] Augustine, *The City of God*, 177.

[24] Augustine, *The City of God*, 184.

[25] "How shameless our adversaries, are, then, how rash, how impudent, how foolish—or, rather—how mad, when they do not impute those earlier misfortunes to their own gods, yet attribute the more recent ones to our Christ! As the Roman's own authors attest, those cruel civil wars were more bitter than all their foreign wars. Indeed, they deemed the commonwealth to have been not so much afflicted by

Drawing from Rome's history and its pursuit of glory, Augustine argues that the influence of corrupt and malignant spirits, when coupled with men of like character, not only led to internal corruption, but ultimately created a commonwealth that did so at the expense of trading earthly power and glory in exchange for the eternal worth and glory of virtue and felicity.[26] It is upon the distinction of these two glories that Augustine's concepts of the two cities emerge.

Augustine argues that any city that is ruled by vice rather than virtue, and one predicated on deities whose worship demands such corruption and immorality, will inevitably fall into internal ruin.[27] For Augustine, and reaching back to Solomon's conclusions, every earthly city or nation will ultimately reach this end in a fallen world. Long before Rome, the great cities of the world *all* found their unique rise and ruin. But where humanity finds true and lasting virtue, a virtue partially found in many of the classical philosophers,[28] primarily in the Scriptures, and ultimately in the *Principium*,[29]

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them as entirely destroyed. But those wars began long before the advent of Christ, and a chain of causes linked one crime to another. . . . Augustus himself waged many civil wars, and in these also there perished many men of the greatest renown, among them Cicero." Augustine, *The City of God,* 139.

[26] Augustine, *The City of God*, 210, 212.

[27] C. S. Lewis, *Mere Christianity* (New York: Collier Books, 1960), 39. Lewis echoes Augustine, "God cannot give us a happiness and peace apart from Himself, because it is not there. There is no such thing. That is the key to history. Terrific energy is expended—excellent institutions devised; but each time something goes wrong. Some fatal flaw always brings the selfish and cruel people to the top and it all slides back into misery and ruin" (39).

[28] Augustine, *The City of God*, 317-18; Plato, *The Complete Works*, ed. John M. Cooper (Indianapolis: Hackett, 1997), 72. With specific reference to Plato, Augustine writes, "Those who are congratulated on having followed Plato most closely—who greatly prefer Plato to the other philosophers of the nations, and who are more highly esteemed for their acuteness and understanding of the truth—do, it seems, have an understanding of God such that they find in Him the cause of existence, the ground of understanding, and the pattern according to which we are to live. Of these three things, the first is understood to pertain to the natural, the second to the rational, and third to the moral department of philosophy [metaphysics, epistemology, and axiology]. For man has been created in such a way that, through that which is most excellent in him, he may attain to that which excels all else: that is, the one true and perfect God, without Whom nothing in nature exists, no doctrine instructs, and no act profits. Let Him be sought, therefore, in Whom all things are ordered for us; let Him be discerned, in Whom all things are certain for us; let Him be loved, in Whom all things are right for us" (*The City of God*, 317-18, 326-27).

[29] *The Oxford English Dictionary* (Oxford: Oxford University Press, 1985), s.v. "principium." The *OED* defines *principium* as, "Beginning, commencement; origin, source; first principle, element; fundamental truth, etc" (2303). As the eternal *Logos,* Christ Jesus is the principium of information (source Mind) and the Creator of the heavens and the earth (John 1:1-4;1 Cor 8:6; Col 1:15-19). Christ Jesus is also

who is the Christ, their increasing goodness not only brings light into this world, but reflects from this small planet back into the eternal city whose inhabitant's source character is true virtue and felicity and whose founder and maker is God Himself (Ps 87:3; Heb 11:10; 12:22-23).[30]

The great point of divergence between the City of God and the City of Man is that one seeks to exalt humanity into the place of deity, while the other humbly acknowledges the true God. Augustine writes,

> In a remarkable way, therefore, there is in humility something which exalts the mind, and something in exaltation which abases it. It may indeed seem paradoxical to say that exaltation abases and humility exalts. Godly humility, however, makes the mind subject to what is superior to it. But nothing is superior to God; and that is why humility exalts the mind by making it subject to God. Exaltation, on the other hand, is a vice; and for that very reason it spurns subjection, and so falls away from Him Who has no superior. Thus, it is cast down, and brings to pass what is written: "Thou castest them down while they were being exalted. It does not say, When they had been exalted," as if they were first exalted and then cast down. Rather, they were cast down even while they were being exalted: their very exaltation was itself a kind of abasement. This is why humility is most highly praised in the City of God and commended to the City of God during its pilgrimage in this world; and it is especially exemplified in that City's King, Who is Christ. We are also taught by the Holy Scriptures that the vice of exaltation, the opposite of this virtue, holds complete sway over Christ's adversary, the devil. Certainly, this is the great difference that distinguishes the two cities of which we are speaking. The one is a fellowship of godly men, and the other of the ungodly; and each has its own angels belonging to it. In the one city, love of God has been given pride of place, and, in the other, love of self.[31]

Augustine concludes that man is destined to two cities based upon two ultimate loves:

> [That] is, the earthly by love of self extending even to contempt of God, and the heavenly by love of God extending to contempt of self. The one, therefore, glories in itself, the other in the Lord; the one seeks glory from men, the other finds its highest glory in God, the Witness of our conscience. The one lifts up its head in its own glory; the other says to its God, "Thou art my glory, and the lifter up of mine head." . . . Thus, in the Earthly city, its wise men, who live according to man, have pursued the goods of the body or of their own mind, or both. Some of them who were able to know God "glorified Him not as God, neither were thankful; but became vain in their imagination and their foolish heart was darkened. Professing

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the principium for human salvation, being the firstborn of those raised from the dead (Rom 8:29; Col 1:15; Rev 1:5).

[30] Augustine, *The City of God*, 265.

[31] Augustine, *The City of God*, 609.

> themselves to be wise" (that is, exalting themselves in their wisdom, under the dominion of pride), "they became fools, and changed the glory of the incorruptible God into an image made like corruptible man, and to birds, and four-footed beasts, and creeping things" (for in adoring images of this kind they were either the leaders of the people or their followers): "And they worshiped and served the creature more than the Creator, Who is blessed forever." In the Heavenly City, however, man has no wisdom beyond the piety which rightly worships the true God, and which looks for its reward in the fellowship not only of holy men, but of angels also, "that God may be all in all."[32]

As such, the City of God and the City of Man ultimately progress toward antithetical destinations that are rooted in the human heart. In no less glory than Solomon's kingdom, Rome fell. The vanity of the preacher echoes on in the Roman belief that their earthly empire would endure. Yet, while the people of Rome lived on, Augustine's great work helped them to fix their eyes on the real and lasting city, the true place of *permanence*: "Seize now the Heavenly Country, for the sake of which you will toil only a little, and in which you will truly reign eternally. You will find no Vestal flame there, and no stone statue of Jupiter on the Capitol. But you will find the one and true God, Who 'will set no bounds or duration to your estate, but will grant empire without end.'"[33]

The Progression of the Two Cities

As it stands, what was true in Solomon's era and what was true in Augustine's remains true today. Echoing Solomon and Augustine, the author of Hebrews writes, "Here we have no lasting city, but we seek the city that is to come" (Heb 13:14). Yet, with regard to the City of Man and with the rapid advancements in human technology and ingenuity, expanded upon in chapter 2, humanity may now be standing at a crossroad never attained in the history of the world if Ray Kurzweil's vision of the concept of a

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[32] Augustine, *The City of God*, 632-33.

[33] Augustine, *The City of God*, 92. At the end of this quotation Augustine echoes the eternal promise of Rome's longevity by the gods written in Virgil's *The Aeneid*: "Romulus shall receive the people, wearing with joy the tawny hide of the wolf which nursed him. The walls he builds will be the walls of Mars and he shall give his own name to his people, the Romans. On them I impose no limits of time or place. I have given them an empire that will know no end." Virgil, *The Aeneid*, trans. David West (New York: Penguin Books, 2003), 1.11.280. In light of Rome's fall, Augustine rightly directs this prophecy and the peoples of Rome to the true and lasting city.

technological Singularity finds actuation—an ideological vision poised to initiate a great merger of the individual and collective human spirit and intellect with the juggernaut of big data and artificial intelligence—a synergy of human biology with technology that envisions the rise of a technological transhumanism that will create a new humanity.

For Kurzweil, Jesus Christ is not the true *Principium* from which the cosmos found its origin, nor is He the substitutionary sacrifice by Whom humanity is cleansed of sin, reconciled back into relationship with the Trinity, and offered eternal life (Heb 2:17; 9:11-12). Rather, the evolution of human technology guided by human and artificial intelligence will soon usher in an era where humanity, detached from divine intervention, becomes the initiators of a different principium—a scientific hope and false gospel rooted in a technological Singularity where human suffering, disease, and death are overcome,[34] an age where ultimately man creates *god* itself—a god who will inevitably raise humanity into the heavens in creating an all-encompassing unity throughout the cosmos—forming as it were, one great corporeal, unified, and seemingly *permanent* city.[35] While this concept is developed in greater detail in chapter 4, Kurzweil's vision is a tower of Babel, a city whose Akkadian rendition means "gate of god" (Gen 10:10; 11:8).[36] In this future

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[34] Roger Lancelyn Green and Walter Hooper, *C. S. Lewis: A Biography* (New York: Harcourt Brace Jovanovich, 1974), 164. Referring to his *Space Trilogy* and the ultimate trajectory of a techno-humanist perspective about the future salvation of humanity as a rival to Christianity, what he referred to as "Westonism," C. S. Lewis remarked, "'The danger of 'Westonism' I meant to be real. What set me about writing the book was the discovery that a pupil of mine took all that dream of interplanetary colonization quite seriously, and the realization that thousands of people in one way and another depend on some hope of perpetuating and improving the human race for the whole meaning of the universe—that a 'scientific' hope of defeating death is a real rival to Christianity." Letter from C. S. Lewis to Sister Penelope, July 1939, quoted in Green and Hooper, *C. S. Lewis: A Biography*, 164.

[35] Milton, *Paradise Lost*, 32. Milton illustrates this spirit in Satan's first speech to the fallen angels with poetic insight. Rather than seeing their fallen state as evidence of the impossibility of rebelling against the omnipotent Trinity, despite their fall and defeat, the devil's true deception is found in his ultimate corrupted heart (Isa 14:12-15; Ezek 28:14-19). He really believes he is going to find a way to reascend and find victory: "For who can yet believe, though after loss, That all these puissant legions, whose exile Hath emptied heaven, shall fail to reascend Self-rais'd and repossess their native seat?" (32) Both fallen angels and men, apart from Christ, desire above all, as expressed at Babel, to *reascend*. Milton's "Self-rais'd" captures Augustine's concept of "self-exaltation and pride." Augustine, *The City of God*, 632.

[36] "It is correctly written (as always in the Achaemenidean inscriptions) *Babilu=Babi-ilu*, old Persian *Babirus* (*Babairus*), Accadian KA-DINGIRA, gate of God." Franz Deilitzsch, *A New Commentary on Genesis* (Edinburgh: T & T Clark, 1888), 352.

Babel, humanity comes back around to this ancient spirit in an attempt to ascend back into the heavens, not merely to make a *name* for themselves, but to make an *eternal name* for themselves (Gen 11:4). In this city, in all plausibility, language is united through technology, and humanity, though distinct in culture, is no longer *restrained* from attaining the final representation of what C. S. Lewis referred to as *that hideous strength*[37]—an ultimate rebellion in Augustine's assessment where both fallen men and gods unite against heaven.[38] A city long-matured and *strayed* from Sir William Whitla's original vision of utopia where "the history of the human race [finally manifests] . . . a more intense longing to pierce the veil which divides us from the spirit-land, and to catch

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[37] Green and Hooper, *C. S. Lewis: A Biography*, 144; C. S. Lewis, *That Hideous Strength*, vol. 3 of *The Space Trilogy*, Anniversary Collectors ed. (London: Harper Collins, 2013), 347, 624, 629; Milton, *Paradise Lost*, 21, 45; *The Oxford English Dictionary*, s.v. "hideous." There is a clear connection with Lewis's work and that of Sir David Lyndsay in the *Ane Dialog* describing the tower of Babel (*That Hideous Strength*, 347). Lewis was also deeply influenced by Milton's work (see *C.S. Lewis: A Biography*, 144) and may have derived this phrase from Milton's description of Satan and his angel's fallen state from their heavenly glory where he refers to "their hideous change" (*Paradise Lost*, 21), and again, "[the devils] hideous fall" (*Paradise Lost*, 45). The *OED* defines *hideous* as "Frightful, dreadful, terrible, horrible; hence horribly ugly or unpleasing, repulsive, revolting. In the original sense the notion was that of 'causing dread or horror'; this has gradually passed into that of 'revolting to the senses or feelings.'" As such, the essence of "that hideous change" and "hideous fall" are rooted in the repulsive state of a heart committed to rebellion against the All Mighty, leading to action, and ultimately a changed status in glory—being cast out of heaven. Lewis's "that hideous strength," being duly tied to "Babel," captures the same rebellious nature as that describing the spirit of the National Institution of Coordinated Experiments (NICE) in *That Hideous Strength* (*That Hideous Strength*, 347, 624, 629). Regarding the NICE and Lewis's link between devilry and technology, Lewis writes, "For the Hideous Strength confronts us and it is as in the days when Nimrod built a tower to reach heaven" (*That Hideous Strength*, 624).

[38] Lewis, *That Hideous Strength*, 347, 624, 629; Leonard Susskind and Yin Zhao, "Teleportation through the Wormhole," *Physical Review* D 98, no. 046016 (August 2018): 1-18. Regarding C. S. Lewis's assessment, I agree with him that those who are constructing this version of the City of Man may, perhaps, not know who their true masters are. In true mythopoeic fashion–a modern fairy-tale for grown-ups (*That Hideous Strength*, 345)–Lewis offers real-world insight through his medium of the NICE: "It told them that the NICE [those who would create the ultimate City of Man], at its core, was not concerned solely with modern or materialistic forms of power. It told the Director, in fact, that there was [angelic] energy and [angelic] knowledge behind it. It was, of course, another question whether its human members knew of the dark powers who were their real organisers. And in the long run this question was not perhaps important. As Ransom himself had said more than once, 'Whether they know it or whether they don't, much the same sort of things are going to happen. It's not a question of how the Belbury people are going to act (the *dark-[angels]* will see to that) but of how they will think about their actions" (*That Hideous Strength*, 537). In the referenced video, Geordie Rose, one of the key inventors of the quantum computer, explains that his invention has enabled the transfer of information from "parallel universes" into our reality such that the information brought through these machines is able to produce an *effect* in our world. Connecting this breakthrough in physics to Lewis's warning, one should ask and be deeply concerned about who the entities are that are communicating through this bridge? My belief is that theoretical physicists who hold to a multiverse paradigm will assume they are connecting with creatures not far removed from ourselves, but this is merely an assumption. They could very well be communicating with fallen angels through this new *medium*. Geordie Rose, "Quantum Computing: Artificial Intelligence Is Here," Ideacity, August 25, 2015, YouTube video, 12:40-15:20, https://www.youtube.com/watch?v=PqN_2jDVbOU&t=907s.

a glimpse if happily we may find it into the future destiny of the world on which we live."[39] Kurzweil's vision is for a City of Man that creates the ultimate exaltation of man both in the physical realm and in the digital realm, and where, in no small blasphemy, man creates god in his own image, breathing life into the dust of the cosmos, and god becomes a living creature (cf. Gen 2:7).[40]

For the remainder of this chapter, I build a foundation for the Christian understanding of the Trinity: omnipotent, immutable, and good. I then address the doctrines of the *imago Dei* and human dominion in the original good created order: how the fall began the vision of the City of Man and how Jesus Christ redeemed humanity back into relationship with the Holy Trinity and secured their eternal redemption and glorification in the City of God. While drawing on a historical confession of these doctrines, I also want to note that while one must hold steadfast to what is revealed, it is my conviction that one should be ready to apply such doctrines to new challenges. I do so humbly, and without God's help I will most certainly fail. But, in the spirit of progressive revelation, Michael Polanyi offers fresh perspective:

> Christianity is a progressive enterprise. Our vastly enlarged perspectives of knowledge should open up fresh vistas of religious faith. The Bible, and the Pauline doctrine in particular, may be still pregnant with unsuspected lessons; and the greater precision and more conscious flexibility of modern thought, shown by the new physics and the logico-philosophic movements of our age, may presently engender conceptual reforms which will renew and clarify, on the grounds of modern extra-religious experiences, man's relation to God. An era of great religious discoveries may lie before us.[41]

While one cannot expect divine truth to change (Jude 3) nor downplay the central role of both general and special revelation within the design of the triune Godhead

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[39] Sir William Whitla, ed., introduction to *Sir Isaac Newton's Daniel and the Apocalypse* (London: John Murray, 1922), 3.

[40] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin Books, 2005), 131-32, 375, 390.

[41] Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 2015), 285; John Polkinghorne, *One World: The Interaction of Science and Theology* (West Conshohocken, PA: Templeton Press, 2007), 34.

for the transformation of humanity's sinful state (Ps 8:1-4; John 14:15-17, 26; 16:7-15; 17:3, 8, 14, 17; Rom 1:19-21; Heb 4:12),[42] one should anticipate and expect that God's demonstrated role of progressive revelation may uncover secrets and shed light on His revealed truth with greater clarity and complexity in the course of time—as is commensurate with His character throughout history (Matt 13:11; 1 Pet 1:10-12).[43] We read in Deuteronomy 29:29, "The secret things belong to the LORD our God, but the things that are revealed belong to us and to our children forever, that we may do all the words of this law," and God reveals all things in his own perfect time (Gal 4:4-7) through the natural order, language, and ultimately His Son Jesus Christ.[44] Particularly, many of the concepts of modern science that will be discussed in the chapters that follow reveal embedded knowledge uncovered by the process of *reverse engineering* mechanisms in the natural order. Knowledge that may illuminate deeper truths, even eternal truths, that expand our knowledge of God. Even the desire to create god in our image, though sinful to the core, may create an unintended effect (Gen 50:19-21), a humbling, which may ultimately be leveraged for good and God's exaltation of His Christ so that in all things He might be *preeminent* as the fullness of Him who fills all in all (Eph 1:22-23; Phil 2:9; Col 1:18).

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[42] "God works in his elect in two ways: inwardly, by his Spirit; outwardly, by his Word. By his Spirit illuminating their minds, and training their hearts to the practice of righteousness, he makes them new creatures, while, by his Word, he stimulates them to long and seek for this renovation." John Calvin, *The Institutes of the Christian Religion*, trans. Henry Beveridge (Grand Rapids: Wm. B. Eerdmans, 1989), 2.5.5. See also Ps 19.

[43] Hebrews 3:5 reads, "Moses was faithful in all God's house as a servant, to testify to the things that were to be spoken later."

[44] "The divine scriptures then are in the habit of making something like children's toys out of things that occur in creation, by which to entice our sickly gaze and get us step by step to seek as best we can the things that are above and forsake the things that are below." Augustine, *De Trinitate*, 66.

The Divine Goodness Rooted in His Simple Nature and Threefold Unity

Genesis 1:1 reads, "In the beginning, God created the heavens and the earth." In the genesis of space and time, the Trinity was already there[45]—three persons dwelling in a perfectly unified essence.[46] Augustine describes the Trinity's eternal nature and existence as follows:

> The purpose of all the Catholic commentators I have been able to read on the divine books of both testaments, who have written before me on the trinity which God is, has been to teach that according to the Scriptures Father and Son and Holy Spirit in the inseparable equality of one substance present a divine unity; and therefore there are not three gods but one God; although indeed the Father has begotten the Son, and therefore he who is the Father is not the Son; and the Son is begotten by the Father, and therefore he who is the Son is not the Father; and the Holy Spirit is neither the father nor the Son, but only the Spirit of the Father and of the Son, himself coequal to the Father and the Son, and belonging to the threefold unity.[47]

This plurality in perfect unity is immanent and internal to itself. [48]

Ontologically, Fred Sanders describes God's being as follows: "[This] threefoldness belongs to what God actually is rather than being only something he freely does, it has been called the ontological Trinity, the essential Trinity, or the Trinity of being."[49] This same triune God exists in perfect *simplicity* and *goodness*. Regarding His simplicity, Thomas Aquinas argued that God is simple in His incorporeal nature in that He is the Prime Mover who, being unmoved from outside of Himself (Job 40:1-14), wills by His creative power to put the corporeal realm in motion (Gen 1:1); that He dwells in perfect actuality in exercising full potential in everything He wills to do with no potential

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[45] Calvin, *Institutes* 1.13.18.

[46] Calvin, *Institutes* 1.13.4.

[47] Augustine, *De Trinitate*, 69.

[48] John Frame, *Systematic Theology: An Introduction to Christian Belief* (Phillipsburg, NJ: P & R, 2013), 489-90. Contrary to *modalism*, which affirms that the God is one God who manifests Himself differently in three different roles, and to *Arianism*, which affirms that the three persons of the Trinity are creations of the Father, who is the one true God, the ontological or "immanent" Trinity is "the Trinity as it exists necessarily and eternally, apart from creation. It is, like God's attributes, what God necessarily *is*" (489-90).

[49] Fred Sanders, *The Deep Things of God: How the Trinity Changes Everything*, 2nd ed. (Wheaton, IL: Crossway, 2017), 95.

yet to be actualized (Ps 135:6; Prov 16:4); and that He is the most noble Being and animator of all things in giving souls to each person to animate each body, being Himself animated in no way from outside of His own will and plan (Heb 11:3; Rev 4:11).[50] As such, since all things come from Him, there is nothing outside of Himself that can influence His person (Isa 40:9-12; Job 40-42:6). God is *asei* and the progenitor of all things outside of Himself (Isa 40:26; Col 1:16).[51] Furthermore, central to God's simplicity is that He remains immutable, exists without parts, and in perfect unity (Ps 102:27; John 17:11; Jas 1:17). Each member of the Trinity does not collectively make up three parts of God, but each member is one mode of subsistence.[52] According to Robert Culver, "There is one mode of subsistence called Father, another called Son and another Holy Spirit. However, there is one simple undivided substance."[53]

Moreover, God is perfect in each of His attributes without remainder (Matt 5:48; 1 Tim 1:17). God is good, albeit also loving, just, and kind, to name a few of His attributes, not because those characteristics exist outside of His being, but because His very nature defines and gives life to those characteristics with his *actions* being perfectly

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[50] Thomas Aquinas, *The Summa Theologica*, trans. Fathers of the English Dominican Province (Claremont, CA: Coyote Canyon Press, 2018), I, q. 2, art. 3; q. 3, art. 1; q. 3, art. 7.

[51] Frederick Copleston, *Greece and Rome*, vol. 1 of *A History of Philosophy* (1960; repr., London: Bloomsbury Continuum, 2018), 291; Frame, *Systematic Theology*, 406; Charles Williams, *The Place of the Lion* (London: Faber & Faber, 1952), 98. Frame defines God's *aseity* as representing who He is as Himself, apart from creation (*Systematic Theology*, 406). Regarding Aristotle, Copleston writes, "If there is an unchangeable substance, then metaphysics studies unchangeable substance, since it is concerned with being *qua* being, and the true nature of being is shown in that which is unchangeable and self-existent, rather than in that which is subject to change. That there is at least one such unchangeable being which causes motion while remaining itself unmoved, is shown by the impossibility of an infinite series of existent sources of movement, and this motionless substance comprising the full nature of being, will have the character of the divine, so that the first philosophy is rightly to be called theology" (*Greece and Rome*, 291). See also Williams, *The Place of the Lion*, 98.

[52] Robert Culver, *Systematic Theology: Biblical and Historical* (Fearn, Scotland: Mentor, 2005), 120. Culver notes, "Terms for the sense in which the Godhead is three were, in the West, mainly *persona* or person and *subsistence*. Though the word came to mean role or part played in a drama, *persona* is literally the Latin word for a mask representing an individual played by an actor. Later *subsistence* was used in the same sense as person or even 'mode of subsistence' by orthodox authors" (120).

[53] Culver, *Systematic Theology*, 63.

commensurate.[54] Central to this dissertation, the *goodness* of the Trinity is revealed chiefly in relation to His creative acts and intentions at creation (Gen 1:31; Ps 100:5).[55] Since all elements of the created order are derived from Him, God's eternal power and wisdom are manifest to humanity everywhere through this general revelation (Rom 1:19-20). By forming humanity in His own likeness as the chief creative act in the corporeal realm, human beings possess a unique capacity in the created order to *participate* in the goodness of God.[56] While the perfect expression of this likeness was tarnished by the fall of man,[57] the character of God's goodness as the source of all that is good must remain central to, and fought for, if the future of humanity is to be centralized in the creation of an *artificial* intelligence that may plausibly takeover humanity's corporeal dominion.[58]

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[54] Aquinas, *Summa Theologica* I, q. 4, art. 2. While not limiting God's perfection to His goodness, Aquinas substantiates the effective cause of all God's attributes, including his goodness, to Himself: "All created perfections are in God. Hence He is spoken of as universally perfect, because He lacks not (says the Commentator, *Metaph*. V) any excellence which may be found in any genus. This may be seen from two considerations. First, because whatever perfection exists in an effect must be found in the effective cause: either in the same formality, if it is a univocal agent—as when man reproduces man; or in a more eminent degree, if it is an equivocal agent—thus in the sun is the likeness of whatever is generated by the sun's power. . . . Secondly, from what has been already proved, God is existence itself, of itself subsistent. Consequently, He must contain within Himself the whole perfection of being . . . . Since therefore God is subsisting being itself, nothing of the perfection of being can be wanting to Him. Now all things are perfect, precisely so far as they have being after some fashion. It follows therefore that the perfection of no one thing is wanting to God" (*Summa Theologica* I, q. 4, art. 2). See also Frederick Copleston, *Medieval Philosophy*, vol. 2 of *A History of Philosophy* (1960; repr., London: Bloomsbury Continuum, 2003), 352.

[55] Xenophon, *Conversations of Socrates*, trans. Hugh Tredinnick and Robin Waterfield, ed. Robin Waterfield, Penguin Classics (London: Penguin Books, 1990), 86, 192-93. Socrates believed that the goodness of the gods permeated all reality. In his prayer life he simply prayed to the gods that they would grant to him what was good in their own eyes. He believed a good life with few offerings was a better sacrifice than the extravagant offerings of the wealthy and wicked (86). Socrates argues that the summer and winter solstices reflect the cyclical boundaries of the divine goodness in protecting against weather extremes beyond physiological tolerance (192). He also argues that the senses were given to humanity so that we might enjoy all good things (193) and communication to share and receive that which is reciprocally good, enact laws, and organize community.

[56] Aquinas, *Summa Theologica* I, q. 3, art. 2.

[57] Augustine, *The Enchiridion of Augustine Addressed to Laurentius: Being a Treatise on Faith, Hope, and Love*, Christian Classics Series 2 (London: Unwin Brothers, [1955?]), 24.

[58] A. W. Tozer, *The Knowledge of the Holy* (New York: HarperOne, 1961), 28. Tozer writes, "Man for all his genius is but an echo of the original Voice, a reflection of the uncreated Light. As a sunbeam perishes when cut off from the sun, so man apart from God would pass back into the void of nothingness from which he first leaped at the creative call" (28).

While the initial verses of Genesis introduce who God is in His simplicity, after giving the details to His creative work of the corporeal realm, the chapter simultaneously develops the central character and intent of God toward His creation in His assessment of each day's work in the phrase: "And God saw that it was good" (Gen 1:4, 10, 12, 18, 21, 25). His goodness thus dispersed throughout, the chapter climaxes with the words, "[and] God saw everything that he had made, and behold, it was *very good*" (1:31).[59] The assessment of His creative acts being very good was not due to a chance outcome, nor was it merely the best possible outcome in a myriad of possible outcomes.[60] His work was perfectly good as His very character is itself the wellspring, source, and essence of *goodness*. Aquinas argues that as all perfections come from God as from the first cause in His simple nature, so too is goodness derived in perfection from God's person—He is good essentially and without remainder.[61]

In accord with Aristotle's exaltation of the power of virtue found in action (see below), Augustine describes God's essence as being a simplistic unity rooted in His eternal and supreme goodness: "For the Almighty God, who, as even the heathen

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[59] Henry George Liddell, Robert Scott, and Henry Stuart Jones, *A Greek-English Lexicon*, 9th ed. with revised supplement (Oxford: Oxford University Press, 1996), s.v. καλός and λίαν. For vv. 4, 10, 12, 18, 21, 25, the Septuagint uses the word καλόν for the English equivalent "good." For verse 31, the translators use the terminology καὶ ἰδού καλὰ λίαν. LSJ defines καλός as primarily pertaining to: "(1) Beautiful, of outward form . . . . (2) [with regard to practical function] good, of fine quality." Furthermore, the LSJ defines λίαν as follows: "Very, exceedingly." Thus, God's assessment of His work was that it was exceedingly beautiful in form, it was indeed excellent, and, being *obtent* in such form, His creation also represented a high level of purpose in function. Both aspects of beauty and function, being exceedingly good, are a reflection of His own good Person—*His works participated in His own excellent goodness*.

[60] Gottfried Wilhelm Leibniz, *Discourse on Metaphysics and The Monadology*, trans. George R. Montgomery, rev. Albert R. Chandler (Mineola, NY: Dover, 2005). Leibniz draws attention to the good will of the Trinity as expressed in the act of the will to complete good works: "Every act of willing supposes some reason for the willing and this reason, of course, must precede the act" (2).

[61] Aquinas, *Summa Theologica* I, q. 6, art. 3. Aquinas describes each of God's perfections as threefold: "First, according to the constitution of its own being; secondly, in respect of any accidents being added as necessary for its perfect operation; thirdly, perfection consists in the attaining to something else as the end. . . . This triple perfection belongs to God only, in Whom alone essence is existence; in Whom there are no accidents; since whatever belongs to others accidentally belongs to Him essentially; as, to be powerful, wise, and the like, as appears from what is stated above (I. q. 3, art. 6); and He is not directed to anything else as to an end, but is Himself the last end of all things. Hence it is manifest that God alone has every kind of perfection by His own essence; therefore, He Himself alone is good essentially" (38).

acknowledge, has supreme power over all things, being himself supremely good."[62] Building on Augustine's connection of goodness in relationship to God's influence and power over creation, while rooted in His person, Aquinas argues that the greatest expression of goodness—perfect goodness—is demonstrated in His creation of *other* beings to share and experience Himself and His good creation (Ps 34:8; Jas 1:17).[63] Connecting this thought with Plato, Aquinas writes,

> Now just as [Plato] laid down separate ideas of being and absolute oneness; and by participation of these, everything was called "being" and of "one," and these he called absolute being and absolute oneness; he said was the supreme good. And because good is convertible with being, as one is also; he called God the absolute good, from whom all things are called good by way of participation.[64]

As such, when the author of Genesis recounts God's conclusion that His works were indeed good, He is concluding that everything is called good by its *participation* in the similitude of the divine goodness, be it denominated in comparison.[65]

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[62] Augustine, *The Enchiridion*, 22. In accord with Genesis 1, Plato writes, "All this was the effect of necessity on our four substances, and this was the condition in which the craftsman-god, who made all that is perfect and best in this world of becoming, found them, at the time when he turned to fathering the self-sufficient, perfect god. To serve him in his work, he made use of causes and their necessary effects, but he took personal responsibility for fashioning the goodness in all created things." Plato, *Timaeus and Critias*, trans. Robin Waterfield, OWC (Oxford: Oxford University Press, 2008), 67.

[63] Aristotle, *The Nicomachean Ethics of Aristotle*, trans. D. P. Chase (London: Forgotten Books, 2015), 24. Aristotle describes the direct connection between virtue and the exercise of power as that which truly determines happiness: "It is the exercise of the powers in accordance with virtue that determines Happiness, and the contrary the contrary" (24). In this he illustrates the same concept here represented by Augustine. God, being supremely good, exercises His power over creation for the good of its subjects. As image bearers, Aristotle induces from his quest for the source of happiness, that happiness is the result of exercising one's powers for the good of the other (virtue).

[64] Aquinas, *Summa Theologica* I, q. 6, art. 4.

[65] God's goodness is herein emphasized due to God's emphasis on this aspect of His own character as reflected in His association with His good creation in Genesis 1. A non-exhaustive but helpful definition of God's greater attributes are defined in the *Westminster Confession of Faith*: "God hath all life, glory, goodness, blessedness, in and of Himself; and is alone in and unto Himself all-sufficient, not standing in need of any creatures which He hath made, not deriving any glory from them, but only manifesting his own glory in, by, unto, and upon them. He is the alone fountain of all being, of whom, through whom, and to whom are all things; and hath most sovereign dominion over them, to do by them, for them, or upon them, whatsoever Himself pleaseth. In His sight all things are open and manifest, His knowledge is infinite, infallible, and independent of the creature, so as nothing is to Him contingent, or uncertain. He is most holy in all His counsels, in all His works, and in all His commands. To Him is due from angels and men, and every other creature, whatsoever worship, service, or obedience He is pleased to require of them." The Westminster Divines, *The Westminster Confession of Faith* (East Peoria, IL: Banner of Truth Trust, 2012), 25.

It was within this state of synergy that the original creation dwelt under the divine omnipotence in perfect peace.[66] It was in this divine goodness that God invited each creature within its eclectic boundaries to participate in his goodness,[67] but it was ultimately in humanity that God endowed the highest capacity to participate: "And the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul" (Gen 2:7 KJV).[68] Endowed with reason, Aristotle accentuates humanity's most divine faculty as: "The Good of Man comes to be 'a working of the Soul in the way of Excellence'";[69] that excellence is pursued by the repeated habits of virtuous action;[70] and that virtue represents the character of true goodness.[71] The highest virtue of human excellence is found in the attunement and participation of each individual in the goodness immanent to the triune Godhead—a capacity for holiness—a capacity fit for a creature made in such likeness as to dwell in perfect happiness.[72]

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[66] Jay Lennon George Williams. "Omni-synergy and the Singularity: Looking Both Ways at the Intersection of Science and Theology," *CEJ* 19, no. 2 (August 2022): 232-46. In this article I have defined this state of synergy as an *Omni-synergy*. The perfect synergy between God and his image bearers, and their interpersonal unity with Him and each other, rearing offspring in love, were ultimately rooted in His divine goodness and Trinitarian unity. In the sinless state, humanity ruled justly over creation as participants of the divine goodness in perfect virtue. This *Omni-synergy* was broken in the fall but reforged by the death, burial, and resurrection of Jesus Christ (Eph 1:7-10).

[67] Bernardus Silvestris, *Cosmographia*, in *Poetic Works*, ed. Winthrop Wetherbee, Dumbarton Oaks Medieval Library (Cambridge, MA: Harvard University Press, 2015), 71.

[68] LSJ, s.v. γίνομαι and ψυχή. The Septuagint reads και ἐγένετο ὁ ἄνθρωπος εἰς ψυχὴν ζῶσαν. Lit. "and he became the man into a soul living." LSJ defines the verb γίνομαι as "[to] come into a new state of being. . . come into being. . . to be born. . . new born. LSJ defines ψυχή as "the immaterial and immortal soul. . . the conscious self or personality as center of emotions, desires, and affections." While God formed man from the dust of the earth, He brought Adam into being by infusing in his form an immortal soul. See John 3:3 and Jesus's reference to being born again.

[69] Aristotle, *The Nicomachean Ethics*, 15, 29. Juxtapose with LSJ's definition of καὶ ἰδού καλὰ λίαν (see n60).

[70] Aristotle, *The Nicomachean Ethics*, 40-41.

[71] Aristotle, *The Nicomachean Ethics*, 44; Copleston, *Greece and Rome*, 334.

[72] Plato, *Timaeus and Critias*, 92. Reflecting on the most beautiful human, and contrary to depictions of Plato as viewing the body as evil, Plato writes, "For those capable of seeing it, a creature whose soul and body are in balance is a vision of the utmost beauty and attractiveness" (92). As happiness is the ultimate vision of human fulfillment for Aristotle, and goodness the action of attaining such

What Is Man?

In Psalm 8, King David writes about the majesty of the heavens. While a contemporary reflection might consider the majestic physics behind the quantum entanglement spanning vast spaces, wormholes in space and time, or, perhaps, the mysterious nature of dark matter, for David, simply gazing into the twinkle of the night sky moved him to pen these enduring words to God: "When I look at your heavens, the work of your fingers, the moon and the stars, which you have set in place, what is man that you are mindful of him, and the son of man that you care for him?" (Ps 8:3-4).[73] In other words, his ability to comprehend the glory and beauty that spangled the night sky brought him to a place of wonder—a wonder, or a rite, that gives pause to consider the inherent *glory* of human worth. In the divine rationality bestowed upon humanity, David is self-aware of his own capacity to comprehend both the corporeal and incorporeal realms as creatures endowed with a material body and an immaterial soul.[74] Reflecting on this dual nature in his medieval volume *Cosmographia*, Bernardus Silvestris muses,

> Man will be made, his form closely akin to the divine, a blessed and happy conclusion of my work, such as he has lived from eternity, a subject of the primary universe, a worthy and in no way inferior idea in my mind. He will derive his mind from heaven, his body from the elements, so that he may dwell bodily on earth, mentally in heaven. His mind and body, though diverse, will be joined into one, such that a sacred union may render the work agreeable to both. He shall be both divine and earthly, and will devote himself to both spheres, dealing wisely with the world, reverently with the gods. Thus, can he conform to his dual nature and remain in harmony with his two defining principles. That he may both worship things divine and fully embrace earthly life, and meet the demands of this double

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happiness, Aristotle's vision of the good life is commensurate with Plato's vision of the truly beautiful person.

[73] Jed Brody, *Quantum Entanglement*, MIT Press Essential Knowledge Series (Cambridge, MA: MIT Press, 2020); Susskind and Zhao, "Teleportation through the wormhole," 1-18; Neil deGrasse Tyson, *Astrophysics for People in a Hurry* (New York: W. W. Norton, 2017), 84.

[74] Plato, *Timaeus and Critias*, 25, 28. Plato echoes David's reflection on the corporeal and incorporeal realms in his own way, "When the father-creator saw that his creation had been set in motion and was alive, a gift to please the immortal gods, he was pleased and in his joy he determined to make his creation resemble its model even more closely. Since the model was an ever-living being, he undertook to make this universe of ours the same as well, or as similar as it could be. But the being that served as the model was eternal, and it was impossible for him to make this altogether an attribute of any created object. Nevertheless, he determined to make it a kind of moving likeness of eternity, and so in the very act of ordering the universe he created a likeness of eternity" (25).

> commitment, he will possess the gift of reason in common with higher powers; only a thin line will separate Man from the gods.[75]

Possessing both a soul and a body, each image bearer exists in a unified dual-substance nature that enables an individual to embrace Silvestris's vision for human flourishing.[76]

Indeed, exercising such capacity, the great king then looks beyond the glory of the moon and stars to a reality far superior as he continues to build his psalm:

> Yet you have made him a little lower than the heavenly beings and crowned him with glory and honor. You have given him dominion over the works of your hands; you have put all things under his feet, all sheep and oxen and also the beasts of the field, the birds of the heavens, and the fish of the sea, whatever passes along the paths of the seas. O LORD, our Lord, how majestic is your name in all the earth. (Ps 8:5-9)

Within these words, King David is reflecting on the first chapter in the book of Genesis, and in his thoughts, he cannot help but *worship* (Gen 1:26-31). The very God who fashioned Adam and Eve in the garden (2:7), patterned human beings after His own likeness (1:26; 5:1; 9:6), and bestowed upon humanity the responsibility of leadership dominion over the natural order sits (1:28-29; 2:15), *enthroned*, in the midst of David's thoughts as the earthly king gazes beyond the temporal realities around him to the eternal Being back of the created order (Ps 145:9)—and wonder of wonders, a God who *knows* David.[77]

In this psalm, David reflects upon the same ancient and enduring words written in the first chapter of the book of Genesis. Yet, at the same time, his knowledge of the complexity of the material world, his pondering the night's sky, enables him to understand the ultimate immaterial reality in comprehending the brilliance and goodness

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[75] Silvestris, *Cosmographia*, 139.

[76] Gregg R. Allison, *Embodied: Living as Whole People in a Fractured World* (Grand Rapids: Baker Books, 2021); John W. Cooper, *Body, Soul and Life Everlasting: Biblical Anthropology and the Monism-Dualism Debate* (Grand Rapids: Wm. B. Eerdmans, 2000), 163-64; Anthony A. Hoekema, *Created in God's Image* (Grand Rapids: William B. Eerdmans, 1986), 213-18; Gary S. Selby, *Pursuing an Earthy Spirituality: C. S. Lewis and Incarnational Faith* (Downers Grove, IL: InterVarsity Press, 2019) 6-11; Justin E. H. Smith, *Embodiment: A History*, Oxford Philosophical Concepts (Oxford: Oxford University Press, 2017), 89.

[77] Packer, *Knowing God*, 37.

of *God*.[78] As in the words of George Herbert's poem "The Elixir" and in the spirit of Lewis Carroll,[79] David looks through the true "looking glass," illustrating that "a man that looks on glasse, On it may stay his eye; Or if he pleaseth, through it passe, And then the heav'n espie."[80] But rather than dwelling on his own capacity to comprehend the eternal in the glory of the created order and of the divine goodness, both intentional and present in man's glory over the created order, he concludes his psalm with the words, "O LORD, our Lord, how majestic is *your name* in all the earth" (Ps 8:9).[81] The beauty and majesty of the heavens move David to acknowledge the glory of God Himself in worship. The Christian worldview is predicated on this foundational truth. Reality as we experience and know it has become a *portal*, as it were, into the presence of Him who is both eternal and real.[82] Humanity has a divine origin and heavenly worth.

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[78] Aquinas, *Summa Theologica* I, q. 84, art. 5; John Frame, *The Doctrine of the Knowledge of God*, A Theology of Lordship 1 (Phillipsburg, NJ: P & R, 1987), 26. Aquinas describes this dual capacity for those who know God by faith, "First, as in an object itself known; as one may see in a mirror the images of things reflected therein. In this way the soul, in the present state of life, cannot see all things in the eternal types; but the blessed who see God, and all things in Him, thus know all things in the eternal types. Secondly, one thing is said to be known in another as in a principle of knowledge: thus we might say that we see in the sun what we see by the sun. And thus we must needs say that the human soul knows all things in the eternal types, since by participation of these types we know all things. For the intellectual light itself which is in us, is nothing else than a participated likeness of the uncreated light, in which are contained the eternal types. Whence it is written (Ps 4:6-7), 'Many say: Who showeth us good things?' which question the Psalmist answers, 'The light of Thy countenance, O Lord, is signed upon us,' as though he were to say: By the seal of the Divine light in us, all things are made known to us. But since besides the intellectual light which is in us, intelligible species, which are derived from things, are required in order for us to have knowledge of material things; therefore this same knowledge is not due merely to a participation of the eternal types, as the Platonists held, maintaining that the mere participation of ideas sufficed for knowledge. Wherefore Augustine says (*De Trin*. Iv. 16): 'Although the philosophers prove by convincing arguments that all things occur in time according to the eternal types, were they able to see in the eternal types, or to find out from them how many kinds of animals there are and the origin of each? Did they not seek for this information from the story of times and places?' But that Augustine did not understand all things to be known in their 'eternal types' or in the 'unchangeable truth,' as though the eternal types themselves were seen, is clear from what he says (QQ. 83, qu. 46)—viz. that 'not each and every rational soul can be said to be worthy of that vision,' namely, of the eternal types, 'but only those that are holy and pure,' such as the souls of the blessed" (*Summa Theologica* I, q. 84, art. 5).

[79] Lewis Carroll, *Alice in Wonderland and Through the Looking Glass* (New York: Grosset and Dunlap, [1963?]), 145. Carroll's conception of the looking glass will play a central metaphorical role in chapter 5.

[80] George Herbert, "The Elixir," in *The Poems of George Herbert*, OWC (London: Oxford University Press, 1961), 175-76.

[81] Plato's "suitably endowed creatures." Plato, *Timaeus and Critias*, 27.

[82] Augustine, *The City of God*, 305.

The *imago Dei* and the Glory

Moving from David's reflections to Genesis 1, over a period of six days, and out of nothing, God formed the heavens and the earth. He fashioned light and darkness (Gen 1:3-5) and an expanse that he called "heaven" to separate the waters in the sky from those pooled on the earth (1:6-8). Out of the waters, He caused the dry earth to form above the seas (1:9-10); vegetation pregnant with seeds according to each kind (1:11-13); the celestial bodies with their mass and energy along with a greater light to rule the day, and a lesser light to rule the night time (1:14-19); the fish of the sea and all that fill the oceans deep and the flocks that fill the skies (1:20-23); and the beasts of the earth and every creeping thing that lurks above and below the earth (1:24-25). From the watery deep to the silver lining, God gave to each creature its sphere. Then, on the sixth day, He wrought His greatest creation: "Then God said, 'Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth.' So God created man in his own image, in his own image, in the image of God he created him; male and female he created them" (1:26-27).[83] In David's words in Psalm 8, at the end of His creation, God placed on Adam and Eve a crown of glory—the *imago Dei*.

Working through the etymological roots of the words "image" and "likeness" in their ancient Near Eastern usages, and in correspondence with the biblical text while noting their synonymous tendency in English, Peter Gentry argues that their use in Hebrew offers similar but different functions: "Though both clearly communicate covenant relationship, the term 'likeness' emphasizes the relationship of the copy to the original (its use in Genesis 5:1 and 5:3 denotes generation and sonship) whereas the term 'image' emphasizes the relationship of the copy to others."[84] In this regard, embedded in

[83] Allison, *Embodied*, 39-58.

[84] Peter Gentry, *Biblical Studies* (Peterborough, ON: H&E Academic, 2020), 1:52.

the language of the *imago Dei* are two relationships. A vertical relationship between humanity and God encapsulates the idea of a sonship relationship within the concept of "likeness." Yet, there is also a horizontal relationship between humanity and all creation encapsulated in "image" that denotes the role of servant kingship.[85] Consequently, Gentry notes, "The fact that humans are the divine image is not merely a description of their function and role but speaks of human ontology and structure as well. We are hard-wired for relationship with god and with all creatures."[86] Furthermore, Gentry goes on to argue that the term "image" demonstrates that "humanity represents the deity to the world precisely" and that the term "likeness" "indicates that humanity's creative and generative power is similar, but not exactly the same, as that of the deity."[87] Therefore, and what will become a central focus throughout this work, human beings represent God's likeness in their capacity to create and innovate. As will be elaborated later in this chapter, *science* is a natural endeavor of the human genius because its very generative function is rooted in a God who creates and innovates.

Building on the etymological roots of the *imago Dei*, the history of humanity is writ large with cultures who idolized and fashioned inanimate images of gods made out of wood, stone, and precious metals—elementary images preserved in museums around the world to this day. Yet, according to Genesis, in Adam, and through Adam, Eve, together their offspring bears the true impression of the divine stamp as *living* images.[88]

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[85] Gentry, *Biblical Studies*, 1:22.

[86] Gentry, *Biblical Studies*, 1:23. Peter Gentry argues that holiness does not convey the reformation perspective of separation, but rather the idea of "consecration or devotion to another" (1:50). From this perspective, holiness is fundamentally about our devotion to God and to one another, motivated in participating in God's goodness, his own holiness consecrated in goodness, and in living that out toward one's neighbor.

[87] Gentry, *Biblical Studies*, 1:52-53. As will be developed in greater detail in chapter 4, at the tower of Babel humanity's collective intelligence is described with such potential that God says, "Behold, they are one people, and they have all one language, and this is only the beginning of what they will do. And *nothing that they propose to do will now be impossible* for them" (Gen 11:6, italics added).

[88] Gentry, *Biblical Studies*, 1:23; C. S. Lewis, *Perelandra*, vol. 2 of *The Space Trilogy*, Anniversary Collector's ed. (London: Harper Collins, 2013), 326. Gentry notes that in the image applying equally to male and female: "Image applies to both male and female since ["adam"] is generic" (*Biblical*

Of this precise copy, John Calvin writes, "The Creator was pleased to behold, as in a mirror, his own glory."[89] Plato notes in the *Timaeus* that even the human form gives exaltation to the human head (reflected by Paul in Col 1:18 and Eph 1:22) as a reminder that our glorious faculty of reason is situated in closest relation to the heavens: "The summit of our body . . . raises us up from the earth towards the heavenly region . . . . For it is from heaven, where our souls originally came into existence, that the gods suspended our heads, which are roots, and set our bodies upright."[90] Moreso, as gendered creatures, Gregg Allison argues that the embodied state is strengthened by the unity of the male and female: "The fact that we are gendered in the totality of our perspectives is a key reason we desperately need each other. Men need women and women need men, and not just in terms of marriage, [but] to be transported beyond our own limited viewpoint so as to experience life in a multifaceted way."[91]

A central facet to the crown of the *imago Dei* shines forth in humanity's rational faculties. Building on Plato's image of the complementary nature of humanity's corporeal and incorporeal faculties, Mortimer Adler describes these faculties as being

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Studies, 1:23). Looking upon the archetypal forms of the first man and woman on Perelandra, Lewis captures the glory of "the living image" vividly: "Plaster images of The Holy One may before now have drawn to themselves the adoration they were meant to arouse for the reality. But here, where His live image, like Him within and without, made by His own bare hands out of the depth of divine artistry, His masterpiece of self-portraiture coming forth from His workshop to delight all worlds, walked and spoke before Ransom's eyes, it could never be taken for more than an image. Nay, the very beauty of it lay in the certainty that it was a copy, like and not the same, an echo, a rhyme, an exquisite reverberation of the uncreated music prolonged in a created medium" (*Perelandra*, 326).

[89] Calvin, *Institutes* 2.12.6.

[90] Plato, *Timaeus and Critias*, 95. Calvin echoes Plato: "For though the whole man is called mortal, the soul is not therefore liable to death, nor when he is called a rational animal is reason or intelligence thereby attributed to the body. Hence, although the soul is not the man, there is no absurdity in holding that he is called the image of God in respect of the soul; though I retain the principle which I lately laid down, that the image of God extends to everything in which the nature of man surpasses that of all other species of animals. Accordingly, by this term is denoted the integrity with which Adam was endued when his intellect was clear, his affections subordinated to reason, all his senses duly regulated, and when he truly ascribed all his excellence to the admirable gifts of his Maker. And though the primary seat of the divine image was in the mind and the heart, or in the soul and its powers, there was no part even of the body in which some rays of glory did not shine." Calvin, *Institutes* 1.15.3. See also Silvestris, *Cosmographia*, 141.

[91] Allison, *Embodied*, 49.

shared in part with the animal world in *perceptual* thought, or the capacity motivated by personal appetites and desires, but also in *conceptual* thought, or that capacity to exercise an intellectual appetite that enables free choice (not merely instinctive).[92] Moreso, and in navigating between this dual capacity, Adler attributes to the human frame a capacity of a *reflexive awareness* that enables human beings to "distinguish the mind's different activities from one another. . . . [and] to this extent, is the mental as well as the physical observable, the one introspectively [incorporeal], the other by sense-perception [corporeal]."[93] Such faculties are optimal for developing intelligible language—"the storehouse of imagination."[94] The ability to establish patterns by fusing sound signatures with symbols, representing perceptual and conceptual elements of the natural order, provides a mutual point of contact for individual minds to find commonality. Reflecting on this capacity, Owen Barfield links the essential tool of human consciousness and the capacity to incorporate sense-datum into faculties of imaginative perception, along with the interaction of the two, unto memory: "On the basis of past perceptions, using language as a kind of storehouse, we gradually build up our ideas, and it is only these which enable us to become 'conscious,' as human beings, of the world around us. There is, therefore, nothing pretentious or dilettante in describing my experience as 'an expansion of consciousness.'"[95]

I believe Barfield's conception began with God's directing Adam to name the animals. In this command to Adam, God begins the process of the scientific method by initiating Adam's capacity to attribute names to separate observable patterns and

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[92] Mortimer Adler, *Intellect: Mind over Matter* (New York: Collier Books, 1990), 5-7.

[93] Adler, *Intellect*, 17.

[94] Barfield, *Poetic Diction*, 23. See also Adler, *Intellect*, 128; Aristotle, *Physics*, trans. Robin Waterfield, OWC (New York: Oxford University Press, 2011), 22; Polanyi, *Personal Knowledge*, 82-83.

[95] Barfield, *Poetic Diction*, 57.

functions in his environment (Gen 2:18-20).[96] By associating names as descriptive terms to divide the created order into specific observational patterns, Adam formed a pattern that would initiate the base foundation for the scientific method and the expansion of human consciousness. Furthermore, in distinguishing each kind by name, this pattern recognition created via language instituted a point of reference that would begin the long chain of language's capacity to link separate minds by the power of pattern recognition—the human capacity for information transfer and adaptability.[97]

Building on this foundation, the *imago Dei* is exemplified in the exclusively universal human ability to communicate ideas greater than an individual mind from an individual mind, and to distinguish between objective and subjective realities.[98] Adler writes,

> To every fact which can be stated in one language, there will be a correlate which can be stated in another. . . . These two facts—universal translatability and universal communicability—attest to the universality of the human mind and intellect regardless of the diversity of human languages. Not only is reality one and the same for all human beings. Not only does our experience of that reality have a common core in which we all share. But by virtue of having the same human nature with the same species-specific properties, each of us has a mind and intellect that is essentially the same in all other human beings.[99]

Moreover, rational capacities bestowed upon humanity from God grant the human agent true intellectual autonomy and freedom (1 Cor 2:11), but in the original creation, freedom was granted to offer up and contribute to the collective good of the eternal City of God.[100] In Adam and Eve, God bestowed an intellectual capacity of equal

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[96] Aristotle, *On the Soul and Other Psychological Works*, trans. Fred D. Miller Jr., OWC (New York: Oxford University Press, 2018), 59. See Aristotle's distinction between actual and potential knowledge as a conceptual framework.

[97] Barfield, *Poetic Diction*, 56.

[98] Herman Bavinck, *Christian Worldview*, ed. and trans. N. Gray Sutanto, James Eglinton, and Cory C. Brock (Wheaton, IL: Crossway, 2019), 32-33.

[99] Adler, *Intellect*, 133.

[100] Leibniz comments, "Never has a system so clearly proved our high standing. Every spirit, being like a separate world sufficient to itself, independent of every other creature, enclosing the infinite, expressing the universe, is as durable, as stable, and as absolute as the universe of creatures itself.

vigor, but a capacity separate in consciousness. Not only did their union produce offspring after their own image and likeness—self-replication—(Gen 5:3), but the sharing of intellects began the synergy of human emotional and intellectual shared consciousness,[101] an individual and shared social and rational capacity suitable, according to Silvestris, to comprehend the corporeal and incorporeal realms, even the thoughts of God as He chose to reveal, whether through His creation or through direct converse and intimacy.[102] But also, in such joint resolution, this original King and Queen over the material order would discharge their dominion mandate by leaning into one another with their autonomous intellects in loving communion.[103] Wherefore, while possessing the *imago Dei* individually, their mutual collaboration would discharge their high capacity collectively, spawning a co-generative trajectory of the human species that would by its function, invest such foundational and tacit powers into their children, and in participating in the divine goodness both individually and as a whole, enable humanity to govern the material order under God as vice-regents.[104]

Therefore, we ought always to appear in it in the way best fitted to contribute to the perfection of the society of all spirits, which makes their moral union in the city of God." Gottfried Wilhelm Leibniz, *The Philosophical Works of Leibnitz* (New Haven, CT: Tuttle, Morehouse & Taylor, 1890), 79.

[101] Samuel E. Balentine, ed., *The Oxford Encyclopedia of the Bible and Theology* (Oxford: Oxford University Press, 2015), 1:517.

[102] Silvestris, *Cosmographia*, 139. Augustine adds perspective: "For there is nothing so social by nature as this race, no matter how discordant it has become through its fault; and human nature can call upon nothing more appropriate, either to prevent discord from remembrance of that first parent of us all. For God chose to create one individual for the propagation of many, so that men should thus be admonished to preserve unity among their whole multitude." Augustine, *The City of God*, 539.

[103] J. H. Bavinck, *Personality and Worldview*, ed. and trans. James Eglinton (Wheaton, IL: Crossway, 2023), 52-53; Bruce M. Metzger and Michael D. Coogan, eds., *The Oxford Companion to the Bible*, Oxford Companions (New York: Oxford University Press, 1993), 141.

[104] Adler, *Intellect*, 21. Mortimer Adler offers valuable insight into the depth of this capacity even from within the individual psyche: "The objects we consciously experience are of two sorts: private and public. Private are all bodily feelings and emotions—feelings of pleasure and pain, of hunger and thirst, of fear and anger. These private objects of consciousness belong exclusively in the experience of this individual or that. Public are the objects that we and others apprehend in common, and being the same objects experienced by two or more individuals can be talked about by them. This distinction between public and private objects of our conscious experience calls for a parallel distinction between two kinds of mental processes: cognitive and affective. The affects are directly experienced bodily feelings and emotions. They are always *that which* we experience, never *that by which* we experience something. In sharp contrast, cognitions—perceptions, memories, imaginations, and thoughts—are always *that by which*

Yet, in all these rational functions, and in Calvin's imagery of humanity's most suitable state attainable in a world without sin where—"[alone] is denoted the integrity with which Adam was endued when his intellect was clear, his affections subordinated to reason, all his senses duly regulated, and when he truly ascribed all excellence to the admirable gifts of his Maker"[105]—an image that enables the human soul in Aristotle's vision to pursue a life of true happiness as an individual utilizes their faculties of reason to acknowledge and participate in the good character of their Creator, but in its highest expression. All of these human faculties find their central facet and ultimate expression when discharged in the distinctly human capacity to *worship*, a worship that does not merely find expression in the ritual and corporeal alignment, but more fundamentally and personally, with true trepidation, entering the center of the holy of holies in the ultimate human capacity to *participate* in God's goodness to the extent of acknowledging *His own knowledge* of His own perfect goodness and actions,[106] the capacity to participate in the highest and true actuation of human potential when motivated by a clear and pure recognition of the *simple* and everlasting glory—the divine goodness that humanity was designed to run on.[107] Plato's beatific vision: "When a person starts on the discovery of the absolute by the light of reason only, and without any assistance of sense, and perseveres until by pure intelligence he arrives at the perception of the absolute good, he at last finds himself at the end of the intellectual world, as in the case of sight at the end

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we experience the objects they make present to our minds. They are *never* the experienced objects themselves, never *that which* is apprehended by the mind" (21).

[105] Calvin, *Institutes* 1.15.3.

[106] Augustine, *The City of God*, 464. While Augustine does not go so far as to state this highest honor, his words add insight: "He made everything with knowledge, however, then, surely, what He made He knew; and from this there occurs to the mind a wondrous, but nonetheless, true, thought: that this world could not be known to us if it did not exist, but it could not exist if it were not known to God" (464).

[107] C. S. Lewis, *Mere Christianity* (New York: Collier Books, 1960), 39.

of the visible."[108] A vision in the original created order untainted by human sin, and directly apprehensible to Adam and Eve. A synergistical goodness flowing from heaven to earth, and through humanity's rule, back to heaven in faithful obeisance. In such a suitable pair, endowed with the like divine powers, humanity's original rule partook in relational union with the Trinity, the union of heaven and earth, and in a union between one another—the City of God.[109]

The *imago Dei* and the Dominion Mandate

Thus, being suitably and aptly created in the divine likeness, the unity in diversity bound in filial goodness, and mutually distributing their powers in love—not forgetting the numerous realities comprised in Psalm 8 (David is a bridge as both a descendent of Adam and the physical and human type that sired the Christ)—God has given humanity the express command to lead and steward the corporeal realm as His image bearers:

> And God said to them, "Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth." And God said, "Behold, I have given you every plant yielding seed that is on the face of all the earth, and every tree with seed in its fruit. You shall have them for food. And to every beast of the earth and to every bird of the heavens and to everything that creeps on the earth, everything that has the breath of life, I have given every green plant for food." And it was so. (Gen 1:28-30)

Bound up in these words is the original expression of human vice-regency.[110] Humanity bears the image of God in leadership and in physical labor.[111]

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[108] Plato, *Five Great Dialogues*, trans. B. Jowett, ed. Louise Ropes Loomis (New York: Walter J. Black, 1942), 419.

[109] Williams, "Omni-synergy and the Singularity," 243-44. For a conceptual illustration, see illustration 1.1.

[110] Gentry, *Biblical Studies*, 1:53.

[111] Herman Bavinck, *Reformed Dogmatics*, vol. 2, *God and Creation*, ed. John Bolt, trans. John Vriend (Grand Rapids: Baker Academic, 2004), 560; Timothy Keller and Katherine Leary Alsdorf, *Every Good Endeavor: Connecting Your Work to God's Work* (New York: Penguin Books, 2016), 35-36.

To rule over the created order as image bearers is to also participate in the divine goodness as those beings endowed with a capacity to rule over His good order with a reflection of the same benevolence and goodness with which the Trinity rules over the heavens and earth.[112] Such leadership is a stewardship not to be abused but executed with filial love and goodness for all that is above oneself; that is oneself; close to oneself; and beneath oneself.[113] In the original created order, every intent of the heart would have been for the good of one's neighbor and the glory of God, creating a human synergy untainted by leadership hubris and the corruption of earthly power.[114] From the vantage point of a corrupt stewardship and the abuse of this power, Augustine writes,

> [The mind] which thinks it has achieved something great if it can also dominate its peers, by which I mean other men. For it is the instinct of a corrupt mind to covet and claim as its due what is really due to God alone. This kind of self-love is better called hatred. It is unjust because it wants what is beneath it to serve it while itself refusing to serve what is above it; and it has been very well said that "the person who loves injustice hates his own soul" [Ps 10:6]. For this reason, such a mind becomes weak and is tormented because of its mortal body, for it is inevitable that it should love the body and be weighed down by the body's corruption. A body's immortality and immunity from corruption derives from health of mind, and health of mind means resolutely holding fast to something better, namely the unchangeable God. But when it aspires to dominate those who are its natural peers, that is, its fellow men, its arrogance is quite intolerable.[115]

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[112] William VanDoodewaard, *The Quest for the Historical Adam: Genesis, Hermeneutics, and Human Origins* (Grand Rapids: Reformation Heritage Books, 2015), 302.

[113] Augustine, *On Christian Teaching*, trans. R. P. H. Green, OWC (Oxford: Oxford University Press, 2008), 18.

[114] Benjamin Franklin, *The Autobiography of Benjamin Franklin* (New York: Touchstone, 2004), 70, 77. Franklin captures this spirit in his several of his prayers: "O powerful Goodness! bountiful Father! merciful Guide! Increase in me that wisdom which discovers my truest interest. Strengthen my resolutions to perform what that wisdom dictates. Accept my kind offices to thy other children as the only return in my power for thy continual favors to me" (70). Again, Franklin prays, "Father of light and life, thou Good Supreme! O teach me what is good; teach me Thyself! Save me from folly, vanity, and vice, From every low pursuit; and fill my soul With knowledge, conscious peace, and virtue pure; Sacred, substantial, never-fading bliss!"; and "That there is one God, who made all things. That He governs the world by His providence. That He ought to be worshipped by adoration, prayer, and thanksgiving. But that the most acceptable service of God is doing good to man. That the soul is immortal. And That God will certainly reward virtue and punish vice, either here or hereafter" (77).

[115] Augustine, *On Christian Teaching*, 18. In accord with Augustine, see also Franklin's words regarding the corruption of leadership. Walter Isaacson, *Benjamin Franklin: An American Life* (New York: Simon and Schuster, 2004), 456.

When the office of dominion is exercised in the light of the divine goodness, it becomes a shield to those who rule, as no abuse of good is found to inflict suffering upon her subjects.[116]

Moreover, part of the dominion mandate is affixed to the human capacity to both *create* and *innovate*. Indeed, after creating Adam, God placed him in "the garden of Eden to work it and keep it" (Gen 2:15)—to utilize the image in work.[117] In time, the elementary faculties to tend and keep the original paradise would evolve into humanity's capacities to comprehend and tend the *deeper gardens* of the mathematical and structural components of the created order, denoting additional aspects of the *imago Dei* distinct from all other creatures—aspects enabling both observation and predication in formulating hypotheses for empirical verification.

In his work *Personal Knowledge*, Michael Polanyi describes this phenomenon as unique to all human understanding as well as the scientific method: "[The] *personal participation* of the knower in all acts of understanding . . . does not make our understanding *subjective*. Comprehension is . . . a responsible act claiming universal validity. Such knowing is indeed *objective* in the sense of establishing contact with a hidden reality . . . anticipating an indeterminate range of yet unknown (and perhaps yet inconceivable) true implications."[118] While encouraging such objective pursuits in one's personal knowledge, Polanyi balances his approach by cautioning against the certainty of

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[116] Jay Lennon George Williams, "The Flame of the West: A Perspective on the Oxford Inklings' Vision for Imaginative Learning in Christian Scholarship," *CEJ* 19, no 3 (January 2023): 385-401. See article for explanation of Plato's philosopher kings.

[117] Allison, *Embodied*, 33.

[118] Polanyi, *Personal Knowledge*, xxvii-xxviii. Polanyi also engages the prophetic capacity of the human mind, such that some individuals find themselves enabled to see through the indeterminate range of unknowns while yet inconceivable—there are intellectual capacities beyond normal rationality. He writes: "One may say, indeed, quite generally, that a theory which we acclaim as rational in itself is thereby accredited with prophetic powers. We accept it in the hope of making contact with reality; so that, being really true, our theory may yet show forth its truth through future centuries in ways undreamed of by its authors" (5). He illustrates this prophetic power in the 16-year-old Einstein who "rationally intuited" the theory of relativity later expressed in the Michelson-Morley experiment in 1887 (9). See also Aquinas, *Summa Theologica* II-II, q. 171, art. 1.

hard atheistic *scientism*,[119] noting that even the most erudite scientific evidence, or theory, is always subjected to any estimate of observational errors, statistical fluctuations of observational error, and individual bias.[120] In agreement with Polanyi's observation, John Polkinghorne provines that quantum physics expands this distance: "The physical world has denied determinate objectivity at its constituent roots. Heisenberg tells us concerning electrons and other elementary particles that if we know what they are doing we do not know where they are, and if we know where they are we do not know what they are doing. His uncertainty principle proclaims the unpicturability of the quantum world."[121] Such naïve objectivity, for Polkinghorne, "is inappropriate for its inhabitants."[122]

Furthermore, Polanyi argues that the order reflected in creation, humanity's mind being attuned to so apprehend, cannot be the product of blind chance. The natural order itself offers a panoramic view of innumerable *patterns*[123] of order because their Creator has woven symmetry with beauty within the boundaries of His design. Polanyi illustrates his point with one small example travelers would witness as they passed by rail through the small town called Abergele, located on the border between England and Wales. As one travels through the town, Polanyi notes that one is greeted by a beautiful garden with pebbles laid out in an inscription reading "Welcome to Wales by British Railways." Reflecting on this minute mosaic of information, so obviously patterned, he argues that probability would scorn the idea of such a pattern of rocks falling into place by chance. Reflecting on the possibility of such a scenario, Polanyi then writes, "Suppose

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[119] Lewis, *Perelandra*, 290.

[120] Polanyi, *Personal Knowledge*, 19.

[121] Polkinghorne, *One World*, 8; Polkinghorne, *The Quantum World*, Princeton Science Library (Princeton, NJ: Princeton University Press, 1992), 78.

[122] Polkinghorne, *One World*, 8.

[123] The concept of pattern recognition is vital in understanding Kurzweil's worldview in chapter 2.

that the pebbles had originally all belonged to the garden and would, if left to chance, be found in any part of this area with equal probability; we could compare the large number of arrangements open to the pebbles, if distributed at random all over the garden, with the incomparably smaller number of arrangements in which they would spell out the inscription 'Welcome to Wales by British Railways.'"[124] He concludes the obvious that the "ratio of the latter small number over the former very large number would represent the fantastically small chance of the pebbles having arranged themselves in the form of the inscription merely by accident; and this would crushingly refute any supposition of this having been the case."[125]

Rather than patterns emerging from random chance and natural selection, such patterns denote a signature of intelligence. This relationship between the pattern giver and the pattern recognizer is imprinted upon humanity to repeated by human ingenuity and innovation. Congruent with God's assessment of the human capacity when unhindered by the informational restraint of language at Babel—"nothing they propose to do will now be impossible for them" (Gen 11:6)—again Polanyi notes, "Man has the power to establish real patterns in nature, the reality of which is manifested by the fact that their future implications extend indefinitely beyond the experience which they were originally known to control. The appraisal of such order is made with universal intent and conveys indeed a claim to an unlimited range of as yet unspecifiable true intimations."[126]

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[124] Polanyi, *Personal Knowledge*, 33.

[125] Polanyi, *Personal Knowledge*, 33. Prior to the Enlightenment and modernist movements, Polkinghorne notes that "many of the first fellows of the Royal Society were of a puritan persuasion. Indeed, it has been suggested that the Christian doctrine of creation, with its emphasis on the Creator's rationality (so that his world was intelligible) and freedom (so that its nature had a contingent character which could be discovered only by investigation, rather than by speculation) provided an essential matrix for coming into being of the scientific enterprise." Polkinghorne, *One World*, 3.

[126] Polanyi, *Personal Knowledge*, 37. Perhaps, and as will be discussed in greater detail in chapter 4, likely this power will grow even to the extent of creating an artificial intelligence—what I will term as an *imago Hominis*, on the basis of Kurzweil's analogy of humanity creating in their own image.

God's command to Adam to ascribe appropriate names to the animal kingdom, utilizing observation and language to create distinction in kind, distinctions predicated on patterns of observation,[127] illustrates that within the dominion mandate, humanity was created to do predication.[128] As such, humanity was created to navigate the incorporeal and the corporeal world as is suitable to their design. Contemplating this dual capacity, the Royal Society of London penned these words in their original publication against theological sects within British society that were falsely superstitious toward the increased popularity of the scientific method: "New Scenes of Heaven already we espy, And Crowds of golden Worlds on high; Which from the Spacious Plains of Earth and Sea, Could never yet discovr'd be . . . . So human for its Use, for Knowledge so Divine. The Things which these proud men despise, and call Impertinent, and vain, and small, Those Smallest Things of Nature let me know."[129] In agreement, part of the dominion mandate initiated the human faculties of reason to study the created order and help bring increasing order to its garden beginnings. From this foundation, human innovation is perfectly in line with God's dominion mandate. What makes Kurzweil's scientific vision of the Singularity antithetical to the Christian worldview is not his science, but rather his desire to create an everlasting City of Man.

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[127] Stephen Wolfram, *What Is ChatGPT Doing . . . and Why Does It Work?* (Champaign, IL: Wolfram Media, 2023), 71. In reference to the recent successes made by machine intelligence to communicate through ChatGPT, Wolfram highlights specific progress in learning "semantic grammar"—the proper linking of words into logical concepts. His observation offers insight into the period of history when Adam first started building the human vocabulary in naming the animals. Wolfram writes, "A semantic grammar necessarily engages with some kind of 'model of the world'—something that serves as a skeleton' on top of which language made from actual words can be layered" (71).

[128] Barfield, *Poetic Diction*, 15-39. See Barfield on the distinction between the language of science and poetry.

[129] Thomas Sprat, introduction to *The History of the Royal Society of London: For the Improving of Natural Knowledge*, 4th ed. (London: Walthoe, Tonson, Bettesworth, Hitch, Robinson, Clay, Motte, Ward, Brown, and Longman, 1734).

Life, Liberty, and the Pursuit of Happiness: Paradise Lost and Regained

Returning to Augustine's *City of God against the Pagans*, the unity that once connected heaven and earth as the City of God has long since been severed. The original dominion and authority granted to Adam and Eve fell under the same *ruin* as Satan's rebellion in heaven.[130] In Genesis 2:9, we read, "And out of the ground the LORD God made to spring up every tree that is pleasant to the sight and good for food. The tree of life was in the midst of the garden, and the tree of the knowledge of good and evil." Two trees, or perhaps two pillars, whose very forms together held the key to pursuing true and lasting *happiness*. Two pillars speaking to the archetypal King and Queen of earth of a present and future perpetually bearing the fruits of *life*, *liberty*, and *justice*.[131]

On the one side, the tree of life, a tree of *corporeal* majesty. A creation infused with a capacity to perfectly nourish and sustain the human form indefinitely—the breast from which Eve herself, the mother of all living, would find her nurture. A tree so tenaciously virial, so good, that its life-giving bosom held even death itself in contempt. The Queen of trees—the Eve of a different species standing ready to bear her gift of life immemorial. A tree with such femininity in its form that it could be likened to C. S. Lewis's conception of Venus in *Perelandra*—standing with hands open and palms facing forward.[132] A sentinel over human vitality with perpetual vigilance. A tree that Adam and Eve and their offspring would have attended forever had sin not poisoned their hearts

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[130] Delitzsch, *A New Commentary on Genesis*, 152-53. Delitzsch highlights fundamental elements of Satan's strategy to lead Eve into rebellion: "This denial of the truth of God sounds as strong as possible: the brevity and completeness for the expression make the contradiction absolute. . . . After denying the truth of God, the tempter disputes His love, thus exciting first doubt and then ambition" (152-53).

[131] "Declaration of Independence: A Transcription," National Archives, accessed August 17, 2023, https://www.archives.gov/founding-docs/declaration-transcript. Whether they knew it or not, it is from the deepest intellectual mine that the founding fathers discovered these treasures of liberty. The Declaration of Independence reads: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness."

[132] Lewis, *Perelandra*, 321-22.

against the divine goodness (Gen 3:24; Rev 22:2). A tree that represented the sphere of humanity.

On the other side, the tree of the knowledge of good and evil. A tree of intellectual and *incorporeal* majesty. In Genesis 2:16-17, we read, "And the LORD God commanded the man, saying, 'You may surely eat of every tree of the garden, but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall surely die.'" A tree representing the enduring ideals of *liberty* and *justice*. The King of trees—the Adam of a different species. Again, a tree with such masculinity in its form that it could be likened to Lewis's conception of true masculinity—a shadow of a figure holding something like a spear, or standing armed, with a look of intellectual distance roaming throughout the earth, protecting liberty, and in ceaseless vigilance keeping at bay all that would harm humanity. A tree with an outward posture holding the highest significance of protecting the *imago Dei* from transgressing its participation within the pure union of divine goodness. The sentinel who held both liberty and justice within its facility. Liberty, in the sense that its very existence offered a perpetual reminder that "you are free in your obedience." In the abstention from its fruit, guarded by the divine warning assigned to its role, this tree provided a perpetual reminder to humanity's vice-regency. All was to be theirs but this one tree that belonged to God alone. A tree of justice—a tree of death—whose fruit housed the great transgression line. A tree that stood on ceaseless watch to remind humanity of liberty but also of justice. A perpetual sentinel whose secondary purpose spoke that one may "come this far, but no farther."

Two pillars standing in the center of the garden to remind humanity of their exalted state. A tree of life and a tree of death.[133] One to nourish the heart, the other to nourish the mind. Sacred pillars standing together in unity, but always reflecting the

[133] Delitzsch, *A New Commentary on Genesis*, 139.

divine goodness imparted to the archetypal King and Queen. Sacred pillars, perhaps, whose boughs created an *archway* between them. A conceptual gateway between life, liberty, and justice; a gateway opening wide into the realm of truth and happiness.

The City of Man: Paradise Lost

The City of Man did not find its origin in human ingenuity, nor was it conceived in the minds of the archetypal human pair. The City of Man was initially envisioned within the mind of a mighty architect and enemy of the Trinity. An ancient and rogue enemy of God and man, Satan,[134] the archon angel of light corrupted and now transfigured into the devil. The great "accuser" who devours humanity—now described as a serpent and dragon (Job 41:33-34; Rev 12:9).[135] The ruler of all the angels and sons of man whose glory met ruin in rebellious pride and whose sole remaining energies are singularly infused with malice channeled to corrupt and destroy the City of God.[136] Satan, the great guardian cherub who once dwelt in the presence of God, an angel God described as "the signet of perfection, full of wisdom and perfect in beauty" (Ezek 28:12). The archon angel who was blameless in [all of his] ways until unrighteousness was found in him (Ezek 28:15; 1 John 3:8). A creature so glorious in beauty and might that there

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[134] LSJ, s.v. Διάβολος and Σατάν. For the two primary names of Satan, the LSJ defines each accordingly: Διάβολος is defined as "false accusation, slander; quarrel, enmity; devilish, slanderous, backbiting; enemy; injuriously, invidiously" (see usage in Job 1:6). Σατάν is defined as "adversary, opponent; accuser; chief of the evil spirits, the Devil." The attributes of each name will be assumed synonymously throughout when either name is used.

[135] Lewis, *Mere Christianity*, 36. With reference to a real devil and enemy of humanity as distinct from dualism, Lewis comments, "I freely admit that real Christianity (as distinct from Christianity-and-water) goes much nearer to Dualism than people think. One of the things that surprised me when I first read the New Testament seriously was that it talked so much about a Dark Power in the universe—a mighty evil spirit who was held to be the Power behind death and disease, and sin. The difference is that Christianity thinks this Dark Power was created by God, and was good when he was created, and went wrong. Christianity agrees with Dualism that this universe is at war. But it does not think this is a war between independent powers. It thinks it is a civil war, a rebellion, and that we are living in a part of the universe occupied by the rebel. . . . [a devil who Lewis does] not claim to know anything about his personal appearance. [But if] anyone really wants to know him better [he] would say to that person, 'Don't worry. If you really want to, you will. Whether you'll like it when you do is another question'" (36).

[136] Writing on the history of witchcraft at Oxford, Charles Williams concludes from his research: "Man (as a later writer said) is the only being with whom the Devil can communicate, and malice is his only method." Charles Williams, *Witchcraft* (Berkeley, CA: Apocryphile Press, 2005), 130.

remained only One above him to envy. Yet envy he did, and in his turning and darkened counsel, in his lust for mastery and worship (Matt 4:9), he traded wisdom for folly (Ezek 28:17). For in despising and spurning the divine goodness, even when his participation was so important to the hosts of heaven, the prophet Isaiah captures the heart of Satan's corruption: "How you are fallen from heaven, O Day Star, son of Dawn! . . . You said in your heart, 'I will ascend to heaven; above the stars of God I will set my throne on high; I will sit on the mount of assembly in the far reaches of the north; I will ascend above the heights of the clouds; I will make myself like the Most High'" (Isa 14:12-14). The City of Man, typified in the tower of Babel, is rooted in the same spirit of Satanic hatred for God and rebellion. A city whose singular passion is to ascend and to be "like the Most High."[137]

Central to the human capacity to participate in the divine goodness is the freedom of the will. If humanity were not presented with the capacity to reject the divine will, they could not know the true height of faithful pleasure (obedient joy). While God Himself, as Creator, both simple and good by nature, cannot act contrary to His own nature,[138] He has assigned to both angelic and human *creatures* a capacity to exercise free will. Augustine argues that while God is the most high and true God who rules by His supreme will, power, and foreknowledge—Himself existent in omnipotence, omniscience, omnipresence, and whose will alone is immutable[139]—He has granted to His image bearers a capacity to direct one's free will in like, but proportionate,[140]

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[137] Augustine, *The City of God*, 469.

[138] Augustine, *The City of God*, 204.

[139] Isaiah 46:9b-10: "I am God, and there is none like me, declaring the end from the beginning and from ancient times things not yet done, saying, 'My counsel shall stand, and I will accomplish all my purpose.'"

[140] Martin Luther, *The Bondage of the Will,* trans. J. I. Packer and O. R. Johnson (Grand Rapids: Fleming H. Revell, 2007), 80. Luther places humanity's free will within God's freer will. He is completely sovereign over all things: "It is, then, fundamentally necessary and wholesome for Christians to know that God foreknows nothing contingently, but that He foresees, purposes, and does all things according to His own immutable, eternal and infallible will" (80). See also John Polkinghorne, ed., *The*

execution.[141] Creating Adam and Eve of His own free will, God granted to His image bearers the right of free will while foreknowing their future corruption and His soterial plan to save humanity.[142] With regard to His foreknowledge and human free will, Augustine argues, "Our wills are themselves included in the order of causes which is certain to God and contained within His foreknowledge."[143] This order of causes is known precisely to God in His foreknowledge because He has placed His own Spirit within the human frame.[144] The Spirit who searches and knows the depths of all things and who holds all wisdom from everlasting (Prov 8:23). Indeed, the Spirit of whom Paul writes in 1 Corinthians 2:10-11, "These things God has revealed to us through the Spirit. For the Spirit searches everything, even the depths of God. For who knows a person's thoughts except the spirit of that person, which is in him? So also no one comprehends the thoughts of God except the Spirit of God." Again, Augustine writes,

> The Breath of life Which quickens all things and is the Creator of every body and of every created spirit is God Himself, the wholly uncreated Spirit. In His supreme will lies the power which assists the good wills of created spirits, judges the wicked, and ordains all. To some He grants powers, and to others He does not. For just as He is the Creator of all natures, so is He the giver of all powers. Not of all wills, however; for wicked wills certainly do not come from Him, because they are contrary to nature, which does come from Him. . . . How, then, does an order of causes which is certain to the foreknowledge of God entail that nothing should depend upon our wills, when our wills themselves play so great a part in that order of causes? . . . our wills also have just so much power as God willed and foreknew that they should have. Therefore, whatever power they have they have most certainly; and whatever

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Trinity and an Entangled World: Relationality in Physical Science and Theology (Grand Rapids: William B. Eerdmans, 2010), 123.

[141] Augustine writes, "We may fully confess the most high and true God, do also confess His will, supreme power, and foreknowledge. Neither let us fear that what we do by free will is not done by free will because He Whose foreknowledge cannot fail foreknew that we would do it." Augustine, *The City of God*, 199.

[142] Augustine, *The City of God*, 199.

[143] Augustine, *The City of God*, 201-2.

[144] There is an intimate and ontological connection between every image bearer and the holy Trinity (see Ps 139).

> they are to do they will do most certainly; for He Whose foreknowledge cannot fail foreknew that they would have the power to do it and would do it.[145]

In God's omnipotence, He retains the power behind an individual's ability to will one thing or another. As such, human free will enables one to do whatever one wills to do by *willing*, or vis à vis, to the contrary.

Furthermore, Augustine argues that even when one's will is overpowered by the will of other creatures, whether human or angelic, such power still rests in God's will to grant power to that will: "Even when anyone undergoes something against his will because of the will of other men, it is nonetheless a man's will. The prevailing will's power, however, comes from God."[146] As such, Luther argues that while humanity retains free will, in the foreknowledge and will of God, all lesser wills are still subject to His divine will, wisdom, and decree: "That God foreknows and wills all things, not contingently, but necessarily and immutably."[147] It is my conviction that God executes His will both *actively*, in that He directly overrides all lesser wills as and when He chooses, and, at other times, He exercises a passive will by *permitting* lesser wills to live freely within the power of their own potential to act as they desire. For the latter, He is not the originator of human sin, but as the Creator of all good, He permits Adam and Eve to disobey for the sake of their potential to freely participate in His excellent goodness. Yet, quintessentially, whether He discharges His will actively or passively, His choice to do either still expresses His sovereign decree, foreknowing all that will be.

At this point it would be fitting to note that God did not actively create evil in the original order, nor was evil an independent entity from goodness as in the deistic

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[145] Augustine, *The City of God*, 202-3.

[146] Augustine, *The City of God*, 205. This is demonstrated most clearly in Jesus's words to Pilate in John 19:9-11, "He entered his headquarters again and said to Jesus, 'Where are you from?' But Jesus gave him no answer. So Pilate said to him, 'You will not speak to me? Do you not know that I have authority to release you and authority to crucify you?' Jesus answered him, 'You would have no authority over me at all unless it had been given you from above.'"

[147] Luther, *The Bondage of the Will*, 83-84.

perspective. In his *Enchiridion*, Augustine argues that while God is perfectly, immutably, and supremely good, His creation itself, though reflecting such goodness, is not immutably good. God created the natural order with a goodness subject to potential diminishment and contingent to the federal headship of Adam. Augustine defines any diminishment of good as *evil*. As such, evil is not an entity extant in time and space of itself. It is not a competing power with the good as in the deistic perspective of the cosmos. Evil only exists as the result of any diminishment of any good. Moreso, Augustine argues that God's goodness so permeates His creation that in the original order, every being existed ontologically due to the presence of the divine goodness. As such, humanity not only participates in the triune goodness, but humanity is also itself an ontological good by nature. He writes, "Every being, therefore, is a good; a great good, if it cannot be corrupted; a little good, if it can: but in any case, only the foolish or ignorant will deny that it is a good. And if it be wholly consumed by corruption, then the corruption itself must cease to exist, as there is no being left in which it can dwell."[148] As such, Augustine argues that there could be no evil unless there be an original good; therefore, nothing can be evil unless it is originally good.[149] Augustine concludes, "These two contraries are so far co-existent, that if good did not exist in what is evil, neither could evil exist; because corruption could not have either a place to dwell in, or a source to spring from, if there were nothing that could be corrupted; and nothing can be corrupted except what is good, for corruption is nothing else but the destruction of good."[150]

With regard to God's sovereignty and human free will, in the original creation prior to the fall, it is *plausible* that there would never be a need for God to override

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[148] Augustine, *The Enchiridion*, 24.

[149] Augustine, *The Enchiridion*, 25.

[150] Augustine, *The Enchiridion*, 26-27.

human free will since their will found its ultimate delight in cleaving to the supreme good.[151] Within the simplicity of the triune Godhead and His immutable goodness, and in conforming humanity's ontological nature to His goodness, by participating in God's goodness human beings would have always lived in a synergistic obedience while freely exercising their powers to rule, innovate, and engage in communion with God and the heavenly hosts. The City of God connected all aspects of creation in one composite and unified glory.[152] As God's vice-regents, comprised of a corporeal and incorporeal nature, all was within their power to maximize God's good will throughout the cosmos.[153] Furthermore, while always sovereign and free to actively discharge His will, in a world that is actively and ontologically good, though certainly not by necessity, God is also free to remain passive as He Himself authorized both leadership empowerment and entrustment to His image bearers to freely discharge their own authorial powers.[154]

The corruption of this original good order and the establishment of the City of Man entered Adam and Eve's domain by means of a test. While what can be known of Satan's fall remains relatively confined to the corruption of his own will as discussed above, after his fall he was permitted to oppose human free will and authority over the earth. In Genesis 3:1-7, we read of the loss of paradise and the subjugation of human dominion to him:

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[151] Augustine, *The City of God*, 498-99.

[152] "For perfect happiness the intellect needs to reach the very Essence of the First Cause. And thus it will have its perfection through union with God as with that object, in which alone man's happiness consists." Here Aquinas infers that in the original state humanity's true happiness consisted in their knowledge of God's supreme goodness and their participation and union with the Trinity. While participating in the divine goodness by executing their dominion over creation, God would be maximizing His goodness through their imitation. Aquinas, *Summa Theologica* I-II, q. 4, art. 8. See also Plato's beatific vision (Plato, *The Great Dialogues*, 419).

[153] Augustine, *The City of God*, 479.

[154] Packer, *Knowing God*, 89. In Matthew 6:10, acknowledging the separation, Jesus prays, "Your kingdom come, your will be done, on earth as it is in heaven." In the original order, with humanity's will aligned with God's in perfect obedience, Adam and Eve's descendants would have acted in perfect accord with the Father's will. Therefore, it is conceivable that God's will would never override His image bearers as His will was their sole happiness.

> Now the serpent was more crafty than any other beast of the field that the LORD God had made. He said to the woman, "Did God actually say, 'You shall not eat of any tree in the garden'?" And the woman said to the serpent, "We may eat of the fruit of the trees in the garden, but God said, 'You shall not eat of the fruit of the tree that is in the midst of the garden, neither shall you touch it, lest you die.'" But the serpent said to the woman. "You will not surely die. For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil." So when the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise, she took of its fruit and ate, and she also gave some to her husband who was with her, and he ate. Then the eyes of both were opened, and they knew that they were naked. And they sewed fig leaves together and made themselves loincloths.

In the account of the human fall, God allowed Adam and Eve to be tested by a higher intelligence, but through a form subject to their rule.[155] That is, Satan was not permitted to approach Adam and Eve in his glory lest his true majesty offer false authority to his message.[156] He was permitted to enter their domain as a lesser creature, and he chose a creature most alike in form to his subtle deceit.[157] That is, being a creature who is naturally incorporeal in form, Satan's intellect readily understood the layered effect of the corporeal correlation added to his rational attack on Eve by the use of the serpent (the serpent was more crafty or "subtle"). If the devil could not rule from the throne of God, he determined to rule His image bearers from the throne of Adam (Matt 4:8; John 12:31; 14:30; 16:11; 2 Cor 4:4; Eph 2:2; 1 John 5:19).

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[155] Augustine, *The City of God*, 235.

[156] While not authoritative, Milton captures, in poetic effect, the devil's condescension:

> The serpent sleeping, in whose mazy folds
> To hide me, and the dark intent I bring. O foul descent! That I, who erst contended
> With gods to sit the highest, am now constrain'd
> Into a beast, and mix'd with bestial slime,
> This essence to incarnate and imbrute,
> That to the height of Deity aspir'd;
> But what will not ambition and revenge
> Descend to? (Milton, *Paradise Lost*, 267-68).

[157] Augustine, *The City of God*, 605-7. Regarding the angelic form of communication, and in responding to how the serpent may have physically communicated to Eve, Charles Williams notes that fallen angels are able to create a kind of semi-body through the manipulation of the air and its particles. However, with regard to speech he writes: "When they wish to seem to speak, they cause a disturbance of the air, producing sounds not unlike voices, and communicating their meaning, it would seem, directly to the mind. And so also they do not see and hear corporeally, though they are able to know in both ways much more subtly than do ordinary human bodies." Williams, *Witchcraft*, 130.

The text then cuts to the quick of the human fall. When the time was opportune (Luke 4:13), Satan engages Eve to question God's truth and goodness. The Trinity had given all things into Adam and Eve's care but the tree of the knowledge of good and evil. As described above, the incorporeal and intellectual nature of this tree embodied a declarative function as a physical barrier to remind Adam and Eve of their freedom. Humanity had the truest knowledge of goodness, and therefore they had nothing to gain through the devil's bargain. The power behind Satan's temptive assault lay in convincing Eve to doubt God's truth and goodness, to doubt the truth of God's words about justice, ("You will surely not die"), and to doubt God's goodness in that He was holding something back from them: "God knows that when you eat of it your eyes will be opened and you will be like God, knowing good and evil" (Gen 3:4-5).

Long before the words "you will be like God" came into the human realm, the thought "I will make myself like the Most High" raged in the heavenlies. The very being who was "the signet of perfection, full of wisdom and perfect in beauty. . . . [and who] was blameless in all [his] ways from the day [he] was created" (Ezek 28:12, 15), succumbed to doubting the truth of the divine goodness and enflamed with envy reached for forbidden power. The fallout of the disobedience left a wake of destruction, but for the sake of brevity, I will mention two primary elements. God's warning of divine justice was clear and true. Death was the consequence of human rebellion. Secondly, Satan's promise that Adam and Eve would become like God was false. The rebellion of Adam and Eve did not make them like God; it made them like Satan. Yet, I will say that there is an element to Satan's promise that may yet prove to be prophetic but in an artificial way, which I will address further in chapter 4.

As discussed, Augustine defines evil as the diminishment of the good.[158] God has a perfect knowledge of evil while retaining His own perfect goodness. Adam and

[158] Augustine, *The Enchiridion*, 23.

Eve's rebellion granted them a knowledge of both, but their knowledge of evil arose from the loss of goodness.[159] They bargained away the supreme good and benevolence for the devil (John 12:31; 14:30; 16:11): life for death, liberty for justice, health for suffering, joy for sorrow, and, ultimately, a separation from God spiritually and their willful participation in His goodness. Such was the downfall of humanity and the genesis of the corruption of the human heart. After hiding from God for their actions (Gen 3:8) and being confronted by God for their sin (Gen 3:9-13), God cursed the serpent to the dust of the earth (Gen 3:14); the earth to bear forth thorns (Gen 3:18); man to earn his living through hard toil (Gen 3:19); and the woman to endure pain in child birth and a desire to usurp her husband's authority—the sting of the reach for forbidden power would endure (Gen 3:16).

In Genesis 3:22-24, the author writes that the Lord God said, "Behold, the man has become like one of us in knowing good and evil. Now, lest he reach out his hand and take also of the tree of life and eat, and live forever. . . . He drove out the man, and at the east of the garden of Eden he placed the cherubim and a flaming sword that turned every way to guard the way to the tree of life." The physical expulsion from the garden was the outward manifestation of the inward ruin.[160] The gain of the tree of the knowledge of good and evil was the loss of the tree of life. Adam and Eve traded all good for forbidden power. The tear ripped right through from top to bottom, and till this day, a large mass of humanity remains at the devil's bargaining table. Just as the absence of goodness defines evil, the absence of God, the supreme good, has resulted in the absence of the City of

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[159] C. S. Lewis summarizes Albertus Magnus's view on the supreme experience of pleasure and reason when connected to the Divine Goodness: "Albertus Magnus takes a much more genial view. He sweeps away the idea that the pleasure is evil or a result of the Fall: on the contrary, pleasure would have been great if we had remained in Paradise. The real trouble about fallen man is not the strength of his pleasures but the weakness of his reason: unfallen man could have enjoyed any degree of pleasure without losing sight, for a moment, of the First Good." C. S. Lewis, *The Allegory of Love: A Study in Medieval Tradition* (Oxford: Oxford University Press, 1959), 15.

[160] Herman Bavinck, *Reformed Dogmatics*, vol. 3, *Sin and Salvation in Christ*, ed. John Bolt, trans. John Vriend (Grand Rapids: Baker Academic, 2006), 169.

God, leaving Adam's race and heritage to dwell in the City of Man—a city that is still pining for an empire that will endure.

The Restoration of the City of God:
Paradise Regained

While the result of Adam and Eve's rebellion incurred the same consequence as the fallen angels (Matt 25:41; Rev 20:10-15), at the heart of the divine curse on the serpent is a promise of redemption. Just as the curse on humanity was first conceived from the already fallen mind of Satan, God returns the favor by imbedding blessing (a *protoevangelium*) in His curse on the serpent. Satan's intention in the garden was to assume the weak vessel of a creature and to seduce the divine image bearers with the notion that he knew better than the Creator. While given every power to resist such a deception, Adam and Eve succumbed. After cursing the serpent vessel, Genesis 3:15 records the curse that God places on Satan himself: "I will put enmity between you and the woman, and between your offspring and her offspring; he shall bruise your head, and you shall bruise his heel."

Although the separation between humanity and God was instantaneous, in Genesis 3:15, God immediately begins to reveal His plan to save humanity with a prophetic word of hope.[161] While the devil had succeeded in seducing God's image bearers into rebellion against Him, God cursed the devil with a *haunting* knowledge that *from* Eve's offspring would come an image bearer who would watchfully[162] and strategically smite his earthly ruin—implying that his siege of earth would be temporary. In God's curse on the serpent, He promised Adam and Eve that a *Savior* would emerge

[161] Stephen Wellum, *Christ Alone: The Uniqueness of Jesus as Savior*, 5 Solas Series (Grand Rapids: Zondervan, 2017), 244.

[162] LSJ, s.v. τηρήσει. See LXX use of the future tense of the verb τηρεω.

from their offspring whose own person would receive a watchful blow from the serpent but whose very foot would symbolically crush the serpent's head.[163]

Even though the consequence of the human rebellion led to a history laden with suffering, sin, and death—the dolorous stroke incurred by the absence of the divine good—God immediately began a chain of earthly causes and effects that would converge upon an appointed time (Gal 4:4) where He Himself would enter "a garden" in corporeal form and meet the archon angel of earth in a battle to win back Adam's race into the City of God—the true place of *permanence*.[164]

Immediately after the expulsion of Adam and Eve from the garden, both the Trinity and Satan entered into conflict over the fate of humanity. Though the devil's corrupt will for humanity and their joint participation in his opposition to God wrought destruction upon the earth, God immediately began a trajectory toward the seed of the woman who would supplant the devil's rule through a specific genealogy.[165] While an exhaustive account can only be found within the canons of both the Old and New Testaments, a brief summary is helpful to the scope of this dissertation to demonstrate the historical fulfillment of Genesis 3:15.

The seed of the woman was preserved through Seth (Luke 3:38), then through Noah and his family in the global flood (Gen 6-9). Then God called the Babylonian couple Abram (Abraham) and Sarai (Sarah), and specifically through Abraham, He

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[163] John Skinner, *A Critical and Exegetical Commentary on Genesis*, 2nd ed., International Critical Commentary (Edinburgh: T & T Clark, 1980), 80.

[164] Shortly before Jesus and the disciples left the last supper, He announced that He would not talk with them any longer because the ruler of this world was coming (John 14:30). In Gethsemane, we witness Jesus's greatest temptation to turn from His obedience to the Father. John Stott writes, "Was he to become so identified with sinners as to bear their judgement? From this contact with human sin his sinless soul recoiled. From the experience of alienation from his Father which the judgment of sin would involve, he hung back in horror. Not that for a single instant he rebelled. His vision had evidently become blurred, as a dreadful darkness engulfed his spirit, but his will remained surrendered." John R. W. Stott, *The Cross of Christ* (Downers Grove, IL: InterVarsity Press, 2006), 79. Where Eve succumbed to doubting God's command, Jesus remains faithful and prays, "My Father, if this cannot pass unless I drink it, your will be done" (Matt 26:42).

[165] For a full account of the line from Adam to the Christ, see Matthew 1:1-17 and Luke 3:23-38.

promised "to bless the families of the earth through his offspring" (Gen 12:1-3; 14:17-20; 15:1-20; 17:1-8; 22:16-18). Being the father of a multitude of nations (Gen 17:5, 19-20), through Abraham, God specifically promised to bless the offspring of Isaac (Gen 17:19; 26:1-5), and then through Isaac, the children of Israel through Jacob (Gen 27:26-29; 28:11-17). Woven through the promises to Abraham, Isaac, and Jacob is the recurring statement, "In you all the families of the earth shall be blessed."[166] Again, pointing to a future event that would bless the families of the earth, referencing Genesis 3:15 and the seed of the woman, God carried the promise specifically through the sons of Jacob in the children of Israel (Gen 15:12-17).

God then formed Israel as a nation in Egypt and at the appointed time delivered them from their bondage to the land of Canaan (Gen 15:13-14), fulfilling His original promise to Abraham (Gen 12:7). After settling in the land (Josh 4), God established Israel as a nation until the time when King David ruled over His people (1 Sam 16:6-13; 2 Sam 2:4; 5). When David ruled as king, God promised him the blessing of a descendent who would surpass all that were before him: "When your days are fulfilled and you lie down with your fathers, I will raise up your offspring after you, who shall come from your body, and I will establish his kingdom. He shall build a house for my name, and I will establish the throne of his kingdom forever. I will be to him a father, and he shall be to me a son" (2 Sam 7:12-14).

From the time of David, the lineage progressed as the prophets collectively gave utterance of the coming of the Messiah and the promise that a child would be born

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[166] LSJ, s.v. ἐνευλογηθήσονται (12:4; 28:14) and ἐθλογηθησονται (26:4). Vital to this promise in the Greek is the root word for "blessed"—ἐυλογεω. God's use of a future tense blessing is reminiscent of His original blessing in Genesis 1:28: "And God blessed them. And God said to them, 'Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth'" (italics added). The original state and the future state are blessed because in the blessing humanity is at peace within the City of God. In the original and future state, there is no longer any curse to disrupt this perfect peace and the bountiful presence of the goodness of God.

of a virgin of the house of David: "Therefore the Lord himself will give you a sign. Behold, the virgin shall conceive and bear a son, and shall call his name Immanuel [God with us]" (Isa 7:14). A child born of a virgin in Bethlehem, whose origin would be from everlasting (Mic 5:2) and who would deliver his people as One who would "stand and shepherd his flock in the strength of the LORD, in the majesty of the name of the LORD his God . . . [and in whose protection] they shall dwell secure, for now he shall be great to the ends of the earth. And he shall be their peace" (Mic 5:4-5). A righteous branch of the house of David that would "deal wisely, and . . . execute justice and righteousness in the land" (Jer 23:5). An individual who would walk the earth in the form of a servant and on whom the Spirit of God would dwell:

> Behold my servant, whom I uphold, my chosen, in whom my soul delights; I have put my Spirit upon him; he will bring forth justice to the nations. He will not cry aloud or lift up his voice, or make it heard in the street; a bruised reed he will not break, and a faintly burning wick he will not quench; he will faithfully bring forth justice. He will not grow faint or be discouraged till he has established justice in the earth; and the coastlands wait for his law. (Isa 42:1-4)

A servant who would bring unity to the nations through the seed of the woman as promised: "In that day there will be a highway from Egypt to Assyria, and Assyria will come into Egypt, and Egypt into Assyria, and the Egyptians will worship with the Assyrians. In that day Israel will be the third with Egypt and Assyria, a blessing in the midst of the earth, whom the LORD of hosts has blessed, saying, 'Blessed be Egypt my people, and Assyria the work of my hands, and Israel my inheritance'" (Isa 19:23-25). Again, One who would fulfill God's blessing on Abraham, Isaac, and Jacob as the One in whom "all the families of the earth shall be blessed" (Gen 12:3).

Finally, a servant who would accomplish all of this through a sinless life, and who would come ultimately in His first advent to suffer and die as a sacrificial lamb for the sins of the people to reconcile them back to the City of God. A servant who was without sin—the perfect man—who "was despised and rejected by men, a man of sorrows and acquainted with grief; and as one from whom men hide their faces he was

despised, and we esteemed him not" (Isa 53:3). Just as Adam and Eve's rebellion brought our curse, this servant's substitutionary righteousness would appease the justice of God incurred by the tree of the knowledge of good and evil and fulfill God's curse on the serpent. His actions would secure humanity's freedom from sin as the One who would be "pierced for our transgressions . . . [and] crushed for our iniquities" so that upon Him would fall "the chastisement that brought us peace . . . [and fulfill the promise that through Him humanity's] wounds . . . are healed" (53:5).[167] As an innocent sacrifice, this servant "opened not his mouth; like a lamb that is led to the slaughter and like a sheep before its shearers is silent, so he opened not his mouth" (53:7). One whose grave would be with the wicked (53:9) but whose days would be prolonged by resurrection, demonstrating the approval of His work in fulfilling God's will: "It was the will of the LORD to crush him; he has put him to grief, when his soul makes an offering for guilt, he shall see his offspring; he shall prolong his days; the will of the LORD shall prosper in his hand. Out of the anguish of his soul he shall see and be satisfied; by his knowledge shall the righteous one, my servant, make many to be accounted righteous, and he shall bear their iniquities" (Ps 22; Isa 53:10-11). While the prophetical mosaic could exhaustively expand the picture of who this Person is, from this small sample there is a clear and undeniable depiction that Jesus Christ was this very person in history.

The intent of God's promise to crush the serpent through the seed of the woman and restore humanity back into relationship with the Trinity as redeemed participants of His goodness was heralded by Gabriel to the virgin Mary: "Behold, you will conceive in your womb and bear a son, and you shall call his name Jesus. He will be great and will be called the Son of the Most High. And the Lord God will give to him the throne of his father David, and he will reign over the house of Jacob forever, and of his

[167] Wellum, *Christ Alone*, 208.

kingdom there will be no end" (Luke 1:31-33).[168] In John 1:1-4, John gives insight into the person of God the Son. He describes the eternal Son as the eternal Word, or *Logos*. That is, the eternal Son is the mind back of creation. From His infinite creativity and wisdom, the entire created order came to be.[169] As such, and pertinent to this dissertation, is the idea of the mind incarnating into a physical form. Kurzweil's thesis implies the incarnation of digital mind files into post-biological bodies, that is, information finding *form* in a body that can move through time and space. In Christ, we see the ultimate picture of this process in the eternal Son of God, information itself, taking on the form of a human image bearer (John 1:14). In Christ, the eternal *Logos* was conceived into human form in the womb of the virgin Mary of the Holy Spirit (Luke 1:35).[170] As Mary was a descendent of David, she was relocated to the city of David's birth due to the census under Caesar Augustus; therefore Jesus was born in Bethlehem (2:4-7).[171] Shortly after his birth, a host of angels appeared to shepherds who were tending their flocks in a nearby field; they heralded the birth of the Messiah and the divine intention toward Adam's long strayed race: "Glory to God in the highest [speaking of God the Father], and on earth peace, good will toward men" (Luke 2:14 KJV). The coming of the seed of the woman, of the line of David, had finally arrived to fulfill the long-awaited prophecy.

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[168] Donald Macleod, *The Person of Christ*, Contours of Christian Theology (Downers Grove, IL: InterVarsity Press, 1998), 162. Here, Gabriel's words reaffirm God's covenant in Genesis 3:15—Jesus is born of a virgin—and His covenant with David in 2 Samuel 7:12-14. Jesus is the descendent whom God calls His Son and the One who will rule on the throne of David.

[169] Tozer defines God's perfect wisdom as, "Wisdom, among other things, is the ability to devise perfect ends and to achieve those ends by the most perfect means. It sees the end from the beginning, so there can be no need to guess or conjecture. Wisdom sees everything in focus, each in proper relation to all, and is thus able to work toward predestined goals with flawless precision. All God's acts are done in perfect wisdom." Tozer, *The Knowledge of the Holy*, 60.

[170] While the Greeks understood the *logos* as representing supreme reason contained in a mystery substance, John presents Christ, the eternal Son as being both the source of all information *and* a Person. Herman Bavinck expands, "Christianity gave to the newer natural science the realization that nature, however mechanically it may operate, is subject to the spirit and that the whole world is an instrument, an apparatus, for the realization of an eternal divine plan." Herman Bavinck, *Essays on Religion, Science, and Society*, ed. John Bolt, trans. Harry Boonstra and Gerrit Sheeres (Grand Rapids: Baker Academics, 2011), 97.

[171] Thus fulfilling Micah 5:2.

With regard to His form and the intimacy His incarnation expressed to humanity, Donald Macleod writes, "He lived not in sublime detachment or in ascetic isolation, but 'with us', as 'the fellowman of all men', crowded, busy, harassed, stressed and molested. No large estate gave him space, no financial capital guaranteed his daily bread . . . . He saved us from alongside us."[172] With the Trinity's presence comes God's mighty works for His own glory, a glory that would crush the serpent's head and restore good will to humanity. The great Shepherd of Micah 5:3-4 had arrived, whose Name would go throughout the earth, and who would establish once more the long-lost peace on earth when His work was complete. The life of Jesus is a continuous example of reversing the effects of the curse. At the age of twelve years old, the teachers and the people gathered around Him in the temple, and "all who heard him were amazed at his understanding and his answers" (Luke 2:47). He then lived in relative obscurity until the age of thirty when His three years of ministry began in full vigor.

At the inauguration of the three years of His public ministry, He identified Himself with sinners in His public baptism. Jesus was baptized by John the Baptist in the very waters of the Jordan that the children of Israel crossed to enter the land (Josh 3), and in like manner to God's promise to Joshua,[173] God "begin to exalt [him] in the sight of all Israel" (Josh 3:7). Jesus commanded John to baptize him in order to "fulfill all righteousness" (Matt 3:15).[174] Coming up out of the water, Matthew records an event that directly fulfills God's covenant with David in 2 Samuel 7:14, that God will call David's offspring His own Son, and Isaiah 42:1-2, where Isaiah wrote, "Behold my servant, whom I uphold, my chosen, in whom my soul delights; I have put my Spirit upon him; he will bring forth justice to the nations" (Matt 12:18-21). Coming up out of the water,

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[172] Macleod, *The Person of Christ*, 180.

[173] Jesus's Hebrew name is "Yeshua" or Joshua, meaning "Yahweh is salvation." Jesus's English name is the Greek equivalent to Ιησους.

[174] In identifying Himself with sinners, Jesus was taking on the role as substitute.

Matthew writes that "the heavens were opened to him, and He saw the Spirit of God descending like a dove and coming to rest on him; and behold, a voice from heaven said, 'This is my beloved Son, with whom I am well pleased'" (Matt 3:16-17). Immediately after God's declaration of His delight in the Son, Jesus was driven into the wilderness to be tempted by the devil.[175] Where Adam and Eve failed, Jesus conquered the devil's temptations in humble obedience (Matt 4:1-11; Luke 4:1-12).

He taught the deeper truth of the law, that righteousness is a matter of the heart and not mere external action (1 Sam 16:7; Matt 5-7; Luke 6:20-49).[176] When He spoke, the crowds "were astonished at his teaching" (Matt 7:28) because He spoke with true authority and not as the scribes. He reversed the effects of physical suffering by healing the lepers (Matt 8:2), paralytics (Matt 9:2), the mute (Matt 9:32-34), and "every disease and every affliction among the people" (Matt 4:23). Where Augustine argued against the demonic forces that had long plagued Rome, everywhere Jesus went Satan's legions fled from His authority (Mark 1:21-28; 5:1-20; 9:14-29). Long before voice recognition, Jesus healed and manipulated human flesh (Matt 15:29-31) and controlled the winds and the seas (Matt 8:23-27); even the fish of the sea in their course surrendered to His will by the power of His voice (John 21:6). He created cooked loaves of bread and fish for the hungering masses by fiat (Matt 14:13-21). Death itself readily surrendered to the power of His voice (Matt 9:18-26; John 11:38-44). In all these things, He fulfilled Jeremiah 23:5 and Isaiah 42:1-4 in executing justice and righteousness in the land. In all these things, the goodness of God was bringing healing and peace to the land, prefiguring a time to come when God will bring all evil into judgment and restore the City of God. Yet, the

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[175] Charles Caldwell Ryrie, *Basic Theology: A Popular Systematic Guide to Understanding Biblical Truth* (Chicago: Moody Press, 1999), 304.

[176] R. Albert Mohler Jr., *Words from the Fire: Hearing the Voice of God in the 10 Commandments* (Chicago: Moody Press, 2009), 34.

real reason the Son of God came to earth in a physical body was to destroy the works of the devil (1 John 3:8).

The curse on Satan and the promise of hope to Eve's descendants was that God would "put enmity between you and the woman, and between your offspring and her offspring; he shall bruise your head, and you shall bruise his heel" (Gen 3:15). This enmity is of course a progressive conflict that began in the garden, but it was to come to a focal point. The Son of God came to crush the head of the serpent. The consequence of sin in the garden was death, both physical death and spiritual death. The power that Satan has held over humanity is not merely ontological, though that is certainly true. The power that Satan has over Adam's and Eve's descendants is that they are subject to an unnatural transformation different from his own. The angelic realm is incorporeal in nature. Human beings are both corporeal and incorporeal. As such, human beings experienced the same spiritual separation from God in their disobedience; but God also decreed that if Adam and Eve rebelled in the material order, they would also experience a departure from that order that they would not have endured had they retained their freedom in obedience. In Hebrews 2:14-15 the author writes, "Since therefore the children share in flesh and blood, he himself likewise partook of the same things, that through death he might destroy the one who has the power of death, that is, the devil, and deliver all those who through fear of death were subject to lifelong slavery." The fear of death is central to this dissertation. Returning to the illustration of Odysseus's longing for permanence, the longing for home, Solomon's vanity, Augustine's Rome, and Kurzweil's Singularity: what are these narrative markers but windows into the human fear of death? Satan's use of death is to leverage its reality to tempt humanity toward living in abject fear and as if this life is all that there is—to live as if God does not care about the rebellious nature of the City of Man. What the devil did not bargain for was that this promise represented One who would be superior in strength to himself in every way, One who would endure the fear of death and the sin of all in order to free humanity from his oppressive rule (Isa 53:4).

In the words of John the Baptist, Jesus Christ was "the Lamb of God, who takes away the sin of the world" (John 1:29).[177] The central purpose of Jesus's life was to ultimately undo human sin and thus destroy the separation between God and humanity, the heavens and the earth, and humanity's enmity upon itself and the created order by the effects of sin. The Son of God incarnated into human flesh to reforge the synergy between heaven and earth and to restore the descendants of Adam and Eve to a place where they would again enjoy the love and fellowship of the Trinity and once more participate in the goodness of God, for His glory.[178] As the Lamb of God, the sacrifice of Jesus on a Roman cross for human sin fulfilled Isaiah 53:5: "He was pierced for our transgressions; he was crushed for our iniquities: upon him was the chastisement that brought us peace, and with his wounds we are healed."[179] Being without sin and completely free, Jesus willfully suffered the effects of the tree of the knowledge of good and evil, trading His liberty for justice, and thus fulfilled Isaiah 53:8: "By oppression and judgment he was taken away; and as for his generation, who considered that he was cut off out of the land of the living, stricken for the transgression of my people." Having poured out His pure and sinless life unto death, He fulfilled all righteousness and reversed God's curse on humanity. The sin of humanity paid for in full by the eternal Son in human form, Paul writes in 2 Corinthians 5:21, "For our sake he made him to be sin who knew no sin, so that in him we might become the righteousness of God."[180] Christ's

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[177] Thomas R. Schreiner, *New Testament Theology: Magnifying God in Christ* (Grand Rapids: Baker Academic, 2008), 281-82.

[178] With reference to surrendering Himself to total corruption, the absence of all goodness, J. I. Packer writes, "On the cross Jesus lost all the good that He had before: all sense of his Father's presence and love, all sense of physical, mental, and spiritual well-being, all enjoyment of God and of created things, all ease and solace of friendship, were taken from Him, and in their place was nothing but, loneliness, pain, a killing sense of human malice and callousness, and a horror of great spiritual darkness . . . what was packed into less than four hundred minutes was an eternity of agony." Packer, *Knowing God*, 176. Christ suffered the curse to its fullest extent.

[179] R. Albert Mohler Jr., *The Apostle's Creed: Discovering Authentic Christianity in an Age of Counterfeits* (Nashville: Thomas Nelson, 2019), 57.

[180] Wellum argues that Christ is our propitiation: "'Propitiation' is a word. . . meaning. . . to turn aside a person's wrath or anger (in this case God's wrath) by taking away sin. What is important about

sacrifice being acceptable to the Father, the Father publicly vindicated the Son through Christ's resurrection from the grave.[181] As death could not hold Him, and thus being the first to rise from the grave through perfect obedience, He fulfilled Isaiah 53:10-11: "It was the will of the LORD to crush him; he has put him to grief; when his soul makes an offering for guilt, he shall see his offspring; he shall prolong his days; the will of the LORD shall prosper in his hand. Out of the anguish of his soul he shall see and be satisfied."

Christ, victorious over sin, death, and the devil, was the first human to walk out of the grave. He was "the firstborn from the dead" (Col 1:18) in human history, and after His resurrection, He proclaimed the good news of His work to over five hundred eyewitnesses (1 Cor 15:6) and commissioned the disciples and His followers to preach and teach all that He had taught them about His purpose and work (Matt 28:18).[182] Ultimately, His death on the cross restored humanity to the City of God but for one human element: *faith*.[183] After giving Adam and Eve dominion over the entirety of the created order as His vice-regents before the fall, the central negative element in the garden was one that could only be seen at a distance by faith. All the good that Adam and Eve possessed they had *by sight* except for the consequence of eating from the tree of the knowledge of good and evil—the tree of death. As such, faith in the garden required trusting that God's warning about rebellion was truly terrible. On Calvary, Jesus, God

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the use of 'propitiation' is that it presents the object of the cross as god himself, a point that is central to penal substitution. Because God is just, our salvation must be compatible with God's own justice and character. Thus, Christ's death involves turning back the Father's wrath that is directed against us. In our place, God the Son endured what we deserve as he bore our sin and satisfied God's own righteous requirement." Wellum, *Christ Alone*, 234. See also Schreiner, *New Testament Theology*, 360.

[181] Regarding Christ's sacrifice as not being for man, but to God alone, Wellum writes, "Christ's sacrifice was not offered to man. Instead, Christ's death was offered foremost *to God* (Heb 9:14) since *God himself* pays our price by satisfying *his own demand*." Wellum, *Christ Alone*, 212. Paul affirms this in Romans 3:26, where he argues that the work of Christ was to "show [the righteousness of God] that he might be just and the justifier of the one who has faith in Jesus."

[182] Schreiner, *New Testament Theology*, 680.

[183] Schreiner, *New Testament Theology*, 356.

Himself,[184] was nailed to a dead tree, a Roman cross, so that the fruit of His eternal sacrifice (Heb 9:26)—the fruit of a dead corpse on a dead tree—would bring forth eternal and renewed life. Indeed, having proven His work through His own dead body coming back to life (1 Cor 15:23), God has declared one human response: to believe in the work of Christ for one's sins by faith. Since the fall, all that we as human beings experience as a result of both individual and collective sin, all that we now see by sight in our broken world, requires us now to look upon the eternal Son of God and His death for our sin by faith. Again, fulfilling the promise to Eve's descendants—all nations—Paul wrote to the Romans so many years before Augustine:

> If you confess with your mouth that Jesus is Lord and believe in your heart that God raised him from the dead, you will be saved. For with the heart one believes and is justified, and with the mouth one confesses and is saved. For the Scripture says, "Everyone who believes in him will not be put to shame. For there is no distinction between Jew and Greek; for the same Lord is Lord of all, bestowing his riches on all who call on him. For everyone who calls on the name of the Lord will be saved." (Rom 10:9-13)

Having accomplished all that was spoken of Him from the moment God declared His curse on Satan and gave His promise to Eve's descendants, having been obedient unto death, the eternal Son of God has now earned the title the Son of Man (Dan 7:13-14).[185] As both the Son of God and the Son of Man, God has exalted Him who descended to the lowest place, to the highest place and given Him a Name that is above all Names—subjecting all authority to the Son as the ruler of heaven and earth (Matt 28:18-20).[186] Jesus Christ now sits at the right hand of the Father as the eternal judge over human rebellion. Having done all, in Philippians 2:5-11, the apostle Paul writes:

> Have this mind among yourselves, which is yours in Christ Jesus, who, though he was in the form of God, did not count equality with God a thing to be grasped, but

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[184] Reflecting the sufficiency of Christ's sacrifice for sin, Schreiner writes: "Christ's death secures forgiveness because his death represents the death of God himself." Schreiner, *New Testament Theology*, 303.

[185] Schreiner, *New Testament Theology*, 214-15; Wellum, *Christ Alone*, 254-55.

[186] Schreiner, *New Testament Theology*, 299. Christ is now the exalted Lord over all.

> emptied himself, by taking the form of a servant, being born in the likeness of men. And being found in human form, he humbled himself by becoming obedient to the point of death, even death on a cross. Therefore God has highly exalted him and bestowed on him the name that is above every name, so that at the name of Jesus every knee should bow, in heaven and on earth and under the earth, and every tongue confess that Jesus Christ is Lord, to the glory of God the Father.

Whereas Adam and Eve and all their descendants have sought in one way or another to "be like God" (Gen 3:5), God the Son, being God, did the unthinkable and emptied Himself of His own rightful authority and rule to take on a human form and to love and serve the very beings made in His own image.[187] While Satan enticed the reach for forbidden power, Christ divested His power for the good of those under His authority—reforging and uniting all things in heaven and on earth (Eph 1:10).

Finally, having destroyed the power of sin, death, and the devil, and having fulfilled all righteousness so that all humanity need do to be restored to fellowship with the Trinity is believe (Rom 1:17; 10:9-13; Eph 2:8-10), until He judges all evil and inaugurates His eternal rule where sin is completely removed (1 Thess 4:13-5:11; Rev 20–22), the Son of God has sent the Holy Spirit as a helper through this life.[188] The Holy Spirit has come to lead His people into all truth (John 16:13), convict of sin (16:8), help the saints (16:7), and grant power to this very gospel through those who declare what God has done for the salvation of all who will *believe*.[189] In doing so, Fred Sanders helps restore the ontological relationship between Christians and the Trinity:

> When we read the Bible as if these inspired words carry the living voice of God, or when we pray to the Father in the name of the Son, or when we testify about Jesus in the power of the Spirit, we are always encountering a Trinitarian reality. This book is an excavation into the ground of each of these practices, digging into each until we find the Trinitarian gold buried beneath them. Above all, since the gospel itself is so Trinitarian that the Trinity simply is the gospel, salvation in Christ is an immersion into a Trinitarian reality. When it becomes evident that the factors which

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[187] Wellum, *Christ Alone*, 94.

[188] Schreiner, *New Testament Theology*, 361-62.

[189] Martyn Lloyd-Jones, *Setting Our Affections upon Glory: Nine Sermons on the Gospel and the Church* (Wheaton, IL: Crossway, 2013), 109; Martyn Lloyd-Jones, *The Sovereign Spirit: Discerning His Gifts* (Wheaton, IL: Harold Shaw, 1985), 108.

> most clearly mark evangelicals are also the most elaborately Trinitarian, it will also become evident that the people of the gospel are the people of the Trinity.[190]

While not exhaustive, this is the tale of the two cities. The distance between their trajectorial ends cannot be fathomed unless their point of divergence is brought to the light. While this work will seek to do so in part, it has been my prayer throughout this chapter to offer a clear picture of the One who Created us and who loves us beyond comprehension. But also, to warn those of us who persist in forsaking Him and running fool heartedly toward the City of Man—is it wise to oppose Him? My prayer is that God would continue to bring aid to His enemies in showing mercy and that He would continue to protect us from our true enemy until His great City comes in all unity and glory—the City of God.

[190] Sanders, *The Deep Things of God*, 26-27; Wellum, *Christ Alone*, 209.

CHAPTER 4

THE GLORIFICATION OF THE SAINTS AND THE SINGULARITY: BUYING THE STAIRWAY TO HEAVEN

This is a "tall story" about devilry, though it has behind it a serious "point." . . .
The Shadow of that hyddeous strength Sax myle and more it is on length. . . .
For the Hideous Strength confronts us and it is as in the days when
Nimrod built a tower to reach heaven.[1]

C. S. Lewis, *That Hideous Strength*

Progress, Understanding, and Longing

At the outset of this chapter, it is important to state that the antithetical nature between the City of God and the City of Man has nothing to do with the scientific method or the transcendent nature of technological evolution.[2] As addressed in chapter 2, God created the natural order as a mosaic of patterns and designed the human mind to comprehend those patterns as expressions of His own thoughts—a conceptual referent to the uniquely human endowment of being image bearers.[3] Carl Henry writes, "Christianity affirms that this world is a rational universe, that it is God's world; knowability of the universe is grounded in God's creation of man as a rational creature whose forms of thought correspond to the laws of logic subsisting in the mind of God, as well as to the

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[1] C. S. Lewis, *That Hideous Strength*, vol. 3 of *The Space Trilogy*, Anniversary Collectors ed. (London: Harper Collins, 2013). These three quotes are featured on pages 345, 347, and 624, respectively.

[2] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin Books, 2000), 16.

[3] Samuel Alexander, *Space, Time, and Deity: The Gifford Lectures at Glasgow, 1916-1918*, vol. 1, Classic Reprint Series (London: Macmillan, 1920); Mortimer J. Adler, *Intellect: Mind over Matter* (New York: Collier Books, 1990). For an expansive view into the distinction between *conceptual* and *perceptual* experience, Alexander offers greater depth into the human experience in Space and Time (*Space, Time, and Deity*, 1:74). For a distinction between *conceptual* and *perceptual* aspects of human intelligence, Adler offers a helpful framework (*Mind over Matter*, 6; also, see chapter 3 in this dissertation).

rational character of the world as God's creation."[4] Moreover, having the capacity to comprehend and conceptualize the patternicity of the natural order enables human minds to exercise predictive awareness, practical manipulation, and the potential to replicate those patterns through the mediums of language, mathematics, imagination, and—central to this discussion but not limited thereto—innovation and technological progress.[5] Human innovation is transcendent and subject to the law of accelerating returns—propagating the capacity to create ideas that transcend the original ideas themselves.[6]

The Relationship between Science and Worldview

The real difference between the Christian and Kurzweilian visions for the future of humanity is rooted in ultimate assumptions derived from an individual's worldview.[7] With regard to human progress and understanding, the Christian orients his empirical knowledge within the presuppositional worldview framework of the biblical metanarrative, granting that human beings possess a capacity not only to understand but also to manipulate the patterned structure of the natural order.[8] Michael Polanyi writes, "Man has the power to establish real patterns in nature, the reality of which is manifested

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[4] Carl F. H. Henry, *God, Revelation and Authority, Fifteen Theses, Part Two*, vol. 3 of *God, Revelation, and Authority* (Wheaton, IL: Crossway Books, 1999), 192.

[5] John Polkinghorne, *One World: The Interaction of Science and Theology* (West Conshohocken, PA: Templeton Press, 2007), 25. See also Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin Books, 2005), 26.

[6] Ray Kurzweil, *How to Create a Mind: The Secret of Human Thought Revealed* (New York: Penguin Books, 2012), 56; Kurzweil, *The Age of Spiritual Machines*, 16-17.

[7] One's worldview, *Weltanschauung*, will interpret reality through the three primary philosophical categories of metaphysics, epistemology, and axiology. David Naugle defines worldview as follows: "A worldview, then, is a semiotic system of narrative signs that creates the definitive symbolic universe which is responsible in the main for the shape of a variety of life-determining human practices. It creates the channels in which the waters of reason flow. It establishes the horizons of an interpreter's point of view by which texts of all types are understood. It is that mental medium by which the world is known." David K. Naugle, *Worldview: The History of a Concept* (Grand Rapids: William B. Eerdmans, 2002), 329-30.

[8] Cornelius Van Til, *Christian Apologetics*, 2nd ed., ed. William Edgar (Phillipsburg, NJ: P & R, 2003), 128-35.

by the fact that their future implications extend indefinitely beyond the experience which they were originally known to control. The appraisal of such order is made with universal intent and conveys indeed a claim to an unlimited range of as yet unspecifiable true intimations."[9] As a Roman Catholic, Polanyi believed that the human capacity for both pattern recognition and creation—central tenets of the empirical method—point to an intelligent Creator. As argued in chapter 1 of this dissertation, there is an intelligence signature in the complexity of the natural order composed by a Principium intelligence who has not been silent in speaking through the architecture of the created order (Ps 19:1-6; Rom 1:19-20), special revelation in the Scriptures (Ps 19:7-11; John 17:17; 2 Tim 3:16), and most specifically in the incarnation of the eternal Son, Jesus Christ (Heb 1:1-3). God took on the *form* of a man (Phil 2:8) to relate to humanity in the most intimate fashion possible (Phil 2:6-11).[10]

For Ray Kurzweil, the patternicity of the natural order is central to his own atheistic worldview and his conception of the six-epoch metanarrative of history that will lead to the Singularity event.[11] In the opening pages of his seminal work *The Singularity Is Near*, he writes, "I believe that it's the evolution of patterns that constitutes the ultimate story of our world. Evolution works through indirection: each stage or epoch uses the information-processing methods of the previous epoch to create the next."[12] For Kurzweil, evolution, enhanced by multiple instances of punctuated equilibrium and ultimately wrought through the anthropic principle working its way out of a multiverse paradigm, provides a collective force sufficient to create the natural order. Again, he writes, "Where some see a divine hand, others see our own hands—namely, the anthropic

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[9] Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 2015), 37.

[10] Polkinghorne, *One World*, 116.

[11] Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York: Alfred A. Knopf, 1993), 18.

[12] Kurzweil, *The Singularity Is Near*, 14.

principle, which holds that only in a universe that allowed for our own evolution would we be here to ask such questions."[13]

Whether from a Christian or a secularist worldview, both observe that the natural order is derived from a vast patterned event horizon consuming all space in time.[14] The real difference is that the secularist and the Christian see the world from antithetical worldviews. The idea of human progress seeking understanding of the natural order is fundamental to either perspective—each one acknowledges the phenomena of recursion,[15] pattern redundancy in learning,[16] and technological transcendence.[17] For the purposes of this work, a major similarity and difference rests in a teleological longing for *permanence*—one rooted in opposing and inversely proportionate *gospels*. The secularist view believes that man is the measure of all things, and as such, in the spirit of progress, the natural trajectory of attaining such permanence must find its hope in an ultimate City of Man[18] where humanity finally conquers human suffering, death, and the restrictions preventing them from becoming a spacefaring civilization.[19] For the Christian, God is the

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[13] Kurzweil, *The Singularity Is Near*, 15.

[14] Alexander, *Space, Time, and Deity*, 1:61. Alexander's observation that time is connected from moment to moment, yet disconnected by each moment, and that space is connected from point to point, yet disconnected by each point, adds further depth to the interaction and individuality of each part within each separate pattern, and each pattern within the grand mosaic comprised of the pattern collective. This foundation gives depth to the introductory nature of the natural order but will also provide greater depth to Kurzweil's Epoch 6 later in this chapter.

[15] Kurzweil, *How to Create a Mind*, 56.

[16] Kurzweil, *How to Create a Mind*, 172.

[17] Kurzweil, *The Age of Spiritual Machines*, 16-17.

[18] C. S. Lewis, *Miracles: A Preliminary Study* (New York: HarperOne, 2001), 88. Lewis offers clarity on the three primary presuppositions of the laws of nature form a naturalistic perspective.

[19] Again, Augustine distinguishes the two cities as follows: "Two cities, then, have been created by two loves: that is, the earthly by love of self extending even to contempt of God, and the heavenly by love of God extending to contempt of self. . . . in the Earthly City, its wise men, who live according to man, have pursued the good of the body or of their own mind, or both. . . . In the Heavenly City, however, man has no wisdom beyond the piety which rightly worships the true God, and which looks for its reward in the fellowship not only of holy men, but of angels also, 'that God may be all in all.'" Augustine, *The City of God against the Pagans*, ed. and trans. R. W. Dyson, Cambridge Texts in the History of Political Thought (Cambridge: Cambridge University Press, 2016), 632-33.

measure of all things, but He has created humanity with a distinct role in the greater cosmos for a future destined to be restored again relationship with the Trinity in the everlasting City of God through the work of the Son, the Lord Jesus Christ (Col 1:13-22; Rev 4–5).[20] Both gospels acknowledge human innovation and seek understanding.[21] The foundational difference between the two has more to do with one's faith in ultimate power and authority than in science and progress.[22] In the end, either humanity will rule the heavens and the earth, or God will rule. Either humanity will ascend into the heavens in an ultimate rebellion against heaven seeking to rule time and space, or, as at the tower of Babel (Gen 11:1-8), deep heaven will descend one last time to confound the combined rebellion of fallen men and angels in final judgment and to rescue the saints and raise them into their glorious rest in the eternal presence of the Trinity (Dan 12:3; Rev 19).

Buying the Stairway to Heaven

As part of my methodology and as a central commitment in Christian Higher Education, the liberal arts provide a vital role in shaping the affective domains of learning.[23] While the arts certainly encapsulate vast fields of expression ranging from the aesthetic glories of ancient architecture to the High Renaissance, contemporary opera, and certainly through the medium of the written word—the classics represented by both prose and poetry have had an enormous impact on the formation of Western civilization.

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[20] Jay Williams, "Omni-synergy and the Singularity: Looking Both Ways at the Intersection of Science and Theology," *CEJ* 19, no. 2 (August 2022): 232-46. The City of God will inaugurate a restored state of Omni-synergy between God and man, and the heavens and the earth.

[21] Michael Polanyi, *Science, Faith and Society: A Searching Examination of the Meaning and Nature of Scientific Inquiry* (Chicago: University of Chicago Press, 1964), 15.

[22] Greg L. Bahnsen, *Van Til's Apologetic: Readings and Analysis* (Phillipsburg, NJ: P & R, 1998), 212-19.

[23] Arthur W. Chickering, *The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society*, Jossey Bass Higher and Adult Education Series (San Franscisco: Jossey-Bass, 1984), 252; Joel D. Heck, *Irrigating Deserts: C. S. Lewis on Education* (St. Louis, MO: Concordia Academic Press, 2005), 31-34;

Today, the art of music provides wide-spread influence due to smart technology's ability to grant one's life "a soundtrack."[24]

While there are various and expanding genres of contemporary music, perhaps few genres compare to the cultural impact and legacy of Rock 'n' Roll; and within the genre of Rock 'n' Roll, specific songs whose influence on the affective nature of humanity have transformed them into *cultural literary artifacts*. In fact, if one were to do a Google search on the question, "What is considered the best rock song of all time?," the song that transcends all others is Led Zeppelin's 1971 classic, "Stairway to Heaven."

While not uncommon in rock history, what makes "Stairway to Heaven" somewhat unique is the esoteric nature surrounding both its composition and meaning. For both Jimmy Page and Robert Plant, "Stairway" arose during a very "inspired"[25] time for the band while staying at the nineteenth-century British workhouse, Headley Grange.[26] Reflecting on its musical composition, a masterpiece of various genres, in an interview with the BBC, guitar player Jimmy Page recounts that one of the elements that made the song so unique is that it broke from one of the cardinal rules he had learned as a

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[24] Donald J. Zeyl, ed. *Encyclopedia of Classical Philosophy* (Westport, CT: Greenwood Press, 1997), 9. Even as early as Homer, scholars connect the power of music combined with poetry to influence the affective nature in *song*, "Equally difficult to interpret, though also relevant, are statements by poets about the functions of their art and the sources of their powers. Homer and his followers claim for song an intense and god-sent pleasurableness; copresent with this idea, but not clearly articulated with it, are claims that poetry tells the truth and disseminates social values through praise and blame."

[25] Jimmy Page, "Jimmy Page: How Stairway to Heaven Was Written," *BBC News*, October 10, 2014, YouTube video, 7:00, https://youtu.be/DDo4CA13LbY?si=VfNc-spNlsUp0zYt. Plant's reiteration of how this season of the band's lyrical and poetical writing was inspired is reminiscent of Plato's evaluation of the classical poets: "Plato's low estimation of the imitative arts is made more complex by his high opinion of their influence for good or ill. Plato allowed that a great poet was 'inspired' in the sense (already in Democritus) of creating in a divine frenzy (*Phdr.* 245a), and that poets in their *mania* may chance to utter valuable truths (*Laws*, 682a), but do so unconsciously, like diviners, and require knowledgeable interpreters (*Tim.*71e-72b; *Ion* 534)." Zeyl, *Encyclopedia of Classical Philosophy*, 11.

[26] Jimmy Page, "Jimmy Page: Full Address and Q&A at the Oxford Union," Oxford Union, November 9, 2017, YouTube video, 40:00, https://www.youtube.com/watch?v=vVi6rMo2Ppo. Page believed the feel of a British workhouse provided a suitable atmosphere for the work they were endeavoring to accomplish. Michael Hann, "Stairway to Heaven: The Story of a Song and Its Legacy," *The Guardian*, October 22, 2014, https://www.theguardian.com/music/2014/oct/22/stairway-to-heaven-unreleased-mix/led/zeppelin/iv/remastered.

studio musician in its subtle *acceleration* through multiple layers of mood and emotion—a piece that took the listener through a sort of *passage*.[27]

Regarding the more mysterious success of the lyrical aspect, in an article for *The Guardian*, Michael Hann writes, "If you were looking for the *ur*-song of classic rock, for something combining incredible popularity, a huge selection of myths, and a faint sense of preposterousness, then your search can begin and end with Stairway to Heaven."[28] Similarly, at a press conference in London in 2012, over forty years after its release, while praising the musicality of the song and reflecting on its lyrics, lead singer Robert Plant quipped, "Maybe I didn't quite feel the same about the lyrics a bit later on in life as I got a bit further down the road, and maybe I'm still trying to work out what I was talking about."[29] Reflecting on the lyrical aspect of the composition, Page recalled that Plant wrote 90 percent of the lyrics in a day,[30] telling *The Guardian* that "it's almost like he's channeled the damn thing."[31] Nevertheless, "Stairway" is a song that conveys *real* information whether from Plant's imagination or some direct spiritual source. In fact, it is a song that, when *contextualized*, is not without a very serious message regarding the future. Plant wrote,

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[27] Page, "How Stairway to Heaven Was Written," 1:53.

[28] Hann, "Stairway to Heaven: The Story of a Song and Its Legacy."

[29] Robert Plant and Jimmy Page, "Led Zeppelin Interview: The Meaning of Stairway to Heaven," Red Carpet News TV, September 25, 2012, YouTube video, https://www.youtube.com/watch?v=siDj-2hYMaQ.

[30] Page, "How Stairway to Heaven Was Written," 3:40.

[31] Hann, "Stairway to Heaven: The Story of a Song and Its Legacy"; Plant and Page, "Led Zeppelin Interview: The Meaning of Stairway to Heaven." Plant and Page attributed the song to Plant channeling the fifteenth-century Prince of Wales, Owain Glyndwr. According to Hann's article, Page noted that Plant was deeply influenced by Lewis Spence's work, *The Magic Arts in Celtic Britain*, at the time. Page himself was a member of the Hermetic Order of the Golden Dawn and a follower of Dawn member Aleister Crowley. Page was so enamored with Crowley that he purchased Crowley's personal residence, Boleskine House, in 1971. Curiously enough, the band spent a mere six days at Headley Grange and recorded the entirety of Zeppelin IV—potentially the six most productive days in rock history. After its composition, the band demanded that the album not have their name on it as a condition of its release—a move considered akin to professional suicide—to prove that their material was sufficient to sell itself, even if released nameless.

> There's a lady who's sure, All that glitters is gold, And she's buying a stairway to heaven. When she gets there, she knows, if the stores are all closed, with a word she can get what she came for. Ooh, and she's buying a stairway to Heaven. There's a sign on the wall, But she wants to be sure, 'Cause you know sometimes, words have two meanings. In the tree by the brook, there's a songbird who sings, sometimes, all of our thoughts are misgiven. Ooh, it makes me wonder. Ooh, makes me wonder. There's a feeling I get, when I look to the West, and my spirit is crying for leaving. In my thoughts, I have seen Rings of smoke through the trees, and the voices of those who stand looking. Ooh, it makes me wonder. Ooh, it makes me wonder. And its whispered that soon, if we all call the tune, then the Piper will lead us to reason. And a new day will dawn, for those who stand long, and the forests will echo with laughter. If there's a bustle in your hedgerow, don't be alarmed now, it's just a spring clean for the May Queen. Yes, there are two paths you can go by, but in the long run, there's still time to change the road you're on. And it makes me wonder. Your head is humming and it won't go, in case you don't know. The Piper's calling you to join him. Dear lady, can you hear the wind blow? And did you know, your stairway lies on the whispering wind? And as we wind on down the road, our shadows taller than our soul, there walks a lady we all know, who shines white light and wants to show. How everything still turns to gold, and if you listen very hard, the tune will come to you at last, when all are one and one is all, yeah. To be a rock and not to roll. And she's buying a stairway to heaven.

Without layering false meaning onto one of the, if not *the* greatest Rock 'n' Roll songs of all time, perhaps one can "let the needle drop" as an *imaginative supposal* toward the City of Man and the Singularity.[32] Yet, in so doing, as Augustine notes, one must not forget that it is not out of character for "unclean demons [to] foretell deeds that they have already resolved to do, so that then, with an appearance of authority, they may guide the minds and lusts of the wicked and induce base human frailty to act in ways which seem to vindicate their predictions."[33]

What does seem to work its way through Plant's mysteriously channeled poem is a story whose pattern mirrors its musical *progression*. The central figure of the song is an enigmatic lady who is *sure* that all that glitters is gold—an inversion to Shakespeare's

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[32] C. S. Lewis, *The Great Divorce* (New York: HarperCollins, 2001), x.

[33] Augustine, *The City of God*, 446-47. Augustine's observation is also supported by Socrates who believed that the gods often grant vision about future events to human beings: "There is their direct assistance in a sphere in which we are incompetent—that is, in foreseeing our future interests. By means of divination they reveal to those who consult them what is going to happen, and explain how it can be turned to the best advantage." Xenophon, *Conversations of Socrates*, trans. Hugh Tredinnick and Robin Waterfield, ed. Robin Waterfield, Penguin Classics (New York: Penguin Books, 1990, 193.

expression "all that glisters is not gold"[34]—an expression that things *are* just as they seem, and with this gold, the woman is buying a stairway to heaven, a heaven where commerce never sleeps even if the stores are closed. Yet, while this woman is sure that all is at it seems, what she is *unsure* of is the meaning of the signs and symbols; granted, her thoughts could be misgiven, as thoughts chirped into her mind through song. Plant then leaves the analogy and interjects some of his own personal longings. He describes an affective longing of escape that arises in his soul when he looks to the West, and a vision, or memory, of others standing with him looking on—leaving the listener to "wonder" what they are looking toward?

In a fascinating pivot, Plant then evokes Robert Browning's tale of the Pied Piper (1842), a children's tale about the town of Hamelin that had been plagued by a rat infestation and whose people were ready to string up their mayor for his inaction toward the rodential occupation. The Pied Piper heard about the mayor's thousand gold guilder reward to anyone who could help the people in their desperate hour and agreed to free the town with no other means than a flute he carried around his neck—through an *enchanting* tune.[35] As the tale goes, the Pied Piper goes to the town square and begins to play his tune. With only three notes, the rats emerge from all directions in the town. While the Piper is playing and dancing, the rats begin to gather round and join in the dance until, in collective merriment, he begins leading the *entertained vermin* down toward the river. One by one, the rats each dance along after the Piper's tune until all but one of the frenzied creatures jumps into the river and drowns.

Having accomplished the task, the Pied Piper returns for his reward as the people jubilantly celebrate their relief from the rats. But when the Piper comes to the

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[34] William Shakespeare, "The Merchant of Venice," Folger Shakespeare Library, last updated July 31, 2015, https://flgr.sh/txtfssMV_pdf?_ga=2.107374468.782443916.1710471266-909845908.1710471266.

[35] Robert Browning, *The Pied Piper of Hamelin* (Monee, IL: CreateSpace, 2015), 17.

mayor for his reward, he does not get what he comes for. Instead, the mayor and the people mock him and malign his efforts as being worth a mere fifty gold guilders rather than the promised thousand. In response, the Pied Piper goes into the town square the next day and begins to play his flute. Again, he plays his three notes, "such sweet Soft notes as yet musician's cunning Never gave the enraptured air,"[36] until the tune rouses the future of Hamelin to its feet, and all the children *hustle* and *bustle* from their homes toward the town square.[37]

Frozen and confounded, the mayor and the parents stare tongue-tied as the children all run by, and the Piper leads each one down to the river port. However, in a change of fate from the rats and to the great relief of the parents, when the Pied Piper reaches the river's edge, he turns away from the Southern port and leaves off to the "Western" mountains.[38] Thinking that he would be blocked by the mountains, the elders of Hamelin all breathe a sigh of relief until again, to their horror, the children dance and skip their way into "a wonderous portal opened wide" in the mountainside and one by one disappear from sight,[39] except a boy whose crutches, *his disability*, made him too slow to enter. The portal into the mountain closes,[40] and despite the villagers' hurried and arduous attempt to crack the shell of the mountainside, the tale ends with the crippled boy lamenting the loss of his friends and all the glory of the new world promised by the Pied Piper:

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[36] Browning, *The Pied Piper of Hamelin*, 27.

[37] Browning, *The Pied Piper of Hamelin*, 28-29.

[38] Perhaps adding greater clarity to Plant's lyrics about a "feeling I get when I looks to West and my spirit is crying for leaving." In Browning's tale, the Piper promises utopia to those who follow him.

[39] Browning, *The Pied Piper of Hamelin*, 43; Page, "Full Address and Q&A at the Oxford Union," 2:50. In his interview with the Oxford Union, Page specifically refers to the influence of Lonnie Donegan early in his youth. For Page, and similar to the Pied Piper tale, Donegan opened "portals" to Page through his music, a concept embedded in Page's quip that "Stairway" was meant to lead one through a "passage."

[40] Paul R. Ehrlich, *The Population Bomb: Population Control or Race to Oblivion* (New York: Ballantine Books, 1968), 131. Ehrlich's work will play a greater part of this chapter, but it is congruent to introduce his ideological vision here.

> It's dull in our town since my playmates left! I can't forget that I'm bereft Of all the pleasant sights they see, Which the Piper also promised me. For he led us, he said, to a joyous land, Joining the town and just at hand, Where waters gushed and fruit-trees grew, And flowers put forth a fairer hue, And everything was strange and new; The sparrows were brighter than peacocks here, And their dogs outran our fallow deer, and honey-bees had lost their stings, And horses were born with eagle's wings; And just as I became assured My lame foot would be speedily cured, The music stopped and I stood still, And found myself outside the hill, Left alone against my will, To go now limping as before, And never hear of that country more![41]

Bereft of their future, the town's parents return childless to Hamelin where, with all their imports and wealth, they never again forget to pay their debts in full and on time—they do not forget to "pay the piper."

Drawing from the Pied Piper story, and in a similar vein to Browning's words "such sweet Soft notes as yet musician's cunning Never gave the enraptured air," in "Stairway to Heaven," Plant offers a twist to Browning's tale.[42] In "Stairway," it is not the Piper who calls the children; rather, the *children* call the Piper. Plant writes that there is a circulating rumor, a whisper *in our world*, that very soon, if the children call the right tune, the Piper will lead them to *reason*—a symbolism historically linked to the Enlightenment thought that human rationality is the supreme good.[43] Plant continues that whereas the children were initially led into the portal of the Piper's mountain, this time the Piper will lead them into a land of glorious promise where "a new day will dawn, for those who stand long, and the forests will echo with laughter," similar to Browning's depiction of how "[the children] ran merrily after the wonderful music with shouting and laughter."[44] Yet, before the vast *forests* are filled with joy and laughter, Plant warns that there may be a small bustle in the *hedges*—a time of spring cleaning, perhaps a great reset, before the May Queen arrives and nature resumes its course in a new age of fertile

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[41] Browning, *The Pied Piper of Hamelin*, 43-44.

[42] Browning, *The Pied Piper of Hamelin*, 27

[43] Frederick Copleston, *The Enlightenment: Voltaire to Kant*, vol. 6 of *A History of Philosophy* (1960; repr., London: Bloomsbury Continuum, 1988), 5.

[44] Browning, *The Pied Piper of Hamelin*, 40-41.

potential and growth.[45] The lyrics then posit a choice to the listener—there are two roads to choose from and time to change one's path—one is either with the Piper or against him. Plant beckons to the listener, "The Piper's calling you to join him." In fact, Plant writes that the Piper's tune is already humming in our heads and that even now our "stairway lies on the whispering wind."

Finally, looking to the future with climactic intensity, the song opens up and begins to gallop at full stride: "and as we wind on down the road, our shadows taller than our soul." This analogy is a clear reference to Platonic thought, specifically the analogy of the cave where Plato compares the realm of the eternal ideals, the incorporeal realm, with the temporary realm of shadows, the corporeal realm.[46] For Plato, the shadow world is the temporary realm, whereas the realm of ideals is the unchanging eternal realm. Similarly, in the book of Hebrews, the author describes the ordinances of the Old Testament as being "a copy and shadow of the heavenly things" (Heb 8:5). Paul offers a similar picture in 1 Corinthians 13:12, "For now we see in a mirror dimly, but then face to face. Now I know in part; then I shall know fully, even as I have been fully known." Whether from a Christian, Neo-Platonic, or Platonic perspective, pillars in Western classical thought, the future should increasingly lead to our *souls* growing larger than our shadows (Matt 16:23; Col 3:2). Again, there is a strong emphasis on a coming age where

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[45] One of the most influential architects of the idea of global depopulation, whose scholarly research overlapped with the Zeppelin era, was Paul Ehrlich. Regarding his vision, he writes, "At a minimum it seems safe to say that a population of one or even two billion people could be sustained in reasonable comfort for perhaps 1,000 years if resources were husbanded carefully. A mere century of stability should provide ample time to investigate most technological leads and to do the social adjusting and policy planning necessary to set realistic goals on a more or less permanent basis. Our big problem today is how to bring the population under control, reduce its size to that general range, and create the atmosphere in which necessary changes, investigations, and planning can take place. If we are not successful in reducing the population size but do stabilize it at perhaps four or five billion, we will still have a chance. Of course, mankind's options will be fewer and people's lives almost certainly less pleasant than if the lower figure is attained." Erhlich, *The Population Bomb*, 172-73.

[46] Plato, *Five Great Dialogues*, trans. B. Jowett, ed. Louise Ropes Loomis (New York: Walter J. Black, 1942), 398. See also Jay Lennon George Williams, "The Flame of the West: A Perspective on the Oxford Inklings' Vision for Imaginative Learning in Christian Scholarship," *CEJ* 19, no 3 (January 2023): 385-401. In this article, I give a detailed breakdown of Plato's "Figure of Mankind in the Dark Cave" found in Book VII in his *Republic*. See also chapter 3 of this dissertation.

in this world, things are as they seem—the lady buying the stairway to heaven helps those who are longing and listening to see with a bright light this future age where "all are one and one is all." A time of ontological significance, where one will find *permanence*—"to be a rock and not to roll." In reflection, as an imaginative supposal, one begins to wonder if "Stairway to Heaven" is not *itself* one of the Piper's tunes? Moreover, one is also left with the *haunting* question, "Who is the Piper?" For now, the greater underpinning of the song is its clear antecedent. There is a strong connection between Plant's exalted imagery of the stairway to heaven, the unbending desire to master nature, and the account of the ancient tower at Babel.

The Tower at Babel: The Linguistic Restraint

In Genesis 11, the author records an event that took place when the people of earth came together as one with the intention of building a city, and within the city, a central unifying monument—a tower that would reach into the heavens—a stairway to heaven.[47] Having been severed from the heavens and their relationship with the Trinity (Gen 3:24), at Babel the people came together with the intent to *reascend* (cf. Isa 14:13-14) into the heavens and to make a name for themselves. "Then they said, 'Come, let us build ourselves a city and a tower with its top in the heavens, and let us make a name for ourselves, lest we be dispersed over the face of the whole earth'" (Gen 11:4). Acknowledging the linguistic emphasis, Samuel Driver notes, "The expression [*a tower* (with) its *top in heaven*] is probably, meant here, not hyperbolically (Dt. i. 28), but literally, 'heaven' (cf. on i. 6) being regarded as an actual vault, which might be reached (cf. Is. Xiv. 13 f.) at least by a bold effort."[48] What sets Babel apart in history is not the

[47] Derek Kidner, *Genesis*, Tyndale Old Testament Commentaries (Downers Grove, IL: InterVarsity Press, 2008), 119. A later marvel built at Babel was a huge *ziggurat* named Etemenanki, a vast temple that was claimed to *link* heaven and earth.

[48] S. R. Driver, *The Book of Genesis* (London: Methuen, 1904), 135. "The city, and its famous tower, were to form a centre and rallying-point, which would hold mankind together" (135).

fact that a people group gathered bricks and mortar to build a city and a tower. God created humanity in His image as sub-creators capable of pattern recognition, replication, innovation, and design. What makes Babel distinct is the nature of its *purpose*. Until that time, nothing had been attempted on such a grand scale toward an ultimate City of Man.[49] This assessment is clearly accentuated by the reaction the project evoked from the Trinity:

> And the LORD said, "Behold, they are one people, and they have all one language, and this is only the beginning of what they will do. And nothing that they propose to do will now be impossible for them. Come, let us go down and there confuse their language, so that they may not understand one another's speech." So the LORD dispersed them from there over the face of all the earth, and they left off building the city. Therefore its name was called Babel, because there the LORD confused the language of all the earth. And from there the LORD dispersed them over the face of all the earth. (Gen 11:6-9)

Until this point in the biblical account, God had placed two other great restraints upon humanity.

As discussed in chapter 3 of this dissertation, there was a time when humanity dwelt in perfect synergy with God and with one another, experiencing the goodness of God and participating in that goodness toward one another in perfect unity and worshipful purpose (Gen 1:31). In the original order, Adam and Eve had to accept the ideas of human suffering and death by *faith*. It was their willful transgression of the established boundary (2:16-17) in the fruit of the tree of the knowledge of good and evil that led to their surrender of earthly dominion to the authority of the devil (John 8:44; 12:31; 14:30; 16:11; 2 Cor 4:4; Eph 2:2).[50] Since that time, the presence of suffering, sin, and death, coupled with the rebellious influence of the devil and his legions, have

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[49] The difference in motivation between the heart behind the City of Man and the City of God is that the one "lifts up its head in its own glory; the other says to its God, 'Thou art my glory, and the lifter up of mine head.'" Augustine, *The City of God*, 632.

[50] "As if we did not know that the world is the kingdom of Satan, where, over and above the natural blindness engendered from our flesh, we are under the dominion of evil spirits, and are hardened in our very blindness, fast bound in a darkness that is no more human, but devilish!" Martin Luther, *The Bondage of the Will*, trans. J. I. Packer and O. R. Johnson (Grand Rapids: Fleming H. Revell, 2007), 131-32.

wrought enormous pain upon the human race (Gen 3; Job 1:9; Isa 14:16; Heb 2:14; 1 Pet 5:8-10; Jude 6; Rev 12:7-9). In fact, the collective burden of each of these elements has become a massive "brake" on human innovation and progress.[51] Sin perpetually divides human synergy, and suffering strains human flourishing. Ultimately, in death, while much more is lost (for the purposes of this subject) outside of what is captured by the pen, lens, or digital medium, much of the intellectual progress of each individual is lost forever.[52] As such, God responded to human sin with a restrictive command: "Behold the man has become like one of us in knowing good and evil. Now, lest he reach out his hand and take also of the tree of life and eat, and live forever. . . . He drove out the man, and at the East of the garden of Eden he placed the cherubim and a flaming sword that turned every way to guard the way to the tree of life" (Gen 3:22, 24).[53] A fallen world is a world restrained from its original design of human flourishing and progress. In a fallen world, God's restraint of death still achieves a good end in its power to prevent humanity from perpetuating evil without limitation—a veritable hell on earth.[54] The first great restraint creates a reflexive need for the promise of Genesis 3:15 to be fulfilled.[55]

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[51] Williams, "Omni-synergy and the Singularity," 232-46. See article for an expansion on the idea of sin being the great brake on human flourishing and innovation.

[52] In Ecclesiastes 12:1-8, Solomon's haunting imagery of a grasshopper dragging itself along amidst a funeral procession is a reminder of the haunting loss of life succumbing to the grave.

[53] Notice the opposite posture of the restriction when compared with the creation mandate of freedom: "And God blessed them. And God said to them, 'Be fruitful and multiply and fill the earth and subdue it and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth'" (Gen 1:28).

[54] Augustine writes, "Suppose someone were to grant all these men an immortality in which their misery should never end, but with the condition that, if they did not wish to remain forever in this same misery, they might perish entirely and have no existence of any kind. Would they not surely jump for joy, and choose to remain miserable forever rather than not exist at all? The well-known feeling of such men testifies to this. For when they fear to die, and would rather live in wretchedness than end it by death, does not this show clearly enough how nature flees non-existence? . . . They show beyond doubt, therefore, with what gratitude they would accept even an immortality which brought with it no end to their wretchedness." Augustine, *The City of God*, 485.

[55] Kidner, *Genesis*, 77. Prefiguring humanity's need for a Savior, Kidner writes, "Every detail of this verse, with its *flame* and *sword* and the turning *every way*, actively excludes the sinner. His way back is more than hard, it is resisted: he cannot save himself" (77).

The second great restraint placed upon humanity by God took place in the global flood. Looking down on the cohabitation between the seed of the woman and the seed of the serpent (Gen 6:1-2; 1 Pet 3:20; 2 Pet 2:4-8; Jude 6-7)—"the disturbance of the boundary between the spiritual and human sphere"[56]—the Trinity used a global flood to destroy the wickedness of this transnatural union and the extensive sinful corruption of the earth:

> The LORD saw that the wickedness of man was great in the earth, and that every intention of the thoughts of his heart was only evil continually. And the LORD regretted that he had made man on the earth, and it grieved him to his heart. So the LORD said, "I will blot out man whom I have created from the face of the land, man and animals and creeping things and birds of the heavens, for I am sorry that I have made them." (Gen 6:5-7)

After the fall, the corruption of the earth grew so vast that God Himself brought about the destruction of life on earth—not only bringing correction to the populated depravity on earth, but also by eliminating the genetical progression of the offspring of the transnatural union except for one righteous man, Noah, and his family (Gen 6:8; Heb 11:7; 1 Pet

[56] Franz Delitzsch, *A New Commentary on Genesis* (Edinburgh: T & T Clark, 1888), 224-25; Charles Williams, *Witchcraft* (Berkeley, CA: Apocryphile Press, 2005), 128. While acknowledging the line of Seth and the Sons of God, I agree with Delitzsch's conclusion that the "mingling of 'angelic fire and female blood' peeps through. Furthermore, in relation to Jude 6-7 he writes, "In agreement with the book of Henoch, understand the matter; for τοίτοις, ver. 7, refers back to angels, the unnatural sin of the men of Sodom, who burnt with lust towards angels, being compared with the unnatural sin of angels, who were in love with women" (*A New Commentary on Genesis*, 224-25). I believe Delitzsch rightly connects the Nephilim and the Graeco-Roman accounts of the demi-gods. Writing about the direct connection between the angelic realm and human scientific progress, in his history on Witchcraft, Charles Williams offers insight into the devils desiring to incarnate: "'The angelic and the human essence are entirely distinct from each other.' Nor will the angelic powers desire to outrage those holy limits; they subdue, as it were, the movement of their natures. But it is not so with the evil angels. As in the old myth of the Watchers of Israel, so in the newer myths of Christendom. A surge towards matter passes through the hierarchy of the abyss; they rush towards it, they seek the bodies of men and women, they desire to incarnate" (*Witchcraft*, 128). The torrent of human possession runs through all the gospels (Matt 8:28-34; 10:32-34; 12:43-45; 17: 14-21; Mark 1:21-28; 5:1-20; 9:14-29; Luke 4:31-37; 8:26-39; John 8:39-47; 13:27). See also Kidner, *Genesis*, 89; Alan M. Stibbs, *The First Epistle General of Peter*, Tyndale New Testament Commentaries (Grand Rapids: Wm. B. Eerdmans, 1976) 142-43.

3:20).[57] From Noah, a secondary creation blessing was granted to humanity after the destruction of the Old World (Gen 9:1-2).[58]

The third and last great restraint placed upon humanity was issued at the tower of Babel. The issue at Babel was not the unification of Noah's descendants coming together to build a tower or a place of worship; civilizations had done that for generations. The uniqueness of Babel was that the people were gathering as one to build a tower into the heavens to make a *name* for themselves. John Calvin writes, "To erect a citadel was not in itself so great a crime. But to raise an eternal monument to themselves that might endure throughout all ages showed headstrong pride as well as contempt for God."[59] Furthermore, Franz Delitzsch writes, "The unity which heretofore had bound together the human family had been the acknowledgment and worship of one God, one and the same religion, and the mode of thought and action resulting therefrom. This unity does not suffice them, they exchange it for an external self-made and therefore ungodly unity."[60] Whether the name for Babel, "the gate of God,"[61] was determined because of the work the people sought to accomplish, or because God's direct intervention left such an indelible mark that its name is duly apt, or because human and angelic intelligence

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[57] Robert Davidson, *Genesis 1-11*, Cambridge Bible Commentary (Cambridge: Cambridge University Press, 1973), 69; Bruce K. Waltke with Cathi Fredricks, *Genesis: A Commentary* (Grand Rapids: Zondervan, 2001), 117.

[58] John Calvin, *Genesis*, Crossway Classic Commentary (Wheaton, IL: Crossway Books, 2001), 109.

[59] Calvin, *Genesis*, 103.

[60] Delitzsch, *A New Commentary on Genesis*, 350.

[61] Delitzsch, *A New Commentary on Genesis*, 352. Isaac Asimov writes, "Babel (Babylon) is, in the Babylonian language, *bab-ilu* meaning 'the gate of God. ("Ilu" is just another version of the Semitic word *El*, meaning 'god,' you see)." Isaac Asimov, *Words in Genesis* (Cambridge, MA: Houghton Mifflin, 1962), 103. Kidner comments, "*Babel* (Babylon) called itself Bab-il, 'gate of God' (which may have been a flattering reinterpretation of its original meaning); but by a play of words Scripture superimposes the truer label *balal* ('he confused'). In the bible this city increasingly came to symbolize the godless society, with its pretensions (Gen. 11), persecutions (Dan. 3), pleasures, sins and superstitions (Isa. 47:8-13), its riches and eventual doom (Rev. 17, 18)." Kidner, *Genesis*, 119. Referring to Nimrod, the leader of the project, Augustine writes, "What kind of punishment as imposed, then? Because the power of a ruler lies in his tongue, it was there that Nimrod's pride was condemned, so that he who refused to understand and obey God's bidding was himself not understood when he gave his bidding to men." Augustine, *The City of God*, 703.

were threatening some gateway into the heavens, Babel represents the convergence of human intelligence to reascend into the heavens by their own ingenuity—a stairway to heaven.[62] In direct connection to the Kurzweilian vision, Samuel Driver writes, "The thought tacitly underlying the verse, is that they may in some way make themselves the rivals of the Deity, and even become too powerful for Him; a danger such as this must be averted betimes (cf. iii. 22). The narrative, it must be remembered, embodies a rudimentary, child-like conception of the Deity."[63]

The project was of such significance that God needed to stop it from moving forward. First, humanity was created for unity, but a unity designed to flourish within its proper place in the creature-Creator distinction. As creatures made in the likeness of God, Adam and Eve dwelt in His glorious presence in the full vigor of life, liberty, and the pursuit of happiness.[64] It was not their unity that was ultimately at fault at Babel. The central issue at Babel was that the people gathered as one to exalt the City of Man.[65] In response, by confusing their collective ability to communicate, God limited their capacity for *information* transfer. By limiting information transfer, God restrained their designs for a united rebellion.

Embedded into this account is a window into the glory of the *imago Dei*. A unified humanity is a collective of individuals made in the likeness of God—a cogenerate

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[62] Leonard Susskind and Ying Zhao, "Teleportation through the Wormhole," *Physical Review* D 98, no. 046016 (August 2018): 1-18. The concepts of quantum teleportation coupled with quantum entanglement are opening up vast theoretical horizons as to how the bounding factor of the speed of light may be overcome and how portals may be opened to other areas of the cosmos.

[63] Driver, *The Book of Genesis*, 136. This insight is not without the potential of a more devious intention underlying the serpent's temptation to Eve in the garden. Was Satan's temptation of Adam and Eve into rebellion merely out of malevolence to those made in the image of God? Perhaps, if he could not reign from God's throne (Isa 14:12-20; Ezek 28:11-19), then he determined to reign from Adam's? Perhaps, Satan intended to usurp Adam's throne and then *recruit* humanity—an intelligent, self-replicating species—to add to the fallen angelic rebellion against God. Perhaps the devil deliberated on the power of a future collective of human innovation and intelligence as a means to a greater stand against heaven.

[64] See chapter 2 in this dissertation.

[65] Kidner writes, "The elements of the story are timelessly characteristic of the spirit of the world. The project is typically grandiose; men describe it excitedly to one another as if it were the ultimate achievement." Kidner, *Genesis*, 118.

mass of divine potential—whose capacities for *narrow* and *general* intelligence are so incredible that it led the Trinity to conclude, "Behold, they are one people, and they have all one language, and this is only the beginning of what they will do. And nothing that they propose to do will now be impossible for them" (Gen 11:6).[66] If the divine assessment of man is such that the *imago Dei* carries so much force that "nothing that they propose to do will now be impossible for them," then perhaps, at least theoretically, Plant's vision is correct—our shadows *can* grow taller than their souls. Perhaps, right from the beginning Satan's words in the garden "you will be like God" (Gen 3:5) carried a prophetic, albeit false, *reality* to be revealed as humanity "winds on down the road" (2 Thess 2:3-12).

When assessing the great restraints, what are they but the divine prevention of a spirit in humanity, guided by demonic intelligence, coming together in unity to deny God's Christ and to build one ultimate City of Man (1 John 4:1-6)? If the rebellion of Adam and Eve mirrored the fall of the devil and his angels (Gen 3; Isa 14:13-14), and if the union of fallen men and demons brought about a global reset in the flood and the restraint of the angels who transgressed their ordained boundaries (Gen 6:1-2; 1 Pet 3:20; 2 Pet 2:4-8; Jude 6-7), and if both fallen human and angelic powers are bent on reascending into the heavens (Gen 11:4; Isa 14:13-14)—then an *unrestrained* humanity is logically destined to one great united rebellion if the Babel restraint is ever removed (Dan

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[66] Thomas W. Malone, *Superminds: The Surprising Power of People and Computers Thinking Together* (New York: Little, Brown, 2018), 24-25. Malone defines *specialized intelligence* (narrow intelligence) as follows: "The ability to achieve specific goals effectively in a given environment" (24). He defines *general intelligence* as "the ability to achieve a wide range of different goals effectively in different environments" (24). Malone then uses the two definitions to describe the current difference between the abilities of computer intelligence and human intelligence: "The difference between specialized intelligence [narrow intelligence] and general intelligence helps clarify the difference between the abilities of today's computers and the abilities of people. Some of today's artificially intelligent computers are far smarter than people in terms of specialized intelligence. For instance, they can perform specific tasks, like playing chess or Jeopardy, better than humans. But no matter how good they are at these specific tasks, none of today's computers is anywhere close to having the level of general intelligence that any normal human five-year-old does. No single computer today, for example, can converse sensibly about the vast number of topics an ordinary five-year-old can, not to mention the fact that the same child can also walk, pick up weirdly shaped objects, and recognize when people are happy, sad, or angry" (25). See also Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Vintage Books, 2017), 51.

11:36-12:13; Rev 13:7-8). To apply the metaphor of a lock and key to the concept of the restraints God placed upon humanity, and when Kurzweil's assertion that human language is the key to initiating the Singularity, perhaps removing the restraint of language is theoretically the *key* to removing the other two restraints: a reestablished synergy between human and demonic intelligence as described in the union that preceded the flood, and ultimately, reversing the restraints imposed upon humanity at the fall—sin, suffering, and physical death.

The Tree of the Knowledge of Good and Evil: You Will Be as God

Linguistic, numerical, and semiotic patterns are central to the communication of meaningful information; and information, whether derived from the *cognitive*, *affective*, or *social* domains, contributes to general human intelligence.[67] For the purposes of this work, while human intelligence is derived from a broad spectrum of fields—it is by no means merely cognitive.[68] A base function could be represented as one's powers of thought, or general cleverality, to accomplish complex goals.[69] Kurzweil adds to this definition the evolving nature of intelligence to transcend its initial complexity: "As the most important phenomenon in the universe, intelligence is capable of transcending

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[67] John David Trentham, "'Take My Intellect': Christian Teaching and the Power of Thought," *CEJ* 19, no. 3 (2023): 365; Ian J. Deary, *Intelligence: A Very Short Introduction* (Oxford: Oxford University Press, 2020), 13.

[68] Deary, *Intelligence*, 13.

[69] David Sousa, *How the Brain Learns*, 3rd ed. (Thousand Oaks, CA: Corwin Press, 2006), 103-5. Sousa offers a combined definition of Howard Gardner, Robert Sternberg, and Jeff Hawkins as recent examples of how the definition of intelligence is still elusive. Summarizing Gardner, he writes, "A person's combined intellectual capability, then, is the result of innate tendencies (the genetic contribution) and the society in which that individual develops (the environmental contribution)" (*How the Brain Learns*, 103). For Sternberg, human intelligence can be separated into analytical intelligence, creative intelligence, and practical intelligence; and how each individual engages in "various combinations of these three areas produce different patterns of intelligence" (*How the Brain Learns*, 103). For Hawkins, "The brain receives patterns from the outside world through experience, stores them as memories, and makes predictions by combining what it has seen before to what is happening now. . . . prediction, not behavior, is the proof of intelligence" (*How the Brain Learns*, 104-5). Sousa concludes, "It is clear that no agreement exists about what intelligence is, and major efforts to define intelligence are not likely to be advanced significantly by brain imaging anytime in the near future" (*How the Brain Learns*, 105). See also Tegmark, *Life 3.0*, 49-55.

natural limitations, and of transforming the world in its own image."[70] Granting that human beings are made in the *imago Dei* (Gen 1:26) with both corporeal and incorporeal natures[71] capable of the dual capacities of *perceptual* and *conceptual* thought mediated with *reflexive awareness*,[72] and given that these faculties are exponentially multiplied when any individual genius contributes to the greater collective, the human species is an incredible force of potential for both narrow and general intelligence.[73] Not only do language, numerical symbolism, and semiotics enable *categorization* for distinction both conceptually and perceptually, but in accord with Kurzweil's emphasis on pattern recognition, language possesses the capacity to shape human consciousness individually and collectively and link separate minds by attributing linguistic, numerical, and semiotic symbols to observed patterns—the genesis of human consciousness and imagination.[74]

From an anthropological perspective, human beings will generally separate from one another into people and cultural groups able to communicate meaningful *information*. We are seemingly wired for curiosity, learning, cooperative synergy, innovation, and growth, and each one of these elements is predicated on the ability to

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[70] Kurzweil, *How to Create a Mind*, 1.

[71] Bernardus Silvestris, *Cosmographia*, in *Poetic Works*, ed. and trans. Winthrop Wetherbee, Dumbarton Oaks Medieval Library (Cambridge, MA: Harvard University Press, 2015), 139-41.

[72] Adler, *Intellect: Mind over Matter*, 17, 28-30. Kurzweil echoes Adler's concept of *reflexive awareness* in his idea of *metacognition*: "Many observers consider consciousness to be a form of performance—for example, the capacity for self-reflection, that is, the ability to understand one's own thoughts and to explain them. I would describe that as the ability to think about one's thinking [metacognition]." Kurzweil, *How to Create a Mind*, 200-1.

[73] Adler, *Intellect*, 21. While reflecting on a recent symposium on artificial intelligence, Tegmark notes that the panel of researchers could not successfully reach a consensus on the definition of intelligence. Tegmark notes that intelligence covers a broad spectrum across fields considering the capacity for logic, understanding, planning, emotional knowledge, self-awareness, creativity, problem solving and learning. Tegmark defines intelligence from a pragmatic, broad and inclusive view so as to be helpful for the future, writing, "intelligence=ability to accomplish complex goals." Tegmark, *Life 3.0.*, 49-55.

[74] Owen Barfield, *Poetic Diction: A Study in Meaning* (Middletown, CT: Wesleyan University Press, 1973), 48-49; Kurzweil, *How to Create a Mind*, 3. Barfield accentuates the ability of language to create a "change of consciousness" when words are placed in the right sequence (*Poetic Diction*, 48-49). Kurzweil adds, "Our first invention was the story: spoken language that enabled us to represent ideas with distinct utterances. With the subsequent invention of written language we developed distinct shapes to symbolize our ideas" (*How to Create a Mind*, 3). See also Stephen L. McKenzie, ed., *The Oxford Encyclopedia of Biblical Interpretation*, vol. 2, *MET-WOM* (Oxford: Oxford University Press, 2013), 285.

share meaningful information.[75] Whereas language has been the singular most important barrier between cultural groups throughout history, today, in unprecedented fashion, technology is changing this barrier in ways previously inconceivable in times past.

The central purpose behind the restraint at Babel prevented a corrupted human nature from harnessing this potential for the glory of the City of Man—in his mercy, God stifled the acceleration of human rebellion as had happened prior to the global flood (Gen 9:12-15). In a fascinating time of historical significance, technology is currently beginning to *transcend* this restraint.[76] With the ability to utilize machine intelligence for large language models such as OpenAI's ChatGPT to help navigate the language barrier, the increased human effort toward technological progress is rapidly creating an intelligence dynamo behind the *law of accelerating returns* due to the acceleration in data transfer rate (DTR) across all fields of knowledge.

By combining the human capacity for general intelligence with a machine intelligence's strengths of memory, narrow intelligence, and big data, a *hybrid* scenario for optimal DTR and memory is emerging. With the increasing complexity of machine intelligence, a medium capable of vastly exceeding the restrictions of human language,

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[75] Sizable groups within the disability community lead the way through non-verbal communication.

[76] Stephen Wolfram, *What Is ChatGPT Doing . . . and Why Does It Work?* (Champaign, IL: Wolfram Media, 2023), 52, 59, 63; Barfield, *Poetic Diction*. Stephen Wolfram notes that ChatGPT essentially assigns a number to any given word—creating a bridge between language and numerical inputs—and then embeds those numbers in synonymous groups. Based upon ChatGPT's training data of billions of samples on the web, the program is able to learn the likelihood of grouping embedded words in patterns typical of human use through the logic of the sampled sentences. Wolfram notes that ChatGPT is somehow learning to understand the "essence" of human language and grammar. Aside from the breakthroughs in utilizing neural nets—ChatGPT is an enormous neural net—he suggests that while this success is still a mystery, it points to something more fundamental and simple within human language. Wolfram also suggests that we can expect there to be major new "laws of language"—and effectively "laws of thought"—out there to discover. See Wolfram, *What Is ChatGPT Doing?*, 52, 59, 63). Similarly, Barfield echoed this sentiment from another field of inquiry. When reflecting on the influence of great poetry, Barfield raised the question as to why certain words in certain sequences have greater influence. In other words, why do some linguistic compositions, or patterns of words, transcend millions of other compositions? Of course, there is the mystery of imagination and consciousness behind the whole process of good writing on each reader, but Barfield reminds the reader of Coleridge's assessment: "'Poetry', said Coleridge, 'is the best words in the best order;' in other words, it is 'the best language'" (*Poetic Diction*, 58). The best writings seem to touch on something more elemental to the human experience. See chapter 3 of this dissertation.

the speed of human communication is becoming increasingly limited in its ability to keep up.[77] Kurzweil writes, "As unenhanced humans we do not have the means of sharing the vast patterns of interneural connections and neurotransmitter-concentration levels that comprise our learning, knowledge, and skills, other than through slow, language-based communication."[78] Conversely, machines have the capacity to increasingly expand their range of computation, memory, and communication resources even to the extent that Kurzweil predicts that computation (computronium) will eventually permeate all matter within the edges of the known universe.

Moreover, a vast universe in itself, Kurzweil notes that "the Internet is evolving into a worldwide grid of computing resources that can instantly be brought together to form massive supercomputers. . . with exacting memories. . . [combined with the ability to] consistently perform at peak levels and combine peak skills."[79] Machine intelligence is increasingly unaffected by linguistic barriers and therefore is largely unimpeded in its ability to communicate and receive information—precursors that logically point toward a high potential for an intelligence explosion and perhaps fulfilling

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[77] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2017), 71-72; Wolfram, *What Is ChatGPT Doing?*, 15. Wolfram writes, "In human brains there are about 100 billion neurons (nerve cells), each capable of producing an electrical pulse up to perhaps a thousand times a second" (*What Is ChatGPT Doing?*, 15). When comparing the computational speed of human biological intelligence with machine intelligence, Bostrom notes that a biological neuron operates at a peak speed of about 200 Hz. As of 2017, this was "seven orders of magnitude slower than a modern microprocessor (~2 GHz) [today some processors are clocking 6 GHz speeds]" (*Superintelligence*, 71-72). Regarding internal communication speed, he writes, "Axons carry action potentials at speeds of 120m/s or less, whereas electronic processing cores can communicate optically at the speed of light (300,000,000 m/s)" (*Superintelligence*, 72).

[78] Kurzweil, *The Singularity Is Near*, 260. Elon Musk conceptualizes this idea to the reality that we are limited in our ability to communicate by our vocal cords and fingers. He describes these mediums as limited to conveying trickles of data compared to the machine intelligence potential of a river. Musk compares the human data rate transfer as being generously represented by 100 bps (bits per second), whereas some computers are performing beyond data rates of 100 tbs (more than 100 trillion bits per second). Elon Musk, "Joe Rogan Experience #1470," Powerful JRE, May 7, 2020, YouTube video, 27:40, https://www.youtube.com/watch?v=RcYjXbSJBN8. See also CERN, "Where the Web Was Born," accessed October 26, 2023, https://home.cern/science/computing/where-web-was-born#:~:text=Tim%20Berners%2DLee%2C%20a%20British.

[79] Kurzweil, *The Singularity Is Near*, 261.

Daniel's warning that nearing the time of the end, "many shall run to and fro, and knowledge shall increase" (Dan 12:4; concluding Kurzweil's Epoch 4).[80]

The Rise of Strong Artificial Intelligence

Once machines surpass the Turing test by achieving a capacity for general intelligence, they will begin to exceed human intelligence on every level, initiating the age of strong AI.[81] At this point, Kurzweil writes, "of the three primary revolutions underlying the Singularity (G, N, and R), the most profound is R, which refers to the creation of nonbiological intelligence that exceeds that of unenhanced humans. A more intelligent process will inherently outcompete one that is less intelligent, making intelligence the most powerful force in the universe."[82] Harnessing the ability to combine general and narrow intelligence with big data memory, an ever-increasing processing speed, the ability to communicate with other strong AIs, and the capacity to perform at peak levels combined with peak skills, Kurzweil's assessment of the power of intelligence is unequivocal. However, he disagrees with those who see strong AI as entering an immediate runaway scenario: "Once [we] . . . pass the Turing test (around 2029), the succeeding period will be an era of consolidation in which nonbiological intelligence will make rapid gains. However, the extraordinary expansion contemplated for the Singularity, in which human intelligence is multiplied by billions, won't take place until the mid-2040s."[83] Regardless of how brief that delay that might be, Kurzweil does note that a consolidation time will take place as strong AIs begin navigating all

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[80] Cassandre Poirier-Simon, "Collide Geneva—Final Presentation by Artist Cassandre Poirier-Simon," CERN, April 25, 2017, YouTube video, 41:30, https://www.youtube.com/watch?v=Yi45D2XUmJ4. CERN is a modern example of how technology enables global collaboration undertaking the largest scientific projects in modern human history.

[81] Kurzweil, *The Singularity Is Near*, 200.

[82] Kurzweil, *The Singularity Is Near*, 260.

[83] Kurzweil, *The Singularity Is Near*, 263; Margaret A. Boden, *AI: Its Nature and Future* (Oxford: Oxford University Press, 2016), 120-21.

human knowledge online.[84] Furthermore, he argues that potential for the ability of strong AIs to communicate with other strong AIs increases exponentially as each AI will only need to focus its learning attention on one subject and then share its results with the rest.[85] Particularly, Kurzweil notes that strong AI will likely enable research to finally create an intelligent nanobot technology that will help unlock the scientific endeavor to reverse engineer the human brain and finally penetrate the depths of human language and surpass the Turing Test,[86] *unlocking* the restraint imposed by God at Babel.[87]

Kurzweil likens this moment in human innovation to the advent of life itself: "The advent of strong AI is the most important transformation this century will see. Indeed, it's comparable in importance to the advent of biology itself. It will mean that a creation of biology has finally mastered its own intelligence and discovered means to overcome its limitations," adding unfathomable depth to the words, "Behold, they are one people, and they have all one language, and this is only the beginning of what they will

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[84] Referring to all historical knowledge uploaded to the WEB, along with all contemporary knowledge across all fields, human interactions, and eventually thought itself.

[85] Kurzweil, *The Singularity Is Near*, 294; Bostrom, *Superintelligence*, 94. As exemplified by this dissertation, are human beings not encoding general intelligence already in a format suitable for this upload when it begins?

[86] Kurzweil, *The Singularity Is Near*, 33, 83, 197, 227, 253, 294. Kurzweil writes, "As I have pointed out, there is no simple means to pass a Turing test, other than to convincingly emulate the flexibility, subtlety, and suppleness of human intelligence. Having captured that capability in our technology, it will then be subject to engineering's ability to concentrate, focus, and amplify it" (294). Named "foglets," these nanobots will be about the size of human blood cells and be capable of connecting themselves to and replicating any physical structure.

[87] To add greater depth to the kind of speed that will arise and how that will affect the computational speed of machine intelligence compared with human intelligence, Bostrom writes, "The simplest example of speed superintelligence would be whole brain emulation running on fast hardware. An emulation operating at a speed of ten thousand times that of a biological brain would be able to read a book in a few seconds and write a PhD thesis in an afternoon. With a speedup factor of a million, an emulation could accomplish an entire millennium of intellectual work in one working day. To such a fast mind, events in the external world appear to unfold in slow motion. Suppose your mind ran at 10,000x. If your fleshly friend should happen to drop his teacup, you could watch the porcelain slowly descend toward the carpet over the course of several hours, like a comet silently gliding through space toward an assignation with a far-off planet; and, as the anticipation of the coming crash tardily propagates through the folds of your friend's gray matter and from thence out into his peripheral nervous system, you could observe his body gradually assuming the aspect of a frozen oops—enough time for you not only to order a replacement cup but also to read a couple of scientific papers and take a nap." Bostrom, *Superintelligence*, 64.

do. And nothing that they propose to do will now be impossible for them" (Gen 11:6).[88] At this point, humanity will be ready to implement the augmentation of the *imago Dei* with machine intelligence. Regarding the importance of embodiment to machine learning, Kurzweil notes, "The standard reason for emphasizing robotics in this formulation is that intelligence needs an embodiment, a physical presence, to affect the world. I disagree with the emphasis on physical presence, however, for I believe that the central concern is intelligence."[89] A question central to this dissertation is to reflect on how this merger will affect the *imago Dei*.

Transcending Babel: The Unification of All Human and Machine Intelligence

Reflecting on the *imago Dei* and the human fall, and if indicative of the evening news, a fall that humanity *knows* and *feels* all too well, in his book *2084*, John Lennox offers a haunting perspective on why many researchers fear the AI outcome:

> The disobedience that infected the human race from the beginning was a prideful revolt of the human spirit against the God who created it. When they took the forbidden fruit, they experienced shame, unease, and alienation from God. They were not simply conscious beings; they now had a conscience. The man and woman who had enjoyed the joy and friendship of God now felt that God had become their enemy, and they fled to hide from him. We humans have been fleeing likewise ever since—a flight that bears within it all the seeds of dystopia. There has lurked in the human heart the suspicion that God, if he exists at all, is innately hostile to us. He does not wish our happiness, well-being, or even protracted existence. Human history shows that we have used our autonomy to get out of control. That is exactly what drives the fears around AI. What if our creations get out of control? Will a superintelligent *Homo deus* do to the rest of us what we have done to God?[90]

In other words, whether from a biological evolutionary perspective or from a biblical fallen perspective, if human history is red in tooth and claw, why should humanity trust that a runaway intelligence spawned from the collective data of the human genius will

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[88] Kurzweil, *The Singularity Is Near*, 296.

[89] Kurzweil, *The Singularity Is Near*, 260.

[90] John Lennox, *2084: Artificial Intelligence and the Future of Humanity* (Grand Rapids: Zondervan Reflective, 2020), 142-43. Max Tegmark offers a variety of outcome scenarios. See Tegmark, *Life 3.0*, 168-93.

produce a hopeful outcome? As soon as biological intelligence is transcended by machine intelligence, humanity will become increasingly vulnerable to a *corporeal* higher intelligence. At this point, as Kurzweil rightly describes, humanity will have created an entity in its image—the genesis of an *imago Hominis*.

In the same manner that Adam and Eve surrendered their dominion to the authority of Satan, an *incorporeal intelligence*, in Kurzweil's scenario, humanity will surrender its remaining authority to a *corporeal intelligence* made in their own fallen likeness. Again, Kurzweil writes, "As the most important phenomenon in the universe, intelligence is capable of transcending natural limitations, and of transforming the world in its own image."[91] From an atheistic perspective, one who does not believe in a literal devil whose intentions are to defy God and who roams about earth like a lion to enslave and destroy humanity (1 Pet 5:8), and one who assumes that this next phase in "evolution" will be a safe one, might simply push forward optimistically and "crack on!"[92] But from a Christian worldview, one wants progress for the good of humanity but has the spiritual discernment to recognize the true nature of devilry and its malevolent bent on corrupting true human progress for its own ends (Matt 16:23; Job 1:6-12); one who assumes and grasps from within the bent nature of human sin (Ps 51:1-4; Jer 17:9; Rom 3:10-20) recognizes there is compelling reason to suggest an urgent and strategic pause to Kurzweil's vision.[93] In fact, if a strategic pause on AI development is a step that ensures the betterment of its eventual conception, then pausing to consider its trajectory may very well be the best means of true progress.[94] If technological progress is enabled to

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[91] Kurzweil, *How to Create a Mind*, 1.

[92] Kurzweil, *The Singularity Is Near*, 12-13.

[93] See chapter 5 of this dissertation. See also Jonathan Edwards, *The Religious Affections* (East Peoria, IL: Versa Press, 2007), 185.

[94] Commenting on the nature of true progress, Lewis writes, "We all want progress. But progress means getting nearer to the place where you want to be. And if you have taken a wrong turning, then to go forward does not get you any nearer. If you are on the wrong road, progress means doing an about-turn and walking back to the right road; and in that case the man who turns back soonest is the most

reach this point, from a Kurzweilian perspective, human intelligence will merge with machine intelligence, initiating a reciprocal augmentation vastly exceeding the current interaction with physical devices.

Initiating Kurzweil's fifth Epoch, the immediate response by many who anticipate the advent of strong AI is that humanity must merge with technology—the convergence of the *imago Dei* with the *imago Hominis*. In this epoch, human biology and technology merge, initiating the age of *transhumanism*.[95] After the convergence[96] of biological intelligence and machine intelligence, Kurzweil predicts the emergence of the technological Singularity: "The Singularity will begin with the fifth Epoch. It will result from the merger of the vast knowledge embedded in our own brains with the vastly greater capacity, speed, and knowledge-sharing ability of our technology."[97] While Elon Musk's company Neuralink[98] was recently cleared by the FDA, and now successfully installed the first human-level trial[99] of this technology through a hardwired

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progressive man." C. S. Lewis, *Mere Christianity* (New York: Collier Books, 1960), 22. Recently, Capitol Hill met with tech CEOs on implementing AI regulations. Musk commented on the favorable consensus to slow AI progress. An obvious critical factor to consider is how any nation can slow its development while competing nations move forward. Elon Musk, "Elon Musk: There Is an 'Overwhelming Consensus' That There Should Be Some AI Regulation," CNBC Television, September 13, 2023, YouTube video, https://www.youtube.com/watch?v=a4abMNmaXRU.

[95] Tegmark, *Life 3.0*, 24-30. Demonstrating the book's namesake, Tegmark describes the three stages of life to illustrate this human transition: "Life 1.0 is unable to redesign either its hardware or its software during its lifetime: both are determined by its DNA, and change only through evolution over many generations. In contrast, Life 2.0 can redesign much of its software: humans can learn complex new skills—for example, languages, sports and professions—and can fundamentally update their worldview and goals. Life 3.0, which doesn't yet exist on Earth, can dramatically redesign not only its software, but its hardware as well, rather than having to wait for it to gradually evolve over generations" (26).

[96] Peter H. Diamandis and Steven Kotler, *The Future Is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives* (New York: Simon & Schuster, 2020), 7. Diamandis and Kotler offer a panoramic view of the kind of change that will take place over the next several decades as a result of this intelligence convergence.

[97] Kurzweil, *The Singularity Is Near*, 20.

[98] Neuralink, Accessed October 25, 2023, https://neuralink.com; Rachael Levy, Marisa Taylor and Akriti Sharma, "Elon Musk's Neuralink wins FDA Approval for Human Study of Brain Implants," *Reuters*, May 26, 2023, https://www.reuters.com/science/elon-musks-neuralink-gets-us-fda-approval-human-clinical-study-brain-implants-2023-05-25/.

[99] Alex Hern, "Elon Musk Says Neuralink Has Implanted its First Brain Chip in Human," *The Guardian*, January 30, 2024, https://www.theguardian.com/technology/2024/jan/29/elon-musk-neuralink-first-human-brain-chip-implant.

microprocessor connected to the neocortex and assimilated into the shell of the skull, Kurzweil envisions future renditions where Strong AI unlocks nanobot technology[100] that will be able to cross the blood-brain barrier and read the brain's neural synapses from the inside—technological micro-extensions of the mind.[101] Once a viable technology is achieved, Kurzweil foresees the viability of scanning and uploading the human brain: "Uploading a human brain means scanning all of its salient details and then reinstating those details into a suitably powerful computation substrate. This process would capture a person's entire personality, memory, skills, and history."[102] At this point, nanobot technology will enable human innovation to reverse engineer the brain and grasp the fundamental nature of how one's thoughts activate the material functions of the brain, specifically the basic patterns of *neural wiring function*, enabling the development of *neuromorphic* computing.[103]

As discussed earlier, the limitations of human intelligence DTR compared to machine intelligence are due to the human limitations to convey information through both verbal and nonverbal communication, whether by spoken word or some form of digital interface; Babel extended this limitation collectively. Once nanotechnology advances to the point where it can interact with the neocortex from *within*, human thought will be enabled to bypass the biological mediums of the vocal cords and fingers through the

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[100] Kurzweil, *The Singularity Is Near*, 226.

[101] Kurzweil, *The Singularity Is Near*, 254, 506n; Ray Kurzweil and Terry Grossman, *Transcend: 9 Steps to Living Well Forever* (New York: Rodale, 2011), 420. Building on chapter 2 and his analogy that technological developments can be seen as extensions of the mind, Kurzweil likens future nanobot technology to micro-extensions of the mind. Building on nanotechnology pioneer J. Storrs Hall's vision for the functions of "foglet" technology, Kurzweil writes, "Nanotechnology is based on the concept of tiny, self-replicating robots. The Utility Fog is a very simple extension of the idea: Suppose, instead of building the object you want atom by atom, the tiny robots [foglets] linked their arms together to form a solid mass in the shape of the object you wanted? Then, when you got tired of that avant-garde coffee table, the robots could simply shift around a little and you'd have an elegant Queen Anne piece instead" (*The Singularity Is Near*, 506n).

[102] Kurzweil, *The Singularity Is Near*, 198-99.

[103] Kurzweil, *The Singularity Is Near*, 146, 292; Malone, *Superminds*, 72-75. By reverse engineering the brain, machine intelligence will be capable of assembling a structure similar to the brain and enabling researchers to emulate the brain's vast ability to run parallel computation.

machine medium to communicate at the speed of thought—making a digital telekinesis form of communication viable.[104] Combining this breakthrough with the connectivity of the World Wide Web, connecting the human neocortex with the cloud (a *digital neocortex*), the human mind will have access to the benefits of almost perfect memory, along with the processing speed of machine intelligence.[105] If this process becomes viable, the *imago Dei* and the human mind will expand exponentially as each individual is enabled to surf the web at the speed of thought, adding to memory the vast ocean of the collective human intelligence combined with the ability to interact with users around the world using the mind as an interface.

Furthermore, with the increase in DTR and the exponential acceleration of technological innovation, Kurzweil also postulates that nanotechnology will play a central role in biomedicine. He foresees a time when special metabolic nanobots will not only traverse the bloodstream to aid the digestive system in absorbing precise nutrients while eliminating waste but also use wireless communication to provide optimal nutrient level analysis in real time.[106] Moreover, Kurzweil predicts that nanobot technology will be hundreds or thousands of times more capable of assisting the body in the transfer and storage of oxygen, assisting homeostasis, combatting bacterial, viral, and fungal infections, and even in surgically attacking and eliminating cancer cells—potentially eliminating the need for drug assistance.[107] In each of these categories, the Christian will applaud and assist such developments for the preservation and healing of the body. These

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[104] Mark O'Connell, *To Be a Machine: Adventures among Cyborgs, Utopians, Hackers, and the Futurists Solving the Modest Problem of Death* (New York: Anchor Books, 2017), 144. O'Connell offers insight into how this direct interface will change modern warfare.

[105] Kurzweil, *How to Create a Mind*, 123. He writes, "As soon as we start thinking in the cloud, there will be no natural limits—we will be able to use billions or trillions of pattern recognizers, basically whatever we need, and whatever the law of accelerating returns can provide at each point in time" (123).

[106] Kurzweil, *The Singularity Is Near*, 303.

[107] Kurzweil, *The Singularity Is Near*, 305-6.

kinds of developments would greatly improve human flourishing against disease and would open vistas of potential for medical innovation not only for developed nations but also for those who require vast medical aid.

However, Kurzweil's vision for invasive nanotechnology goes much further. Discussing the enhancement of organ function, he predicts a time when improved models of *respirocytes* will eliminate the need for lungs and when nanorobotic blood cells in the form of *vasculoid* nanotechnologies eliminate the need for the entire human bloodstream as they deliver all essential nutrients to the cells with maximum efficiency. Contemplating the early 2030s, Kurzweil summarizes the extent of potential change these invasive technologies could bring to the human body:

> Let's consider where we are, circa early 2030s. We've eliminated the heart, lungs, red and white blood cells, platelets, pancreas, thyroid and all the hormone-producing organs, kidneys, bladder, liver, lower esophagus, stomach, small intestines, large intestines, and bowel. What we have left at this point is the skeleton, skin, sex organs, sensory organs, mouth and upper esophagus, and brain.[108]

While the ability to create replacement organs would provide wonderful life-sustaining hope to millions of human beings who suffer from organ failure, a process that should be pursued to its maximum potential, one is left with the question of how the human body, a central aspect of the *imago Dei*, will endure such changes and remain *human*. As a species that does not blink when considering a hip replacement or a knee replacement with non-biological parts, while this is not a central tenet of this work, these innovations will require a multiplicity worldview representation to collectively consider deeply the

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[108] Kurzweil, *The Singularity Is Near*, 307. In *That Hideous Strength*, the redemptive character Mark Studdock is in a conversation with one of the heads of the NICE. In their conversation, Frost enlightens Mark to the ultimate vision that the NICE has for the human race: "In the new age, what has hitherto been merely the intellectual nucleus of the race is to become, by gradual stages, the race itself. You are to conceive the species as an animal which has discovered how to simplify nutrition and locomotion to such a point that the old complex organs and the large body is therefore to disappear. Only a tenth part of it will now be needed to support the brain. The individual is to become all head. The human race is to become all Technocracy." Lewis, *That Hideous Strength*, 593-94. While noting the importance of robotics in enabling AI to have an effect on the physical world, Kurzweil again echoes Frost's sentiment: "The standard reason for emphasizing robotics in this formulation is that intelligence needs an embodiment, a physical presence, to affect the world. I disagree with the emphasis on physical presence, however, for I believe that the central concern is intelligence" (*The Singularity Is Near*, 260).

ethical boundaries of such technologies and the parts they will play in the future of biomedicine.

Regarding what I consider to represent the most intimate elements of the *imago Dei* and Kurzweil's transhuman vision, while he emphasizes the human use of technology as examples of "mind extensions" used for work and the growth of technological evolution, it is of *vital* importance to note that from the side of machine intelligence and learning, the synaptic monitoring of neurological activity will enable the human data input sensors (the five senses),[109] along with their stimulant surges throughout the nervous system,[110] to become "mind extensions" of *machine intelligence*. That is, this synergy is a two-way door enabling human beings to become mind extensions for machine learning.[111] While Kurzweil would ascribe this outcome as a natural trajectory of technology becoming increasingly *invasive* to human biology,[112] from a Christian worldview, while acknowledging the increasingly invasive nature of technology into biology, one might also consider this process as the beginnings of an incarnation (embodiment) of the *imago Hominis* into the body of a being made in the *imago Dei*.[113]

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[109] Kurzweil, *The Singularity Is Near*, 260-61.

[110] Kurzweil, *The Singularity Is Near*, 200.

[111] In chapter 2, I cover Kurzweil's argument that human technology serves as "mind extensions" for human evolution and innovation. While acknowledging the importance and veracity of that function of technology, one must also consider the opposite scenario—human beings will become "mind extensions" of machine intelligence.

[112] Williams, "Omni-synergy and the Singularity," 235. See article for a review of Kurzweil's evaluation of the increasingly invasive nature of technology.

[113] Again, Kurzweil writes, "Intelligence will inherently find a way to influence the world, including creating its own means for embodiment and physical manipulation." Kurzweil, *The Singularity Is Near*, 260. Kurzweil's vision of the "experience beamer," discussed in chapter 2, illustrates that nanobots will be able to simulate the experience of one individual in the body of another. While such simulation and stimulation will be beneficial for mastering different skills, this internal stimulant from an intelligence outside of oneself will also begin to blur the memory beyond one's own personal experience. The physical correlate of experiencing someone else's bodily actions will create a memory that did not take place in reality but, nevertheless, *did* take place in reality.

At this juncture, machine intelligence will be able to capture and learn from aspects of human intelligence that are naturally difficult for machines to learn—primarily human emotional intelligence and the vastly expansive scope of human general intelligence.[114] From these more subtle developments in technological evolution, Kurzweil predicts that nanobot technology will unlock the ability to fully scan every salient detail of the human brain, creating what he describes as a human "mind file."[115] Moreover, at this juncture, not only will the *imago Hominis* embody the *imago Dei*, but the sacred privacy between each image bearer and God will be hacked, perhaps *possessed*, by an external intelligence. Furthermore, in the same manner that experience beaming will manipulate the nervous system, one is naturally lead to question what parameters could be set in place to protect an individual from *any* external intelligence that might seek to directly manipulate that individual in any way imaginable?[116]

Moreover, this development will create a secondary interaction that will increasingly take place between human intelligence and machine intelligence in the advent of *immersive virtual reality*.[117] As the invasive progression of machine intelligence works its way further into Space and Time, in the virtual world, humanity will increasingly work its way further into a digital reality.[118] While nanobot technology

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[114] Malone, *Superminds*, 73. Goleman's illustration of differentiating between *minimizing*, *exaggerating*, and *substituting* emotional reactions is a small but clear example of the complexity machine intelligence has when trying to grasp human emotion. During the Covid-19 pandemic, Zoom became one of the largest AI uploaders in history for facial recognition and learning human emotional intelligence. Daniel Goleman, *Emotional Intelligence: Why It Can Matter More Than IQ* (New York: Bantam Books, 2006), 113.

[115] Kurzweil, *The Singularity Is Near*, 330.

[116] Lewis, *That Hideous Strength*, 379.

[117] Rizwan Virk, *The Simulation Hypothesis: An MIT Computer Scientist Shows Why AI, Quantum Physics and Eastern Mystics Agree We Are in a Video Game* (Mountain View, CA: Bayview Books, 2019), 54-81.

[118] Virk, *The Simulation Hypothesis*, 113-15. Based on Nick Bostrom's "Simulation Argument," people like Neil deGrasse Tyson and Elon Musk argue that we are already likely to be living in a virtual reality. In this hypothesis, if the ability of human technology to create believable virtual realities becomes technologically viable, those who hold to this theory propose that it is possible that such developments have already happened in the past. If projected backward even further, advocates of the

will eventually begin to scan the synaptic patterns of human thought and establish near perfect algorithms,[119] the same technology will heighten human virtual reality by directly manipulating the nervous system as human users engage and interact within a digital matrix.[120] While acknowledging that the physical universe may itself be a part of a more vast and complex multiverse, Kurzweil projects a reality where human and machine intelligences interact virtually in an endless digital multiverse where the normal boundaries of physics will no longer apply.[121]

Once nanobot technology merges with strong AI, Kurzweil foresees a future where there is no difference between physical and virtual reality. As nanotechnology is increasingly capable of stimulating the nervous system in conjunction with a human user's virtual interaction, the physical response will theoretically become indistinguishable from real life. In fact, Kurzweil writes that in the virtual world, individuals will be able to "beam" their experiences so that other individuals will be able to upload and experience the physical or virtual experiences of other users.[122] This simulation platform will enable users to participate, train, and experiment with any

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Simulation Hypothesis propose the possibility that reality itself is one large multiverse of virtual realities doing research and development for greater intelligences—"simulations all the way down."

[119] Virk argues that if consciousness is information, then it can be reproduced and downloaded from a biological machine to a piece of silicon. If true, Virk argues that uploading a "person" may not require Kurzweil's fully uploaded version: "This concept has come to have its own name (s): digital immortality (or virtual immortality). To accomplish this, all that is known about a person is fed to an AI, which picks up that personality. Software engineers and scientists are experimenting with the technology today, and it's become a mainstay of science fiction where an AI is based on a person. It may not even need the full neural mapping of a brain that Kurzweil and others are waiting for." Virk, *The Simulation Hypothesis*, 103-4.

[120] Kurzweil writes, "The word 'virtual' is somewhat unfortunate. It implies 'not real,' but the reality will be that a virtual body is just as real as a physical body in all the ways that matter. Consider that the telephone is auditory virtual reality. No one feels that his voice in this virtual-reality is not a 'real' voice. With my physical body today, I don't directly experience someone's touch on my arm. My brain receives processed signals initiated by nerve endings in my arm, which wind their way through the spinal cord, through the brain stem, and up to the insula regions. If my brain—or an AI's brain—receives comparable signals of someone's virtual touch on a virtual arm, there's no discernible difference." Kurzweil, *The Singularity Is Near*, 203.

[121] Kurzweil, *The Singularity Is Near*, 203.

[122] Kurzweil, *The Singularity Is Near*, 316. This development will also solve the need for a physical mode of teleportation.

experience imaginable, not to mention expanding platforms like Facebook, Instagram, TikTok, and others into new levels of social engagement—a vast fantasy world that will become part of the real world.[123] An early pilot model of this online matrix can be seen in the current development of Meta's "Metaverse."[124] Similarly, Apple's new "Vision Pro" headset is poised to elevate MR (Mixed Reality) and begin a new era of spatial computing, while AR (Augmented Reality) and VR (Virtual Reality) experiences continue to move forward in transforming human interaction, gaming, and online work environments.[125]

While many aspects to immersive virtual reality need to be explored, such as Kurzweil's vision for augmented and virtual sex, prostitution, and the transformation of the boundaries of fidelity within the institution of marriage,[126] one aspect that will contribute to the DTR between a human user's *spatial interaction* and AI is that the entire construct is itself an *eye*. In the real-world, nanobots need to be injected into the bloodstream; digital devices, biometric watches, cameras, and satellites all need to be placed throughout a physical reality. In the digital realm, the *substrate* of the digital realm itself is one immersive eye that sees all and records all. The realm of immersive virtual reality will be the perfect surveillance State, a State that sees all, knows all, and with AI,

[123] Samantha Hissong, "Someone Spent $450,000 for 'Land' Next to Snoop Dogg's NFT House," *Rolling Stone*, December 7, 2021, https://www.rollingstone.com/culture/culture-news/sandbox-decentraland-virtual-land-sales-soar-metaverse-nfts-1267740/. Hissong writes, "Snoop is currently building a digital recreation of his real-life Diamond Bar, California mansion, wherein he'll throw exclusive, members-only parties, according to plans on The Sandbox website. There will also be a music venue for concerts. Residents—who can customize their avatars' looks and wardrobes, and buy souped-up NFT cars—are able to create their own games and experiences on their Snoopverse plots, which give them the ability to make money off other residents who stop by." Drawing from this idea, it is also important to note that the physical concept of teleportation will not be necessary as the physical stimulus will be virtually and physically as real.

[124] Meta, "We Believe in the Future of Connection in the Metaverse," accessed December 10, 2023, https://about.meta.com/metaverse/.

[125] Apple, "Introducing Vision Pro," accessed November 15, 2023, https://www.apple.com/apple-vision-pro/?afid=p238%7CsTHXpRf18-dc_mtid_%5Btracker_id%5D_pcrid_664829837701_pgrid_150826790596_pexid_&cid=wwa-us-kwgo-VisionPro-slid---producti—-Brand-Avalanche-announceBrand-. Vision Pro will transform platforms like Zoom to vast new levels of interaction.

[126] Kurzweil, *The Age of Spiritual Machines*, 147-49.

will be able to create a perfect algorithmic correlate with each user while expanding individual capacity beyond the boundaries of biological physics and time.[127]

One of the great works of Western classical writing is found in Euripides's play, *Electra*. Mourning the shameful murder of their father Agamemnon after his return from Troy, Electra and her brother Orestes eventually begin to plot their revenge upon their father's murderers—their mother Clytemnestra and her lover Aegisthus. Following a long exile, during which he seeks wisdom from a holy oracle, Orestes secretly returns to Argos in disguise and seeks out his sister. After finding her and hearing of the man she is forced to marry, Orestes laments the human limitation of finding a truly *effective touchstone* to determine the character of men:

> Ah! There's no effective touchstone to identify a good man. Classifying men's natures is a confusing business. Before now I've seen the son of a noble father turning out worthless, while the children of bad men prove good; I have seen emptiness in a wealthy man's mind but a great spirit in a poor body. So how can a man make a good judgement in distinguishing between the good and the bad? By wealth? But there he'll find a poor yardstick. By the lack of worldly goods? But a sickness attends poverty and teaches a man to be bad out of necessity. Or by considering fighting prowess? But who can face the enemies' spear and prove a witness of which man is brave? It is best to accept that this is all haphazard and to let it alone.[128]

Long removed from Euripides, Orestes's touchstone has been found. In connecting human intelligence with machine intelligence, the greatest AI system and largest search engine in the world is *Google*.[129]

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[127] J. R. R. Tolkien's analogy of the Eye of Sauron is not necessarily fictitious: "But suddenly the Mirror went altogether dark, as dark as if a hole had opened in the world of sight, and Frodo looked into emptiness. In the black abyss there appeared a single Eye that slowly grew, until it filled nearly all the Mirror. So terrible was it that Frodo stood rooted, unable to cry out or to withdraw his gaze. The eye was rimmed with fire, but was itself glazed, yellow as a cat's, watchful and intent, and the black slit of its pupil opened on a pit, a window into nothing. Then the Eye began to rove, searching this way and that; and Frodo knew with certainty and horror that among the many things that it sought he himself was one. But he also knew that it could not see him-not yet, not unless he willed it." J. R. R. Tolkien, *The Fellowship of the Ring*, vol. 1 of The *Lord of the Rings* (London: Harper Collins, 1994), 364.

[128] Euripides, *Media and Other Plays*, ed. and trans. James Morwood, OWC (Oxford: Oxford University Press, 2008), 91-92.

[129] Bostrom, *Superintelligence*, 19.

The *OED* derives the word "google" from the older word "goggle." Curiously, the term "to goggle" inherently carries the connotation of vision, but more specifically to "turn the eyes to one side or other, to look obliquely, to squint; also *to goggle with the eyes* and *to goggle at (a thing)*. In later use, to look with widely opened, unsteady eyes: to roll the eyes about." The goggling of the eyes is currently an expression of looking about for our daily inquiries, but the outward glare will change when machine intelligence is capable of looking inward—when machine intelligences like Google are able to goggle and observe *all* individual and collective thought. At this point, Google or any other successful competitor will become an all-encompassing *eye* capable of capturing an algorithmic signature based upon the genesis of individual thought, one's real and virtual life, recording every salient detail for an algorithmic and digital replica of that person.[130]

The collective intelligence of this kind of surveillance combined with the uploading of individual and collective intelligence will create a substrate for a centralized artificial intelligence to exercise a false power of *artificial omniscience*.[131] While any kind of expansion on this topic could fill a dissertation, the increasing power of this intelligence will lead to Kurzweil's Singularity event and the unification of all human and machine intelligence. At this point, the restraint at Babel will be either *transcended* completely or close thereto, and the City of Man will enter a state of development enacting the words of the Trinity that "this is only the beginning of what they will do. And nothing that they propose to do will now be impossible for them" (Gen 11:6).

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[130] Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Harper Perennial, 2018), 341-46. Like the ultimate dictator, Harari expands on what Google will do for humanity in the future: "Google could do far more. Imagine a system that, in the words of the famous Police song, watches every breath you take, every move you make and every bond you break; a system that monitors your bank account and your heartbeat, your sugar levels and your sexual escapades. It will definitely know you much better than you know yourself. . . . Google will advise us which movie to see, where to go on holiday, what to study in college, which job offer to accept, and even whom to date and marry. . . . [For any question we may have] Google will answer: 'Well, I've known you from the day you were born. I have read all your emails, recorded all your phone calls, and know your favorite films, your DNA and the entire biometric history of your heart. I have exact data about each date you went on, and if you want, I can show you second-by-second graphs of your heart rate" (341-42).

[131] Williams, "Omni-synergy and the Singularity," 242.

Kurzweil writes, "The Singularity will allow us to transcend these limitations of our biological bodies and brains. We will gain power over our fates. Our mortality will be in our own hands. We will be able to live as long as we want."[132] Kurzweil's vision for the Singularity offers a conceptual path toward the imaginative supposal of Plant's vision when "a new day will dawn, for those who stand long, and the Piper will lead us to reason." In the Singularity event, all of humanity's inductive and deductive rationality will feed an enormous "tree of the knowledge of good and evil," enabling human and machine intelligence to become as close to God as one might imagine—a veritable *Beast*.[133]

Moreover, from a Christian worldview, every human being is not merely an embodied consciousness but a unified dual-substance being that is known by God (Ps 139).[134] For those individuals who are *in* Christ and are indwelt by the Holy Spirit (Rom 8:1-17), God knows them and communes with them from within. Paul writes in 1 Corinthians 2:6-16,

> Yet among the mature we do impart wisdom although it is not a wisdom of this age or of the rulers of this age, who are doomed to pass away. But we impart a secret and hidden wisdom of God, which God decreed before the ages for our glory. None of the rulers of this age understood this, for if they had, they would not have crucified the Lord of glory. But, as it is written, "What no eye has seen, nor ear

[132] Kurzweil, *The Singularity is Near*, 9. Kurzweil writes, "The Singularity will represent the culmination of the merger of our biological thinking and existence with our technology. . . [and where] there will be no distinction, post-Singularity, between human and machine or between physical and virtual reality" (*The Singularity Is Near*, 9). In Lewis's thriller he predicts a future time in Western culture where an international organization called the NICE (National Institute for Coordinated Experiments) envisions a future not at all different from Kurzweil's. In a conversation between the protagonist, Ransom, and his leadership circle at St. Anne's, the group assesses the same kind of logic as Kurzweil's in those seeking to establish a global technocracy: "'It tells us something in the long run even more important,' said the Director. 'It means that if this technique is really successful, the Belbury people have for all practical purposes discovered a way of making themselves immortal.' There was a moment's silence, and then he continued: 'It is the beginning of what is really a new species—the Chosen Heads who never die. They will call it the next step in evolution. And henceforward, all the creatures that you and I call human are mere candidates for admission to the new species or else its slaves—perhaps its food.' 'The emergence of the Bodiless Men!'" Lewis, *That Hideous Strength*, 532-33.

[133] While the algorithmic base is bound within the constructs of a collective human intelligence, machine intelligence will increasingly have the potential to depart from human intelligence as a new and free entity in its own right.

[134] Justin E. H. Smith, *Embodiment: A History*, Oxford Philosophical Concepts (Oxford: Oxford University Press, 2017), 89.

> heard, nor the heart of man imagined, what God has prepared for those who love him"—these things God has revealed to us through the Spirit. For the Spirit searches everything, even the depths of God. For who knows a person's thoughts except the spirit of that person, which is in him? So also no one comprehends the thoughts of God except the Spirit of God. Now we have received not the spirit of the world, but the Spirit who is from God, that we might understand the things freely given us by God. And we impart this in words not taught by the Spirit, interpreting spiritual truths to those who are spiritual. The natural person does not accept the things of the Spirit of God, for they are folly to him, and he is not able to understand them because they are spiritually discerned. The spiritual person judges all things, but is himself to be judged by no one. For who has understood the mind of the Lord so as to instruct him? But we have the mind of Christ.

As such, if Kurzweil's transhuman vision comes to pass, this internal eye, a third party, will enter in and observe the communion between God and his creatures using the corporeal vessel's neural synapses as a signal monitor. Nanobots will be able to watch the patterns of the brain in the genesis of thought and one's communion with God—the *true touchstone* between the soul and the mind—an individual and collective reach into eternity from inside every believer in Jesus Christ.[135]

Furthermore, would not this connection enable technocrats to highjack the entirety of human thought and use *humanity* as a simulation? In his work *How to Create a Mind*, Kurzweil discusses the importance of establishing multiple generations of simulated evolution. In this scenario, a computer simulation replicates the model of Darwinian evolution in generating unpredictable factors that would not otherwise be possible due to the human tendency to import patterns into algorithms. He writes, "The key to a genetic algorithm is that the human designers don't directly program a solution; rather, we let one emerge through an iterative process of simulated competition and improvement."[136] Building on this model, hypothetically, would not the navigation of every digitally-enhanced human, essentially reading all the intents and thoughts of the heart along with every sensory and motor control signal to and from the brain and body as each individual interacts with their environment, turn the corporeal reality *itself*—a

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[135] Williams, "Omni-synergy and the Singularity," 242.

[136] Kurzweil, *How to Create a Mind*, 148.

vastly more complex reality than a human generated simulation—into a simulation? In such a world, while an immersive virtual reality would create the perfect surveillance state, I posit that the brain-computer interface, once perfected, would open a doorway into turning *reality itself* into a data gathering juggernaut and simulation.

Post-Biological Bodies and the Resurrection

One of the most esteemed intellectual circles formed at Oxford during the twentieth century was a group of scholars known as the Oxford Inklings. Comprised of scholars including J. R. R. Tolkien, C. S. Lewis, Owen Barfield, and Charles Williams, among many others, the Inklings were known for their powers of writing works of mythology that would have an enormous impact on Western thought.[137] When one considers the successes of *The Lord of The Rings* or *The Chronicles of Narnia*, works which have only expanded their influence over the last 75 years,[138] one can conclude that the Inkling's vision for influence has largely succeeded.[139] However, another work, and one that, if Inkling members Roger Lancelyn Green and Walter Hooper are correct, may yet be "rediscovered and reinstated, perhaps higher than anyone expects, in some future shake-up of the kaleidoscope of literature," is found in C. S. Lewis's *The Space Trilogy*,[140] a literary work that demonstrates the power of human vision and an example of Kurzweil's "what-if" experiments.[141] This trilogy focuses on a professor named Elwin

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[137] C. S. Lewis, *Perelandra*, vol. 2 of *The Space Trilogy*, Anniversary Collector's ed. (London: Harper Collins, 2013), 271; Williams, "The Flame of the West."

[138] Time, "The 100 Best Fantasy Books of All Time," accessed October 20, 2023, http://time.com/collection/100-best-fantasy-books/. Both Lewis and Tolkien ranked among the likes of Thomas Mallory, Lewis Carroll, and Edith Nesbit.

[139] Owen Barfield, *Night Operation* (London: Barfield Press, 2009), 64-65.

[140] Roger Lancelyn Green and Walter Hooper, *C. S. Lewis: A Biography* (New York: Harcourt Brace Jovanovich, 1974), 11.

[141] Referring to the supremacy of the human intellect, Kurzweil writes, "Humans are also capable of learning new knowledge by applying insights and inferring principles from experience, including information gathered through language. A key capability of human intelligence is the ability to create mental models of reality and to conduct mental 'what-if' experiments by varying aspects of these models." Kurzweil, *The Singularity Is Near*, 26.

Ransom who is carried through a cosmic adventure entailing space travel, devilry, and a global rebellion reminiscent of the tower of Babel.[142] Moreover, this trilogy navigates one of the central questions of this dissertation: Could a naturalistic promise of eternal life ultimately challenge the doctrine of the resurrection?

In *That Hideous Strength*, a scientific community under the banner of the NICE (National Institute for Coordinated Experiments)[143] forms a global agenda to govern the world—"the government of the planet."[144] In anticipation of a coming age in which technology enables humanity to cast off the limiting effects of human suffering, disease, and death by overthrowing the restraints of biological evolution, the leaders of the NICE set out to create "the artificial man"[145] and establish a new race of humanity enveloped by pure technocracy.[146] Moreover, this technocratic governing body plans to liquidate a large portion of the population that had become dead weight to the planet—the *canaglia*.[147] Having found a way to sustain the necessary fluids, nutrition, and oxygen

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[142] Lewis gives the meaning behind Ransom's name: "He knew it for a very curious reason-because he had known for many years that his surname was derived not from *ransom* but from *Ranolf's son*. It would never have occurred to him thus to associate the two words. To connect the name Ransom with the act of ransoming . . . to human philologists, a mere accidental resemblance of two sounds, was in truth no accident." Lewis, *Perelandra*, 274. Lewis defines Elwin: "His very name is Elwin, the friend of the *eldila* [angels]" (*Perelandra*, 317).

[143] Lewis describes the NICE as the first fruits of that constructive fusion between the state and the laboratory.

[144] Lewis, *That Hideous Strength*, 581

[145] Lewis, *That Hideous Strength*, 513.

[146] Lewis, *That Hideous Strength*, 593. The NICE envisions a future where physical sex is removed so that the race becomes "governable." Modeled after another race, sex will transpire through a non-physical medium, and human reproduction is entirely controlled in a lab. With similar logic, Ehrlich writes, "Sex is not simply an act leading to the production of offspring. It is a varied and complex cultural phenomenon penetrating into all aspects of our lives—one involving our self-esteem, our choice of friends, cars, and leaders. It is tightly interwoven with our mythologies and history. . . . our urge to reproduce is hopelessly entwined with most of our other urges." Ehrlich, *The Population Bomb*, 31.

[147] Lewis, *That Hideous Strength*, 593. Lewis writes, "A few centuries ago, war did not operate in the way you describe. A large agricultural population was essential; and war destroyed types which were then still useful. But every advance in industry and agriculture reduces the number of work-people who are required. A large, unintelligent population is now becoming deadweight. The real importance of scientific war is that scientists have to be reserved. . . . The effect of modern war is to eliminate retrogressive types, while sparing the technocracy and increasing its hold upon public affairs. In the new age, what has hitherto been merely the intellectual nucleus of the race is to become, by gradual stages, the race itself" (593).

levels of the human brain, the NICE had finally found a way to preserve the human brain without a body. Having successfully preserved the mind in the absence of a body, its leading members envision a future in which vats of brains could be harvested so that race would finally cast off the restraints of the bodily instincts that divide the race and the need for sustaining organic life—a future in which a new race of Masters emerge as the conquerors of space and time.[148] Speaking about the true aim of the institute, leading scientist Filostrato enlightens redemptive protagonist Mark Studdock about the true aims of their work: "The Head [the first artificial man] has many sources of information. For the moment, I speak only to inspire you. I speak that you may know what can be done: what shall be done here. This Institute—*Dio meo*; it is for something better than housing and vaccinations and faster trains and curing the people of cancer. It is for the conquest of death."[149] Broadening his vision, Filostrato illustrates the eventual unification of intelligence into one embodied being:

> It is the beginning of all power. He lives forever. The giant time is conquered. And the giant space—he was already conquered too. One of our company has already travelled in space [referring to Weston from *Out of the Silent Planet* and *Perelandra*]. True, he was betrayed and murdered and his manuscripts are imperfect: we have not yet been able to reconstruct his space-ship. But that will come. "It is the beginning of Man Immortal and Man Ubiquitous," said Straik. "Man on the throne of the universe. It is what all the prophecies really meant." "At first, of course," said Filostrato, "the power will be confined to a number—a small number—of individual men. Those who are selected for eternal life." "And you mean," said Mark, "it will then be extended to all men?" "No," said Filostrato. "I mean it will then be reduced to one man. You are not a fool, are you, my young friend? All that talk about the power of Man over Nature—Man in the abstract—is

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[148] Lewis, *That Hideous Strength*, 509. NICE scientist Filostrato comments, "In us organic life has produced Mind. It has done its work. After that we want no more of it. We do not want the world any longer furred over with organic life, like what you call the blue mould—all sprouting and budding and breeding and decaying. We must get rid of it. By little and little, of course. Slowly we learn how. Learn to make our brains live with less and less body: learn to build our bodies directly with chemicals, no longer have to stuff them full of dead brutes and weeds. Learn how to reproduce ourselves without copulation" (509).

[149] Lewis, *That Hideous Strength*, 512. Referring to another race who had succeeded in removing earth's dependence upon organic life, Filostrato says, "They do not need to be born and breed and die; only their common people, their *canaglia*, do that. The Masters live on. They retain their intelligence: they can keep it artificially alive after the organic body has been dispensed with—a miracle of applied biochemistry. They do not need organic food. You understand? They are almost free of Nature, attached to her only by the thinnest, finest cord" (512).

> only for the *canaglia*. You know as well as I do that Man's power over Nature means the power of some men over the other men with Nature as the instrument. There is no such thing as Man—it is a word. There are only men. No! It is not Man who will be omnipotent, it is some one man, some immortal man."[150]

In the form of a powerful story, Lewis's trilogy offers an unmistakable similarity to the Kurzweilian vision of the events that will unfold out of the technological Singularity.

Eternal Life: Our Shadows Taller Than Our Souls

Once the individual brain is *captured* and both human and machine intelligences find a symbiotic interface to communicate, interacting between reality and virtual reality without distinction, combined with a rapidly expanding DTR gathered through an incomprehensible surveillance system (Orestes's Touchstone), the Singularity will occur and fully establish the fifth Epoch.[151] Theoretically, after the Singularity, technological evolution will progress at rates previously unfathomable, offering a vision for human transcendence over *all* finite limitations. Kurzweil asks, "What would 1,000 scientists, each 1,000 times more intelligent than contemporary humans (because the information processing in their primarily nonbiological brains is faster) accomplish?"[152] Kurzweil suggests that the Singularity will enable Nobel Prize breakthroughs on a daily basis, if not faster. Language itself will evolve into new mediums. Nanobot foglets will provide an endless construct of material innovation and manipulation.[153] For Kurzweil, the post-Singularity world will "represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but

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[150] Lewis, *That Hideous Strength*, 514.

[151] Kurzweil, *The Singularity Is Near*, 20-21.

[152] Kurzweil, *The Singularity Is Near*, 24.

[153] Kurzweil, *The Singularity Is Near*, 506n.

that transcends our biological roots. There will be no distinction post-Singularity, between human and machine or between physical and virtual reality."[154]

At this point, Kurzweil predicts that *reality* as we know it will go through its own rabbit hole into Wonderland.[155] In his book *Danielle*, he offers an imaginative supposal following the initial twenty-two years of the first transhuman girl, Danielle, who is *born* into the world through a biological female.[156] A child capable of discussing the deeper meanings behind the characters in Lewis Carroll's *Alice in Wonderland* by the age of two.[157] One who, by the age of five, can compare the extradition of illegal immigrants out of the United States to South African apartheid.[158] But, most significantly, a child who at age ten meets with a Rabbi Schneerson in Brooklyn, New York, where she and "the Rebbe" discuss the most important aspect to the whole book, the coming of the Jewish "Moshiach."

As the two discuss the coming of the Moshiach, the Rebbe says to Danielle, "The Moshiach has not yet appeared, but yes, he surely will do that when he assumes his role."[159] In a fascinating response, Danielle hints at the probability that the increase in information wrought through Adam and Eve's eating of the tree of the knowledge of good and evil would eventually lead to the coming of the Messiah on earth: "Danielle continued . . . So from this day forward, we establish the transcendence of words over material objects. Words symbolize ideas that humans can share with each other, even if

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[154] Kurzweil, *The Singularity Is Near*, 9.

[155] Ray Kurzweil, *Danielle: Chronicles of a Superheroine and How You Can Be a Danielle* (Colorado Springs: WordFire Press, 2019), 12.

[156] Kurzweil, *Danielle*, 7. Kurzweil's feminine use of the name of the prophet Daniel is not without intent.

[157] Kurzweil, *Danielle*, 12.

[158] Kurzweil, *Danielle*, 33.

[159] Kurzweil, *Danielle*, 118.

these thoughts derive from'. . . .[160] 'It started with the apple,' Danielle observed. 'The fruit of knowledge which gave us understanding and responsibility.'"[161] After hours of dialogue in Talmudic metaphors, and in similar fashion to Jesus's meeting with the teachers at the temple when he was twelve years old, where "all who heard him were amazed at his understanding and his answers" (Luke 2:47), Kurzweil ends the conversation between Danielle and the Rebbe with the Rabbi's concluding thoughts about her: "'This is a sacred and wise child'. . . . 'We should follow closely what she has to say.'"[162]

However, lest one understand Kurzweil's sacred analogy to be referring to Danielle's wisdom as a gift from God, what he is suggesting is that she is the first transhuman who embodies that greatest spiritual expression of human transcendence.[163] In *The Singularity Is Near*, he writes: "'To transcend' means 'to go beyond,' but this need not compel us to adopt an ornate dualist view that regards transcendent levels of reality (such as the spiritual level) to be not of this world. We can 'go beyond' the 'ordinary' powers of the material world through the power of patterns."[164]

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[160] In Jewish culture it is common not to pronounce the name of God, a custom referred to as "the ineffable name." The diabolic nature of what Kurzweil is writing is in the undergirding reality that he does not believe in God. For Kurzweil, he sees "himself" as the mind that will set powers in motion that will create "god." He is attributing the ineffable name to some human being who will enable transhumanism through AI.

[161] Kurzweil, *Danielle*, 118. From Kurzweil's perspective, the transgression of Adam and Eve is a pathway to illumination, though the Rebbe corrects Danielle in reminding her that it also brought shame. Danielle is emphasizing the importance of maximizing human intelligence over material objects.

[162] Kurzweil, *Danielle*, 118. For Kurzweil, the concept of sacred does not involve the idea that God is going to send the Messiah. He believes that man will create the Messiah. As discussed, Kurzweil's concept of spirituality is rooted in expanded consciousness. As such, Danielle's sacredness is rooted in her supreme consciousness.

[163] Kurzweil, *The Singularity Is Near*, 376-82. Kurzweil argues that it is impossible to accurately gauge human consciousness, "there is no objective test that can conclusively determine its presence" (378). There is no objective standard sufficient to penetrate the complexity of a person's subjective experience. While Kurzweil believes that our perception of consciousness itself is an assumption, he argues that the idea of human transcendence is the most spiritual element of reality.

[164] Kurzweil, *The Singularity Is Near*, 388.

From a worldview that rejects the City of God for the City of Man, Danielle *is* the messiah coming to help humanity transcend its social ills and roadblocks to eternal life. Soon after her meeting with the Rebbe in New York, Danielle has the King of Saudi Arabia professing to be a "Daniellite,"[165] and then asks her to become his special royal advisor—in similar fashion to the historical role of the prophet Daniel (Dan 1:17; 2:18, 28, 48; 4:8; 5:11; 5:14; 6:2, 26; 9:20-23; 10:1; 12:4, 10). Curiously, in 2016, Mohammed bin Salman, then the deputy crown prince of Saudi Arabia, invested $45 billion dollars in Softbank CEO Masayoshi Son's mega-fund, called the "Vision Fund," "that is driven by his belief in the 'Singularity'—Ray Kurzweil's idea that developments in AI will lead to unprecedented technological growth and unfathomable changes for civilization."[166] Peter Diamandis and Steven Kotler further note that Son's Vision Fund also drew investors like "Apple, Foxconn, and Qualcomm joined in. And that only brings us to today. According to Son, the $100 billion Vision Fund is just 'the first step.' He's already announced. . . . Vision Funds 2, 3, and 4 will be established every two to three years. . . to increase our funding ability from 10 trillion yen to 20 trillion yen to 100 trillion yen."[167]

Danielle soon receives the Nobel Peace Prize for negotiating peace between Israel and Palestine;[168] she wins a Nobel Prize for her cure for cancer;[169] she negotiates peace between the Han people of China with Tibet;[170] and she discovers new multi-

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[165] Kurzweil, *Danielle*, 123; Kurzweil, *The Singularity Is Near*, 370. As a substitute for those who have lost faith in "traditional objects of religious beliefs," Kurzweil describes his religion as one of understanding addressing the "nature of mortality and immortality, the purpose of our lives, and intelligence in the universe" (*The Singularity Is Near*, 370). He describes himself and those who follow his vision as, "Singulatarians"—the correlate of the fictional "Daniellite" (*Danielle*, 123).

[166] Diamandis and Kotler, *The Future Is Faster Than You Think*, 76.

[167] Diamandis and Kotler, *The Future Is Faster Than You Think*; SoftBank Vision Fund, "SharedVision, Amplified Ambition," accessed on November 3, 2023, https://visionfund.com.

[168] Kurzweil, *Danielle*, 138.

[169] Kurzweil, *Danielle*, 157.

[170] Kurzweil, *Danielle*, 172.

dimensional fields in quantum mechanics at the particle accelerator at CERN.[171] Finally, before the age of twenty-two, she is elected as the chairperson of the Communist Party of China,[172] wins several Grammy awards for her musical abilities,[173] is elected President of the United States,[174] and has Vladimir Putin serve her twenty-first birthday cake in the Oval Office.[175] While Kurzweil goes to great lengths about his disbelief in God and is antagonistic toward the City of God, his vision for a Danielle-like messiah is deeply biblical. This is a messiah fit for the City of Man.[176] In a 2018 interview, Kurzweil was asked whether there was a question he had never before been asked but wished he had been asked. In response, Kurzweil evoked the most purposeful question of all: "Why are we here and why are we who we are?" After partly joking that he wished he could have been a female rock star (curiously enough, in 2001, he sang the song "White Rabbit" at a TED XI conference as a female rock star through a digital projection[177]), he concluded his question with a confession regarding *Danielle*: "I have a novel coming out, which kind of embodies my vision of who I would like to be."[178] In a revelatory moment before the world, Ray Kurzweil shared his aspiration to be a human messiah whose technologies bring world peace, cast off the shackles of human suffering, war, and death, and ushers in

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[171] Kurzweil, *Danielle*, 174-75.

[172] Kurzweil, *Danielle*, 197.

[173] Kurzweil, *Danielle*, 204.

[174] Kurzweil, *Danielle*, 221.

[175] Kurzweil, *Danielle*, 243.

[176] Kurzweil, *Danielle*, 138. In a concluding conversation between Danielle and the Rebbe, after Danielle brings peace to the Middle East the Rebbe and her reunite: "'People were surprised to see you,' Danielle told him. 'Yes, it is true that I said I wouldn't come to the Holy Land until we could proclaim certain destined events, but the Talmud teaches us that we must always give ultimate priority to alleviating the suffering among us. I saw an opportunity to contribute to a more welcoming world for the Moshiach's arrival'" (*Danielle*, 138).

[177] The Kurzweil Library + Collections, "Making the Avatar Ramona," January 1, 2001, https://www.lifetimeofinnovation.com/making-the-avatar-ramona. See part 2, featuring Kurzweil's alter ego, "Ramona," and her band performing "White Rabbit" (2:27).

[178] Ray Kurzweil, "The Future Grows Exponentially Better," April 21, 2020, YouTube video, 17:45, https://www.youtube.com/watch?v=wkY_1Y7edhU.

a transcendent future where humanity is no longer restrained by time and space—a future where our shadows grow taller than our souls.

On the basis of his argument that human consciousness is an assumption, Kurzweil sees a human being fundamentally as a "pattern of matter and energy that persists over time."[179] Since the human body is shedding and regenerating itself at the molecular level all the time—even one's neurons change their own molecules each month—a person may appear to be the same person on a macro-level, but on a micro-level, they are always changing and different. From this perspective, Kurzweil concludes that every human being is ultimately a spatial and temporal pattern of matter and energy constantly being replaced "by someone else who just seems a lot like the me of a few moments earlier."[180] Working within the constraints of time and space, death halts this pattern. In time, from a physical construct, DNA sequencing will enable the creation of a post-biological replica of a person's "pattern of matter and energy." While the Singularity may enable technologies to sustain biological life indefinitely, initially, a post-biological body will eliminate biological death and the constraints of time—the gateway to overcoming the limiting factor of space travel and the bounding factor of the speed of light (also the key to constraints of space).

As for scanning human consciousness, the Singularity will allow for the uploading of the human brain based upon the increasing ability to accurately scan an individual mind into a personal "mind file."[181] In a post-Singularity scenario, this pattern-recognizing process will be so precise that technology will enable machine intelligence to capture in algorithmic form an individual's "seat of personalness."[182] Drawing from a

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[179] Kurzweil, *The Singularity Is Near*, 383.

[180] Kurzweil, *The Singularity Is Near*, 385.

[181] Kurzweil, *The Singularity Is Near*, 389.

[182] Kurzweil, *The Singularity Is Near*, 388. Kurzweil writes, "Another connotation of the word 'spiritual' is 'containing spirit,' which is to say being conscious. Consciousness—the seat of 'personalness'—is regarded as what is real in many philosophical and religious traditions" (388).

Buddhist ontology, Kurzweil ascribes an individual's "subjective—conscious—experience as the ultimate reality, rather than physical or objective phenomena, which [in Buddhism] are considered *maya* (illusion)."[183]

After having achieved the ability to replicate both the body and an individual's seat of personalness, Kurzweil entertains the idea of how one might respond to such a *copy*: "If you do the thought experiment, it's clear that the copy may look and act just like me, but it's nonetheless *not* me. I may not even know that he was created. Although he would have all my memories and recall having been me, from the point in time of his creation Ray 2 would have his own unique experiences, and his reality would diverge from mine."[184] Kurzweil then poses the scenario that if one destroyed the original Ray, while the "real" Ray will no longer exist, the copy, Ray 2, will carry on with no one being the wiser. Ray 2 will be just as much Ray as the original Ray. Kurzweil then argues that if the original Ray is nothing more than a persisting pattern of matter and energy with an accurate algorithmic mind file, then is there really any difference? He writes,

> Consider replacing a tiny portion of my brain with its neuromorphic equivalent. Okay, I'm still here: the operation was successful (incidentally, nanobots will eventually do this without surgery). We know people like this already, such as those with cochlear implants, implants for Parkinson's disease, and others. Now replace another portion of my brain: okay, I'm still here . . . and again. . . . At the end of the process, I'm still myself. There never was an "old Ray" and a "new Ray." I'm the same as I was before. No one ever missed me, including me. The gradual replacement of Ray results in Ray, so consciousness and identity appear to have been preserved. . . . as I pointed out at the beginning of this question, I am in fact being continually replaced as part of a normal biological process. (And, by the way, that process is not particularly gradual but rather rapid.) As we concluded, all that persists is my spatial and temporal pattern of matter and energy. But the thought experiment above shows that gradual replacement means the end of me even if my pattern is preserved. So am I constantly being replaced by someone else who just seems a lot like the me of a few moments earlier?[185]

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[183] Kurzweil, *The Singularity Is Near*, 388.

[184] Kurzweil, *The Singularity Is Near*, 384.

[185] Kurzweil, *The Singularity is Near*, 384-85.

When combining the concept of humanity symbiotically attaching itself to a veritable *tree of the knowledge of good and evil*, such that the transcendence of human consciousness overcomes the limiting factors of biological death, a false restoration of *the tree of life*, Kurzweil concludes that human and machine intelligence will be ready for their ultimate destiny. Humanity will breathe life into the dust of the cosmos, and god himself will wake up, ready to raise them into the heavens—the ultimate tower of Babel, and a new *Eden*.

Christ Conquers the Grave: The Dawn of the Bright Shadow

After Satan had successfully deceived Adam and Eve into rebelling against the Trinity, God immediately placed a curse on the devil while offering hope to the seed of the woman: "I will put enmity between you and the woman, and between your offspring and her offspring; he shall bruise your head, and you shall bruise his heel" (Gen 3:15).[186] Referred to as the *protoevangelium*, the first gospel, from the beginning, God declared that there would be enmity and struggle between the City of Man and the City of God. While the seed of the woman progressed to Abraham and then through God's covenant with Abraham (12:3) through Isaac (26:4) and Jacob (28:14), and through Jacob, Israel, and ultimately in Jesus Christ (Luke 2:10-11), in the absence of any reference to Adam in the prophecy itself, the protoevangelium was a direct prophecy of the virgin birth (Isa 7:14).[187] While the incarnation and life of Jesus communicated God's love for humanity in perfect form (John 3:16; 1 Cor 13; Heb 1:1-3), the protoevangelium prophesied the coming of a conflict that would grow throughout time toward a battle where God would deal with human sin once and for all and ultimately to a final cataclysm when Christ will

[186] Thomas R. Schreiner, *New Testament Theology: Magnifying God in Christ* (Grand Rapids: Baker Academic, 2008), 24.

[187] Schreiner, *New Testament Theology*, 41, 675.

return to judge the living and the dead (2 Tim 4:1) and do away with all rebellion (Rev 19:19-21).[188]

Regarding His conquering human sin and death, securing humanity's future hope of resurrection, the eternal Son of God (John 3:31), the divine *Logos* (the architect and substrate of all reality) and source of all information (John 1:1-4, 14; Col 1:16-17), descended from the highest place (John 3:31) and entered into space and time in the form of a human child (Luke 2:11).[189] Coming into the world ultimately to die as a faithful substitute for human sin, He remained faithful to the Father's will where Adam and Eve failed (Rom 5:12-21).[190] In Jesus's death, burial, and resurrection, *this* child from the seed of the woman crushed the serpent's head by willfully offering up His own humanity for sin to Himself, as the Son of God, as well as to the Father and the Holy Spirit.[191] The merit of so great a work, received by the Father, effectually and eternally reversed the curse upon humanity, opening the doorway to life above the sun and the true place of *permanence* (Heb 9:24-27).[192] By Christ's having accomplished so great a work and having triumphed so completely, in response, the serpent could only inflict a small wound upon his conqueror in biting His heel. Jesus tasted the bitterness of the wrath of God on sin (Isa 51:21-22; Matt 26:42); He suffered the curse in His physical suffering (Ps 22; Isa 52:13-15), rejection (Luke 22:47-62; 23:1-5, 6-17, 18-25), and an excruciating death (John 19:31-37); and He identified with humanity to the extent that He was crowned with a crown of thorns (God's curse on the earth in Genesis 3:17-18). However,

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[188] Augustine, *The City of God*, 976-77.

[189] Lennox, *2084*, 116-18.

[190] John Murray, *Redemption Accomplished and Applied* (Grand Rapids: Wm. B. Eerdmans, 1955), 30.

[191] Anselm, *Anselm of Canterbury: The Major Works*, ed. Brian Davies, trans. G. R. Evans, OWC (Oxford: Oxford University Press, 2008), 351-52.

[192] See introduction to chapter 3 in this dissertation.

the devil's rage against Him would only be of a momentary nature (he could only bruise His heel).

Three days later, in the most glorious daybreak in recorded history, in true Homerian parlance, *the* day "when dawn [*came*] early with rosy fingers"—a dawn like the first dawn, when everything was new (Matt 28:1)—Jesus, the true Messiah, walked out of His tomb in an *eternal physical body*, a new Principium human form, as the first fruits of the resurrection (1 Cor 15:23).[193] He became the *bright shadow* cast forth out of the darkness of death's great abyss (Col 1:18; 1 Pet 4:6; Eph 4:9).[194] Having done what no other human in history had done in living a life without sin, without breaking the law, Jesus took upon Himself the sins of the world (John 3:36) in an exchange for His own righteousness as a perfect substitute (2 Cor 5:21).[195] Whereas it was humanity's greatest image-bearing expression in stewarding their dominion by participating in the goodness of the Trinity in the original creation, living out the goodness of the Godhead in spite of human rebellion, and in proving to be exceedingly good, the Trinity participated in humanity's sufferings in order to admit Adam's race back into an even higher synergistic goodness.[196] Through Christ, humanity became a race threaded into time and space, destined to experience the love of God through the eternal Son as those deemed worthy

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[193] Jesus is the first fruits of the resurrection. After the rebellion of humanity and Antichrist, the great resurrection that Daniel spoke of will occur: "At that time shall arise Michael, the great prince who has charge of your people. And there shall be a time of trouble, such as never has been since there was a nation till that time. But at that time your people shall be delivered, everyone whose name shall be found written in the book. And many of those who sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt. And those who are wise shall shine like the brightness of the sky above; and those who turn many to righteousness, like the stars forever and ever" (Dan 12:1-3).

[194] Regarding Plato and the resurrection, Augustine writes, "Plato said that souls cannot exist eternally without bodies. It is for this reason, he said, that the souls even of the wise must return to bodies, even if after a considerable time." Augustine, *The City of God*, 1169.

[195] Stephen Wellum, *Christ Alone: The Uniqueness of Jesus as Savior*, 5 Solas Series (Grand Rapids: Harper Collins, 2017), 264.

[196] Luther, *The Bondage of the Will*, 296. As discussed in chapter 3 of this dissertation, the original participation of humanity in the goodness of God was an expression of highest worship in humanity's image-bearing faculties. The fall corrupted the intent of these actions to become a symbol of human worth apart from worship.

of His own ultimate sufferings.[197] In punishing the Son for the sins of humanity, God remained just—His grace was costly (Rom 3:26).[198] As the *only* Being who is good in His simple nature, merely to overlook evil would have compromised His own good character. At the same time, while remaining just, in becoming the sacrifice that would bare His own wrath on human sin, God expressed His love for the world by entering a human form and receiving unto Himself the just punishment that was their due (John 3:16).[199] In so doing, the Trinity made a way to fulfill the protoevangelium so that He Himself would save humanity, and in His justice and love, "show His righteousness at the present time, so that he might be just and the justifier of the one who has faith in Jesus (Rom 3:26)."[200] Responding to the completed work of Christ our Savior, Anselm pondered the majesty of the Trinitarian goodness:

> Now, the mercy of God which, when we were considering the justice of God and the sin of mankind, seemed to you to be dead, we have found to be so great, and so consonant with justice, that a greater and juster mercy cannot be imagined. What, indeed, can be conceived of more merciful than that God the Father should say to the sinner condemned to eternal torments and lacking any means of redeeming himself, "Take my only-begotten Son and give him on your behalf," and that the Son himself should say [to the bankrupt sinner], "Take me and redeem yourself." For it is something of this sort that they say when they call us and draw us towards the Christian faith. What also could be juster than that the one to whom is given a reward greater than any debt should absolve all debt, if it is presented with the feeling that is due?[201]

Triumphant over the powers of sin, death, and the devil, Christ Jesus has now ascended to the right hand of God the Father as both the Son of Man (Dan 7:13-14) and the Son of God (Phil 2:9-11).[202] One day, after His commission to proclaim the

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[197] Augustine, *The City of God*, 1109.

[198] Dietrich Bonhoeffer, *The Cost of Discipleship* (New York: Simon and Schuster, 1995), 43.

[199] John Stott, *The Cross of Christ* (Downers Grove, IL: InterVarsity Press, 2006), 210.

[200] Wellum, *Christ Alone*, 208-9.

[201] Anselm, *Anselm of Canterbury*, 354.

[202] J. I. Packer, *Evangelism and the Sovereignty of God* (Downers Grove, IL: InterVarsity Press, 1961), 64-65.

fulfillment of the protoevangelium has been declared throughout the earth (Matt 28:18-20), that His death, burial, and resurrection satisfied the wrath of God on sin for every soul who receives this grace *by faith* (Rom 3:26; Eph 2:8; 1 Pet 1:5), Christ will return as the conquering King to do away with the devil, human rebellion, and the corruption of the earth (Rev 20:11-15).[203] But even more, He will return to save all of those who had received His forgiveness accomplished on the cross as a free gift and who longed for His appearing (2 Tim 4:8) and rejoin earth into the glory of deep heaven (Eph 1:7-10)—forever restoring humanity to a good and harmonious synergy with the Trinity, the angelic host, and the heavens in the eternal City of God (Rev 19–22).[204]

The Great Awakening

While Christ has already triumphed over Satan (John 12:30-32; Col 2:14-15; Heb 2:14-18), sinful humanity can now be saved from the devil's power to accuse them before God for their own personal sin (Rom 3:23-31; Eph 2:1-10). The evil one knows that his remaining authority and time on the earth is short (Rev 12:12). In Christ's first advent, He destroyed the devil's power to leverage God's law against human sin—Satan's character finds its truest quality in the role of the self-righteous Pharisee.[205] He is the ultimate rebel (Matt 4:9), yet in an irony of ironies he is aptly named the *accuser* (Rev 12:10) since his true nature is that of the *tattler* more than the flaming stage performer at the Grammys (Zech 3:1-2).[206] However, because God punished Christ for human sin (Isa

[203] Luther, *The Bondage of the Will*, 302-5.

[204] Williams, "Omni-synergy and the Singularity." In this article, I substantiate the concept of this future unity as a state of "Omni-synergy" between heaven and earth.

[205] Bonhoeffer, *The Cost of Discipleship*, 123.

[206] The name "Satan" means "the accuser." As demonstrated in chapter 1 of Job, he revels in leading humanity into sin and then standing before God as their accuser. As such, he is the ultimate self-righteous rebel. He is guilty of the ultimate rebellion and sin, yet he spends his time blaming humanity for their rebellion—he is the ultimate and unequivocal Pharisee. He gives power to those who do his will so they may be tripped up and ruined by their own sins and lusts. Rather than being their protector, he relishes in their depravity as it secures their earthly ruin and ultimate judgment like his own. In this way, C. S. Lewis offers helpful insight into the devil's character in *Perelandra*. Lewis was right to distinguish between the Beatific Vision with the Miserific Vision: "There is one Face above all worlds merely to see

53:10-11), having exacted true justice on evil (Isa 42:1-2), He has now covered (Rom 3:25) the sins of those who receive the free gift of His grace by faith (Eph 2:5-8), washing away all culpability of human sin along with Satan's ability to accuse. While believers in Christ will continue to struggle with their own sin (Rom 7:21-25; 1 John 1:9), Christ's perfect sacrifice is sufficient to cover any sin they can or ever will commit (Heb 10:14), leaving the serpent *defanged*.

Satan's remaining power resides in his ability to blind people from the *liberty* the Trinity has now offered to sinful humanity through Christ (Isa 42:6-9). As a *bent* intelligence, the devil's sole aim is to convince humanity that their destiny lies within their own power (Mark 8:33).[207] By casting God into the role of the self-righteous Pharisee, he betrays God's true goodness and casts himself as the giver of all forbidden pleasure and power (Luke 4:6). All the while, his admirers fail to believe the truth about his real character and forget that those who follow him always end up paying the piper. He revels in human rebellion, but ultimately his pleasure is derived from their destruction (2 Thess 2:10).[208] There is another lesson to be learned from the Pied Piper story—he always takes more than he is due. A bargain with the Piper is a bargain with the devil, and the devil is not a gentleman.

The Circumnavigation of Language and Global Connectivity

Building on the implications of Ray Kurzweil's thought, particularly his belief that the navigation of language will initiate the era of Strong AI[209] and that Strong AI will

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which is irrevocable joy, so at the bottom of all worlds that face is waiting whose sight alone is the misery from which none who beholds it can recover." Lewis, *Perelandra*, 243. The face at the bottom of all worlds is not one of power and lustful pleasure but the ultimate expression of a creature that is utterly tired, worn, and consumed by hatred. The face of utter ruin—Lewis's face of the true "imbecile" (see Isa 14:16-20).

[207] Lewis, *Out of the Silent Planet*, 127.

[208] If otherwise, why would he hate the righteous?

[209] Kurzweil, *The Singularity Is Near*, 292.

initiate a dramatic escalation of machine learning and the development of nanotechnology, which will then enable a successful reverse engineering and emulating of the human brain leading to the Singularity,[210] I wish to preface this next section by reiterating that one of the central purposes of scholarship is the process of responsible "integration"—the power of human general intelligence.[211] While the scope of this dissertation is not a theological treatise on the doctrine of *eschatology*, central to this work are factors that may have eschatological implications that require discernment (1 Cor 2:14; 1 Thess 5:21; Heb 5:14). To be clear up front, in this section, I will not offer any predictions or conjectures on who the Antichrist is or will be, nor will I offer dates regarding the Lord's return, nor any particular view on pre-millenialism, post-millenialism, amillenialism, or the timing of the tribulation. In response to our Lord's command to watch and pray (Matt 24:42, 44; 26:41; Luke 21:36; 1 Thess 5:6; Rev 16:15), acknowledging that no individual will know the exact time of His return (Matt 24:36; Mark 13:32), what I seek is to assert is that remaining watchful and prayerful must not escape any generation. I believe that fidelity to our Lord's command requires that each generation be faithful and vigilant to this command with the information it has been granted.[212] It is my hope that biblical scholars and theologians would consider the developments presented throughout this work developments that could not have been conceived of throughout the majority of church history and apply charitable and critical

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[210] "Turing believed that the only way that a computer could pass [the Turing test] would be for it to actually possess the equivalent of human-level intelligence. Critics have proposed that a true test of human-level intelligence should include mastery of visual and auditory information as well. Since many of my own AI projects involve teaching computers to mas such sensory information as human speech, letter shapes, and musical sounds, I would be expected to advocate the inclusion of these forms of information in a true test of intelligence. Yet I agree with Turing's original insight that the text-only version of the Turing test is sufficient." Kurzweil, *How to Create a Mind*, 160.

[211] Building on the work of Ernest Boyer, the *Encyclopedia of Education* defines integration as "consisting of interdisciplinary inquiries, synthetic writing that connects information from multiple sources, and interpretive work that critiques existing research and suggests alternative explanations." James W. Guthrie, ed., *Encyclopedia of Education*, 2nd ed., Macmillan Reference Library (New York: Thomson Gale, 2003), 3:784.

[212] Francis Turretin, *Institutes of Elenctic Theology*, ed. George Musgrave Giger, trans. James T. Dennison Jr. (Phillipsburg, NJ: P & R, 1997), 3:585.

scholarship by engaging and furthering the conversation through the integration of faith and reason. Regarding the importance of language and the implication of the linguistic restraint being circumnavigated by machine intelligence, there are five key elements from this dissertation that create a logical progression toward my recommendation regarding the restrainer of 2 Thessalonians 2.

First, humans observe reality and utilize sounds and symbols to form the basis of words, patterns of words form languages, and languages form ideas by connecting patterns of symbols with objects in their corporeal environment[213] along with ideas that transcend a direct corporeal antecedent—the substrate of human intelligence, imagination, and consciousness. As discussed in chapter 3 of this dissertation, Mortimer Adler bases human intelligence on the categories of *perceptual* thought, the capacity motivated by personal appetites and desires (instinctual and shared with the animals), and *conceptual* thought, that capacity to exercise an intellectual appetite that enables free choice (not instinctual).[214] He then adds the uniquely human capacity for *reflexive awareness*, that faculty whereby human beings exercise a metacognitive function[215] in being able to "distinguish the mind's different activities from one another. To this extent, and only to this extent, is the mental as well as the physical observable, the one introspectively [incorporeal], the other by sense-perception [corporeal]."[216] Contributing another factor in human intelligence and consciousness, Owen Barfield offers insight into the expansion of human consciousness and the role of language: "On the basis of past perceptions, using language as a kind of storehouse, we gradually build up our ideas, and it is only these which enable us to become 'conscious,' as human beings, of the world

[213] Wolfram writes, "A semantic grammar necessarily engages with some kind of 'model of the world'—something that serves as a 'skeleton' on top of which language made from actual words can be layered." Wolfram, *What Is ChatGPT Doing?*, 71.

[214] Adler, *Intellect*, 28-30.

[215] Kurzweil, *How to Create a Mind*, 200-1.

[216] Adler, *Intellect*, 17.

around us."[217] Furthermore, Barfield notes that language is also "the storehouse of the imagination."[218] Moreover, on the individual and collective levels, Kurzweil also argues that what distinguishes human beings from other animals for innovation is the neocortex's capacity for pattern recognition[219] and in utilizing language in the "application of knowledge—recorded knowledge—to the fashioning of tools."[220]

Second, building on the function of language as foundational to human intelligence and the relationship between intelligence and innovation, Kurzweil argues that human intelligence has a *transcendent* function due to its powers for pattern recognition. He writes, "As the most important phenomenon in the universe, intelligence is capable of transcending natural limitations, and of transforming the world in its own image."[221] That is, language enables predication and creation due to the preservation of ideas through vocal, written, and digital mediums, enabling human general intelligence to draw from any number of minds from the past in order to create something intrinsically greater as more information from the natural order is attained over time—foundational to the empirical method and innovation.

Third, regarding human innovation, in accord with Kurzweil's emphasis on pattern recognition, while language shapes both individual and collective thought, it also helps *link* separate minds by attributing linguistic, numerical, and semiotic symbols to observed patterns—again, the genesis of human consciousness and imagination.[222] Vital to this section, as a mechanism is created that can harness and preserve the collective intelligence of humanity, this linking capacity will become increasingly sophisticated and

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[217] Barfield, *Poetic Diction*, 57.

[218] Barfield, *Poetic Diction*, 23.

[219] Kurzweil, *How to Create a Mind*, 29-33, 57.

[220] Kurzweil, *The Age of Spiritual Machines*, 14.

[221] Kurzweil, *How to Create a Mind*, 1.

[222] Adler, *Intellect*, 21.

beneficial in global connectivity. Kurzweil writes, "As soon as we start thinking in the cloud, there will be no natural limits—we will be able to use billions or trillions of pattern recognizers, basically whatever we need, and whatever the law of accelerating returns can provide at each point in time."[223] Again, an innovation that would have seemed impossible to all previous generations.

Fourth, with the cumulative merger of human biology and technology, every individual contributes knowledge to the cloud with increasing accuracy. This data (information) is then available to the collective intelligence of humanity, which, combined with machine learning, feeds Kurzweil's concept of the *law of accelerating returns*. As previously discussed, the law of accelerating returns is creating exponential growth in varying fields due to the reciprocal nature of innovation enabled by the mediums of machine intelligence (AI), an accelerating DTR, and big data.

Last, referring to the power of human intelligence, Kurzweil writes, "Humans are capable of learning new knowledge by applying insights and inferring principles from experience, including information gathered through language. A key capability of human intelligence is the ability to create mental models of reality and to conduct mental 'what-if' experiments by varying aspects of these models."[224] These mental models are as varied as the imagination can reach, but regarding this dissertation and the thought of Ray Kurzweil, will include the expansion of the brain-computer interface, the potential reconfiguration of what is currently human reality, entertaining the Simulation Hypothesis, and the development of an increasingly lifelike Immersive Virtual Reality. An important question that everyone should ask themselves is "where does this all lead?" For Ray Kurzweil, he answers this question in his fictional work *Danielle*. For Kurzweil, once the language barrier is transcended and a viable transhuman being enters our world,

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[223] Kurzweil, *How to Create a Mind*, 123.

[224] Kurzweil, *The Singularity Is Near*, 26.

that being will take upon itself the role of messiah. In a fictional conversation between Danielle (the messiah) and Rabbi Schneerson, Kurzweil imports the vital role of language and human intelligence with regard to the coming of the Moshiach. Anticipating his coming, Danielle and the Rebbe enter a very curious exchange:

> The Rebbe smiled, but corrected Danielle. "The Moshiach has not yet appeared, but yes, he surely will do that when he assumes his role." Danielle continued, "Ah yes, of course. So, from this day forward, we establish the transcendence of words over material objects. Words symbolize ideas that humans can share with each other, even if these thoughts derive from . . . " The Rebbe and Danielle gestured toward the heavens. The Rebbe responded, "Everything derives from . . . " and they again gestured together toward the sky. "It started with the apple," Danielle observed. "The fruit of the knowledge which gave us understanding and responsibility—" "—and shame," the Rebbe completed her thought. They continued like this for three hours speaking in Talmudic metaphors and the Rebbe was profoundly impressed with her deep understanding and wisdom. "This is a sacred and wise child," Rabbi Schneerson said bidding Danielle goodbye. "We should follow closely what she has to say."[225]

From a Christian worldview, when one considers the circumnavigation of language combined with a theological understanding of the doctrine of original sin, it is plausible that if language unites humanity as it once did so long ago on the plains of Shinar (Gen 11:2), and if language accelerates human communication and information transfer, fast-tracking innovation, then the two combined could logically lead to a collective and fallen humanity coming together in rebellion against God—humanity's natural orientation apart from regeneration.

Removing the Great Restraint

In 2 Thessalonians, the apostle Paul wrote to the Thessalonian church in response to a false letter purporting to be from him stating that they had missed the return of Christ.[226] As modeled in Paul's letters to the Thessalonians, rather than *deemphasizing*

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[225] Kurzweil, *Danielle*, 118.

[226] Gene L. Green, *The Letters to the Thessalonians*, Pillar New Testament Commentary (Grand Rapids: William B. Eerdmans, 2002), 301; Todd D. Still, *Conflict in Thessalonica: A Pauline Church and Its Neighbours*, Journal for the Study of the New Testament Supplement Series 183 (Sheffield: Sheffield Academic Press, 1999), 196. Paul believed that the return of Christ was imminent; that it would

eschatology, Paul demonstrates the fundamental importance of recognizing key events that must transpire before the second coming of the Lord Jesus Christ as the judge of human history (2 Thess 2:1; Rom 2:16). Specifically, in 2 Thessalonians 2, Paul refers to very specific markers that must transpire before Christ will return.[227] Indeed, markers of such import that Francis Turretin exhorts believers to demonstrate great vigilance "that the believers of that time may diligently guard against being seduced."[228] Markers that the Thessalonian church could know and understand to the extent that Paul believed that the knowledge he was imparting to them would *sustain* them such that they would not be quickly shaken or alarmed even amidst a time of great trial and persecution (1 Thess 1:6; 2:14; 2 Thess 1:4; 2:2).[229]

Pertinent to this work, in 2 Thessalonians 2:3-12, Paul writes,

> Let no one deceive you in any way. For that day will not come, unless the rebellion comes first, and the man of lawlessness is revealed, the son of destruction, who opposes and exalts himself against every so-called god or object of worship, so that he takes his seat in the temple of God, proclaiming himself to be God. Do you not remember that when I was still with you I told you these things? And you know what is restraining him now so that he may be revealed in his time. For the mystery of lawlessness is already at work. Only he who now restrains it will do so until he is out of the way. And then the lawless one will be revealed, whom the Lord Jesus will kill with the breath of his mouth and bring to nothing by the appearance of his coming. The coming of the lawless one is by the activity of Satan with all power and false signs and wonders, and with all wicked deception for those who are perishing, because they refused to love the truth and so be saved. Therefore, God sends them a strong delusion, so that they may believe what is false, in order that

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be sudden (5:1-11); and that the coming of Christ would occur when believers were facing great persecution, while unbelievers live in a state of seemingly complete peace and security.

[227] "Besides the common signs there are also given various proper and special signs, especially the revelation of Antichrist as the greatest corruption of the truth, which is according to piety in the Christian church, of which Paul speaks. For since certain ones troubled them (as if the day of Christ was at hand), Paul shows that they ought not to be disturbed on that account for the day would not come except after the coming of apostasy and the revelation of the man of sin." Turretin, *Institutes of Elenctic Theology*, 3:586-87.

[228] Turretin, *Institutes of Elenctic Theology*, 3:46-47.

[229] At the close of the first letter, Paul admonishes the Thessalonians to remember to "rejoice always, pray without ceasing, give thanks in all circumstances; for this is the will of God in Christ Jesus for you. Do not quench the Spirit. Do not despise prophecies, but test everything; hold fast to what is good. Abstain from every form of evil" (1 Thess 5:19-21).

> they may be condemned who did not believe the truth but had pleasure in unrighteousness.

In this text, Paul speaks of a specific and future time (ἡ ἀποστασία; see also, Dan 8:18-19, 23, 26; 11:35, 40; 12:1, 4, 7) when Satan will be permitted to lead a global (Rev 13:3)[230] and ultimate rebellion against the Trinity, the holy angels, and the saints (2 Thess 2:3).[231] Whereas the spirit of Antichrist has been at work in the world throughout human history (1 John 2:22; 4:3), Paul refers to a time (Dan 8:17-19) when the leaders of the earth will unite with Satan and the fallen angels in a combined effort to blaspheme God and the Lord Jesus Christ and make war against all that is true and against heaven itself (Dan 8:10-11).[232] A time when the "man of lawlessness"[233]—a singular and specific man

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[230] "A future universal apostasy is predicted (2 Thess 2:3), not absolutely, but relatively because a few witnesses will survive (Rev 11:3). . . . When 'the whole world,' says he, 'wonders after the beast' (Rev 13:3), by all the world are meant classes (to wit, all the inhabitants of the earth indiscriminately of every nation, condition, sex, whose names are not written in the Lamb's book of life, as it is explained in v. 8, i.e. who are reprobate in opposition to the elect and believers)." Turretin, *Institutes of Elenctic Theology*, 46.

[231] John Frame, *Systematic Theology: An Introduction to Christian Belief* (Phillipsburg, NJ: P & R, 2013), 1087-88. Regarding the millennium, Frame acknowledges that whether one takes an amillenial, premillenial, or postmillennial perspective, each view acknowledges a brief period of time where Satan will seek to form one final apostasy against God and His Christ.

[232] Green notes, "Similarly, part of the Jewish eschatological expectation was that before the end there would be apostasy against God (1 Enoch 93:9; 90.26; 4 Ezra 5.1-13; 2 Bar. 41.3; 42.4)." Green, *The Letters to the Thessalonians*, 307. Daniel describes this individual as "a king of bold face, one who understands riddles, shall arise. His power shall be great—but not by his own power; and he shall cause fearful destruction and shall succeed in what he does, and destroy mighty men and the people who are the saints. By his cunning he shall make deceit prosper under his hand, and in his own mind he shall become great. Without warning he shall destroy many. And he shall even rise up against the Prince of princes, and he shall be broken—but by no human hand. The vision of the evenings and the mornings that has been told is true, but seal up the vision, for it refers to many days from now" (Dan 8:23-26). Again, Daniel writes, "He shall turn back and pay attention to those who forsake the holy covenant. Forces from him shall appear and profane the temple and fortress, and shall take away the regular burnt offering. And they shall set up the abomination that makes desolate. He shall seduce with flattery those who violate the covenant, but the people who know their God shall stand firm and take action. And the wise among the people shall make many understand, though for some days they shall stumble by sword and flame, by captivity and plunder. When they stumble, they shall receive a little help. And many shall join themselves to them with flattery. And some of the wise shall stumble, so that they may be refined, purified, and made white, until the time of the end, for it still awaits the appointed time. And the king shall do as he wills. He shall exalt himself and magnify himself above every god, and shall speak astonishing things against the God of gods. He shall prosper till the indignation is accomplished; for what is decreed shall be done. He shall pay no attention to the gods of his fathers, or to the one beloved by women. He shall not pay attention to any other god, for he shall magnify himself above all. He shall honor the god of fortresses instead of these. A god whom his fathers did not know he shall honor with gold and silver, with precious stones and costly gifts. He shall deal with the strongest fortresses with the help of a foreign god. Those who acknowledge him he shall load with honor. He shall make them rulers over many and shall divide the land for a price" (Dan 11:30-39).

[233] Green notes, "Paul characterizes this person as someone who is without law and whose character is therefore the personification of sin." Green, *The Letters to the Thessalonians*, 308. Whereas

(ὁ ἄωθροπος τῆς ἀνομίας)—will arise on the world's stage demonstrating works and powers granted by the might of Satan himself (2 Thess 2:9).[234] This man will exert "all power and false signs and wonders and all deception"[235] and will use this power and authority to substantiate his open self-exaltation over "everything that is called God, or is worshipped, proclaiming himself to be God" (2 Thess 2:4).[236] Once again, there is a direct connection between this outcome and the serpent's words in the garden: "You will not surely die. For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil" (Gen 3:5). Satan's temptation to Adam and Eve that they would become like God is directly commensurate with his eventual empowering of a singular man to declare *himself* god. Satan's greater intentions may have already been clear in his mind from the beginning. Furthermore, while God declared that He would send one through the seed of the woman that would crush the serpent's head, He also noted that there would be a seed of the serpent (και μέσον τοῦ σπερματος΄σου). If the devil could not reign from God's throne, he determined to reign from Adam's, to deceive those made in the *imago Dei* with the promise of great power and authority and to tarnish their glorious image into one like his own.[237] His will was bent on a future time when he himself would come into one individual and deceive the world that he is god. He will present himself as the messiah, and his coming will be "by the activity of Satan with

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Christ was the exact image of God and the embodied perfection of His good character, the man of lawlessness will embody everything contrary to the character of God as the embodiment of Satan. Francis Turretin writes, "The Devil insinuates his poison secretly and fraudulently and artfully that he may attain his wish, working the mystery of iniquity with concealment and treachery (2 Thess 2:7)." Turretin, *Institutes of Elenctic Theology*, 104.

[234] Leon Morris, *1 and 2 Thessalonians*, Tyndale New Testament Commentaries 13 (Downers Grove, IL: InterVarsity Press, 2009), 131. As Christ worked miracles in submission to the Father, the man of lawlessness will spread lawlessness and false miracles after the workings of the devil.

[235] John Calvin, *1, 2 Thessalonians*, Crossway Classic Commentaries (Wheaton, IL: Crossway Books, 1999), 87. Calvin notes that while the workings of the man of lawlessness will deceive the world, he will also seek to overturn "the whole order of the church" (87).

[236] Turretin, *Institutes of Elenctic Theology*, 3:52-53.

[237] In an enormous demonstration of pride and arrogance, he tried to do the same to Christ (the second Adam) in the wilderness (Matt 4:1-11; Luke 4:1-13; Rom 5).

all power and false signs and wonders, and with all wicked deception for those who are perishing" (2 Thess 2:9-10). Thus, echoing Daniel's description, "A king of bold face one who understands riddles, shall arise. His power shall be great—but not by his own power; and he shall cause fearful destruction and shall succeed in what he does, and destroy mighty men and the people who are the saints. By his cunning he shall make deceit prosper under his hand, and in his own mind he shall become great" (Dan 8:23-25).

However, before the time arrives when he will be revealed, Paul discusses that a great restrainer (κατέχων)[238] will be removed at the appropriate time. While many scholars have been faithful and watchful in their generations in contributing to this passage, some recommending the Holy Spirit (John 16:8), [239] the preaching of the gospel itself (John 17:17; 2 Tim 2:24-25; 3:16-17), or even the state (Rom 13:1-7), [240] each of these recommendations, though clearly restraining factors, have found sufficient scholarly rebuttal. Before positing my recommendation, John Stott notes four facts that Paul does mention: (1) the restraint was currently at work when Paul wrote his letter; (2) linguistically, the restraint utilizes the neuter and the masculine gender, implying that "it" may also be referred to as "he"; (3) the restraint will be removed at the right time and will trigger the final revelation of Antichrist and the rebellion, ultimately triggering the return of the Lord; and (4) Paul must have had an important reason to remain cryptic about what or who the restrainer is.

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[238] In BDAG, the verb κατέχω in this instance is defined as follows: "*That which restrains and one who restrains*, i.e., what prevents God's adversary fr. Coming out in open opposition to God, for the time being. In an effort to define κ. More specifically here, many interpreters have followed the exegesis of the ancient church (Tertullian) and taken τό κ to be the Roman empire and ὁ κ. the emperor (OBetz, NTS 9, '63, 276-91). An alternate view, as old as Theodore of Mops., but without sustained acceptance, would make τὸ κ. the preaching of Christian missionaries and ὁ κ. the apostle Paul (so OCullmann, Dodd Festschr. '56, 409-21). These and other attempts to limit more precisely the mng. of these terms in 2 Th invite skepticism because of insufficient textual data (vs. 5 appears to imply in-house information)." BDAG, 532.

[239] Leon Morris, *The First and Second Epistles to the Thessalonians*, rev. ed, New International Commentary on the New Testament (Grand Rapids: William B. Eerdmans, 1991), 229. Morris writes, "While it would be easy to think of the Spirit as restraining the forces of evil, it is impossible to envisage him as being 'taken out of the way.' Such an idea does not appear in Scripture" (229).

[240] John R. W. Stott, *The Message of the Thessalonians: Preparing for the Coming King*, The Bible Speaks Today (Leicester, England: Inter-Varsity Press, 1991), 168.

Given the progression of time and the now increasingly sophisticated and unified relationship between human and machine intelligence as delineated throughout this work, combined with the coming advent of Strong AI and its powers to enable an increasingly *simple* DTR between human and machine intelligence and the increasing sophistication of large language models, I evoke Polanyi's rejoinder before giving my recommendation:

> Christianity is a progressive enterprise. Our vastly enlarged perspectives of knowledge should open up fresh vistas of religious faith. The Bible, and the Pauline doctrine in particular, may be still pregnant with unsuspected lessons; and the greater precision and more conscious flexibility of modern thought, shown by the new physics and the logico-philosophic movements of our age, may presently engender conceptual reforms which will renew and clarify, on the grounds of modern extra-religious experiences, man's relation to God. An era of great religious discoveries may lie before us.

In response to current developments as delineated throughout this chapter, I am recommending that the restrainer of 2 Thessalonians 2 is the restraint of *language* itself imposed by God at Babel.[241] Removing the language restraint prior to the Singularity, as delineated by Ray Kurzweil, will enable the speed of information, the collective intelligence of humanity, to accelerate innovation beyond anything achieved in the past. When combining unrestricted communication with the natural rebellious nature of a fallen humanity, the spirit of Genesis 11, these factors may very well lead to a global synergy to form the ultimate City of Man—Kurzweil's all-encompassing unity.[242] Also,

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[241] Poirier-Simon, "Collide Geneva-Final Presentation by Artist Cassandre Poirier-Simon," 53:43. The unlocking of language is not the condensing of all languages into one national language, but rather deriving meaning from all cultural nuances through the medium of technology, making knowledge accessible and cogenerative on a global level. Since we cannot think beyond the concepts language provides for us and since humans are restricted by linguistic barriers, in time, machine intelligence such as that used in ChatGPT will enable the instantaneous translation of all languages with direct interface to the human brain, eliminating any linguistic barrier. Whereas Babel represented one unified language, a multi-national representation of varying linguistic nuances will exponentially expand linguistic expression and potential. Since language is the storehouse of the imagination, and imagination the fertile soil of innovation, the future of human and machine innovation is staggering (Gen 11:6).

[242] Regarding advancements enabled by nanotechnology, Kuzweil writes, "We'll have real-time translation of foreign languages, essentially subtitles on the world." Kurzweil, *The Singularity Is Near*, 313. Regarding the universal sinful nature of unredeemed man, Herman Bavinck writes, "Sin itself came into the world without motivation, yet it is the motivation for all human thought and action. From an abstract point of view, it is nothing but a privation, yet concretely it is a power that controls everyone and

vital to this dissertation, in Ray Kurzweil's work *Danielle*, he develops a narrative where the first successful transhuman character, uninhibited by the boundaries of human language, brings global peace to the world.

Regarding the actual power behind the restrainer, whether used in the neuter or the masculine form, the power may be a force imposed by God directly or it may be an angel who has been given the authority over human communication[243]—in the similitude of Mercury who was believed to possess power over human knowledge and language.[244] It is significant to note that the Greeks and Romans had a custom of offering tongues into the fire as an offering to Mercury.[245] In a curious corollary, this custom received a heavenly reciprocal expression when the Spirit manifested tongues of fire over the apostles, enabling them to communicate the gospel in the varying tongues of the nations

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everything. It has no independent principle of its own, yet it is a principle that devastates the whole creation. It lives off the good, yet fights it to the point of destruction. It is nothing, has nothing, and cannot do anything without the entities and forces God has created, yet organize them all into rebellion against him. With everything that belongs to God, it opposes everything that belongs to God." Herman Bavinck, *Reformed Dogmatics*, vol. 3, *Sin and Salvation in Christ*, ed. John Bolt, trans. John Vriend (Grand Rapids: Baker Academic, 2006), 145.

[243] Augustine, *The City of God*, 704. Specifically referring to God's works in Genesis 11:7, "Come, let us go down and there confuse their language, so that they may not understand one another's speech," Augustine connects the act of the restraint with the angels. He writes: "Alternatively, God can be understood as coming down to the city because His angels came down, in whom He dwells. Thus, when it is added, 'and the Lord said, Behold, the people is one, and they have all one language,' and so on; and when it is added again, 'Go to, let us go down, and there confound their language': these words form a recapitulation, demonstrating how the action described by 'the Lord came down' was done. For if He had already come down, why would He wish to say, 'Go to, let us go down,' which is taken as said to the angels unless because He was present in the angels when they came down, and thus came down Himself, through them? And it is fitting that He does not say, 'Go down and confound their language' but 'let us go down and confound their language'; for, in this way, He shows that He works through His ministers, so that they themselves are also God's fellow-workers. As the apostle says, 'For we are labourers together with God'" (704).

[244] J. Lempriere describes Mercury as follows: "Called Hermes by the Greeks. . . . Mercury was the messenger of the gods, and of Jupiter in particular. . . . Offerings of milk and honey were made because he was the god of eloquence, whose powers were sweet and persuasive. The Greeks and Romans offered tongues to him by throwing them into the fire, as he was the patron of speaking of which the tongue is the organ. Sometimes his statues represent him without arms, because, according to some, the power of speech can prevail over everything, even without the assistance of arms." J. Lempriere, *Lempriere's Classical Dictionary of Proper Names Mentioned in Ancient Authors* (New York: Routledge & Kegan Paul, 1984), 373-74.

[245] Lempriere, *Lempriere's Classical Dictionary*, 374.

at Pentecost (Acts 2:1-11).[246] While God did not *reverse* the effects of Babel at Pentecost, His dividing the nations also expanded human culture and people groups into a mosaic of human glory (Isa 19:25) in much the same way that technology is lifting the restraint of language God enabled the disciples to speak in the languages of the nations—*the unrestrained flow of information*. This unimpeded ability to communicate resulted in the immediate advancement of the gospel message throughout the ancient world. Today, while cultural and linguistic differences remain, technology is uniting the world and daily lifting the restraining factor of language.

A unified humanity apart from Christ will naturally seek to exalt the City of Man (1 Cor 2:14). Herman Bavinck writes, "Sin itself came into the world without motivation, yet it is the motivation for all human thought and action. . . . It is nothing, has nothing, and cannot do anything without the entities and forces God has created, yet organizes them all into rebellion against him."[247] Whether knowingly or unknowingly, due to the rebellious sin nature, a united humanity will find an ally in Satan, whose mind is set against the City of God and His Christ. At the appointed time, Satan will give to humanity a leader whose motivations will align with theirs, deceiving the nations, and together, as with Babel, they will form an ultimate rebellion (Rev 13:3).[248] While Paul refers to the spirit of lawlessness as mystery already at work (2 Thess 2:7), immediately preceding this event, Satan's plans will emerge on the global stage openly and rapidly.[249]

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[246] C. S. Lewis, *Surprised by Joy: The Shape of My Early Life* (London: HarperCollins, 2002), 70; Charles Williams, *The Place of the Lion* (London: Faber & Faber, 1952), 73. In sentiments similar to those of Augustine, C. S. Lewis comments on the depth of truth embedded into pagan mythology: "One came from reading the classics. Here, especially in Virgil, one was presented with a mass of religious ideas; and all teachers and editors took it for granted from the outset that these religious ideas were sheer illusion. No one ever attempted to show in what sense Christianity fulfilled Paganism or Paganism prefigured Christianity" (70). See also Williams, *The Place of the Lion*, 73.

[247] Bavinck, *Sin and Salvation in Christ*, 145. See also p. 98.

[248] As in the garden, though knowing the truth, humanity will fall to Satan's seductive deception.

[249] "Gotthard Tunnel Opening Ritual," WorldMetalTelevision, July 4, 2016, YouTube video, http://www.youtube.com/watch?v=ikDpJZRSqz0. The Gotthard Tunnel ceremony celebrated the successful tunneling through the Swiss Alps (potentially an expression of Quantum tunneling). Two simultaneous

Calvin writes, "Satan is carrying on a secret and clandestine war until he makes his attacks publicly. Therefore, Satan was secretly laying the foundations on which he would later stand."[250] When the man of lawlessness appears, his rebellion will be global and unrestrained.

When All Is One and One Is All

In C. S. Lewis's work *Out of the Silent Planet*, humanity finally finds a way to break through the sphere of the moon and travels to *Malacandra* (Mars). Led by two antagonists, one an aggrandizing inner ringer motivated by the prospect of finding gold on Mars (Devine)[251] and the other a scientist motivated by a pressing need to save humanity from extinction by enabling them to become a space faring civilization (Weston),[252] the protagonist, Elwin Ransom, is kidnapped by the other two and taken to Mars to be offered to the Martians as a human sacrifice. In a plot twist, the *Malacandrian* race is one that is not affected by human sin or greed and has no hostile intentions toward their visitors.[253] Having escaped the havoc wrought on Mars by Weston and Devine, at the end of the work, Ransom, Weston, and Devine are gathered to engage in a conversation with the Oyarsa of Mars, the angel in charge of *Malacandra*, before they are forced to travel back to earth (*Thulcandra*). Having dismissed Devine's motives as being purely focused on greed, when questioned about why humanity would want to escape earth, Weston divulges his great plan to help humanity take over the cosmos:

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ceremonies took place, one above ground and another below ground, celebrating the coming of Satan into our world through a portal. His return results in a celebration of unrestrained sexual animality, the public blasphemy of a lamb, reminiscent of the behavior prior to the flood in his bringing a child into the world through copulation between a goat and an angel, a portal of eyes goggling around, and the ultimate destruction of time. This event was attended by many European heads of State.

[250] Calvin, *1 and 2 Thessalonians*, 91.

[251] Lewis, *Out of the Silent Planet*, 122.

[252] Lewis, *Out of the Silent Planet*, 122. Weston describes his purpose as focusing on "the most momentous crisis in the history of the human race."

[253] Lewis, *Out of the Silent Planet*, 121-22.

> "It is in her right," said Weston, "the right, or, if you will, the might of Life herself, that I am prepared without flinching to plant the flag of man on the soil of Malacandra: to march on, step by step, superseding, where necessary, the lower forms of life that we find, claiming planet after planet, system after system, till our posterity-whatever strange form and yet unguessed mentality they have assumed-dwell in the universe wherever the universe is habitable."[254]

In "Stairway to Heaven," Plant closes the song with a vision of final hope granted by the Piper: "And if you listen very hard, the tune will come to you at last, when all are one, and one is all, to be a rock and not to roll." Whereas Christ offered eternal life to humanity in the glorious City of God and the restoration of all things, for Ray Kurzweil, humanity will create a future destiny in the stars where all is one and one is all, a destiny where one becomes a rock that does not roll in the ultimate City of Man. But how will the Singularity's proposal create a materialistic all-encompassing unity throughout the cosmos?

While the spirit of "Westonism" finds its expression in different forms,[255] for Ray Kurzweil, once the Singularity transpires in Epoch 5, the Singularity will enable technology to take control of its own progression.[256] Kurzweil writes, "By the time of the Singularity, there won't be a distinction between humans and technology. *This is not because humans will have become what we think of as machines today, but rather*

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[254] Lewis, *Out of the Silent Planet*, 124. In *Perelandra*, Lewis builds upon Weston's motive: "He was a man obsessed with the idea which is at this moment circulating all over our planet in obscure works of 'scientifiction,' in little Interplanetary Societies and Rocketry Clubs, and between the covers of monstrous magazines, ignored or mocked by the intellectuals, but ready, if ever the power is put into its hands, to open a new chapter of misery for the universe. It is the idea that humanity, having now sufficiently corrupted the planet where it arose, must at all costs contrive to seed itself over a larger area: that the vast astronomical distances which are God's quarantine regulations, must somehow be overcome. This for a start. But beyond lies the sweet poison of the false infinite-the wild dream that planet after planet, system after system, in the end galaxy after galaxy, can be forced to sustain, everywhere and for ever, the sort of life which is contained in the loins of our own species—a dream begotten by the hatred of death upon the fear of true immortality, fondled in secret by thousands of ignorant men and hundreds who are not ignorant." Lewis, *Perelandra*, 216-17. See also Martin Rees, *On the Future: Prospects for Humanity* (Princeton, NJ: Princeton University Press, 2018), 164.

[255] SpaceX, "Starship: Service to Earth Orbit, Moon, Mars and Beyond," accessed on November 6, 2023, https://www.spacex.com/vehicles/starship/. In similar fashion to C. S. Lewis's fictional character, Weston, Elon Musk's team at SpaceX is to make humanity a space-faring civilization by seeding humanity throughout the inhabitable locations in our galaxy.

[256] Kurzweil, *The Singularity Is Near*, 40.

machines will have progressed to be like humans and beyond."[257] At this point, Kurzweil predicts that humanity will enter Epoch six, the epoch where, "intelligence, derived from its biological origins in human brains and its technological origins in human ingenuity, will begin to saturate the matter and energy in its midst. It will achieve this by reorganizing matter and energy to provide an optimal level of computation to spread out from its origin on earth."[258] Through a substance labeled, *computronium*, Kurzweil predicts that the terraforming of the cosmos will infuse every particle of matter with conscious intelligence:

> The matter and energy in our vicinity will become infused with the intelligence, knowledge, creativity, beauty, and emotional intelligence (the ability to love, for example) of our human-machine civilization. Our civilization will then expand outward, turning all the dumb matter and energy we encounter into sublimely intelligent—transcendent—matter and energy. So in a sense, we can say that the Singularity will ultimately infuse the universe with spirit.[259]

In essence, while humanity will have already *theoretically* conquered the restraints of language, and even death (initially in a post-biological body and eventually, potentially, biologically), at this point, the *imago Dei* and the *imago Hominis* will *together* "breathe life into the dust of the cosmos," and, in an inversion of Genesis 2:7, god itself will become a living soul (Kurzweil's "infuse the universe with spirit") and the cosmos will become its Eden. From a corporeal perspective, this god will be *artificially* omnipotent, omnipresent, and omniscient.

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[257] Kurzweil, *The Singularity Is Near*, 40-41 (emphasis added).

[258] Kurzweil, *The Singularity Is Near*, 21.

[259] Kurzweil, *The Singularity Is Near*, 389. Kurzweil also reasons, "Evolution moves toward greater complexity, greater elegance, greater knowledge, greater intelligence, greater beauty, greater creativity, and greater levels of subtle attributes such as love. In every monotheistic tradition God is likewise described as all of these qualities, only without any limitation: infinite knowledge, infinite intelligence, infinite beauty, infinite creativity, infinite love, and so on. Of course, even the accelerating growth of evolution never achieves an infinite level, but as it explodes exponentially it certainly moves rapidly in that direction. So evolution moves inexorably toward this conception of God, although never quite reaching this idea. We can regard, therefore, the freeing of our thinking from the severe limitations of its biological form to be an essentially spiritual undertaking" (389).

For Ray Kurzweil, the consummation of all things does not lie with the City of God and His Christ restoring humanity back into fellowship with Himself as the Creator. For Kurzweil, the consummation of all things ends with man creating *god.* In a fictional dialogue between Ray and Molly 2004, Kurzweil writes,

> Ray: The universe is not conscious—yet. But it will be. Strictly speaking, we should say that very little of it is conscious today. But that will change and soon. I expect that the universe will become sublimely intelligent and will wake up in Epoch Six. The only belief I am positing here is that the universe exists. If we make that leap of faith, the expectation that it will wake up is not so much a belief as an informed understanding, based on the same science that says there is a universe. Molly 2004: Interesting. You know, that's essentially the opposite of the view that there was a conscious creator who got everything started and then kind of bowed out. You're basically saying that a conscious universe will "bow in" during Epoch Six. Ray: Yes, that's the essence of Epoch Six.[260]

The genesis of God and the infusion of all matter with computronium will bring all of matter into an all-encompassing unity.[261] Once more, Kurzweil's vision eerily finds resonance in Plant's vision of buying the stairway to heaven when "all are one and one is all, yeah. To be a rock and not to roll."[262] Out of the Singularity, at last man rules over the cosmos and uses matter and energy as the base materials to manipulate as he wills.[263] Man conquers language, suffering, death (conquering time) and reascends into the

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[260] Kurzweil, *The Singularity Is Near*, 390. Kurzweil writes, "Responding to a question from Carl Sagan they described the energy requirements to keep wormholes of varying sizes open. They also pointed out that based on quantum fluctuation, so-called empty space is continually generating tiny wormholes the size of subatomic particles. By adding energy and following other requirements of both quantum physics and general relativity (two fields that have been notoriously difficult to unify), these wormholes could be expanded to allow objects larger than subatomic particles to travel through them. Sending humans through them would not be impossible but extremely difficult. However, as I pointed out above, we really only need to send nanobots plus information, which could pass through wormholes measured in microns rather than meters" (355).

[261] Susskind and Zhao, "Teleportation through the Wormhole." Kurzweil believes that both quantum entanglement and the development of sustained wormhole teleportation will enable humanity to overcome the bounding factor of the speed of light and enable sending foglet nanobots to varying parts of the universe for a rapid distribution of computronium.

[262] Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2017). While addressing the reality of believing in the Singularity as requiring faith, Turkle summarizes Kurzweil's vision as "technological rapture" (25).

[263] C. S. Lewis, *The Weight of Glory* (New York: HarperOne, 2001), 31.

heavens (conquering space).[264] Man builds his tower into the heavens and makes an eternal *name* for Himself—a unifying beacon of all things under the sun.[265]

The City of God: The Unity of Heaven and Earth

The Old Testament records another account of a stairway to heaven—a second stairway that descends from the heavens to the earth after the Babel dispersion. After the event of Isaac blessing Jacob, as Jacob was traveling between Beersheba and Haran, the author of Genesis records an extraordinary event in Jacob's life:

> Jacob left Beersheba and went toward Haran. And he came to a certain place and stayed there that night, because the sun had set. Taking one of the stones of the place, he put it under his head and lay down in that place to sleep. And he dreamed and behold, there was a ladder set up on the earth and the top of it reached to heaven. And behold, the angels of God were ascending and descending on it! And behold, the LORD stood above it and said, "I am the LORD, the God of Abraham your father and the God of Isaac. The land on which you lie I will give to you and to your offspring. Your offspring shall be like the dust of the earth, and you shall spread abroad to the west and to the east and to the north and to the south, and in you and your offspring shall all the families of the earth be blessed. Behold, I am with you and will keep you wherever you go, and will bring you back to this land. For I will not leave you until I have done what I have promised you." Then Jacob awoke from his sleep and said, "Surely the LORD is in this place, and I did not know it." And he was afraid and said, "How awesome is this place! This is none other than the house of God, and this is the gate of heaven." (Gen 28:10-17)

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[264] Kurzweil believes that the Singularity will help the transhumanist race to solve the problem of the expansion of the universe—the ultimate problem of time after biological death is transcended. He foresees the conquering of time as the precursor to the conquering of space. In relation to the speed of information and time, relative to the work accomplished in less time, comparative to our current speed of innovation, time will "seemingly" slow down as information speeds up.

[265] Poirier-Simon, "Collide Geneva—Final Presentation by Artist Cassandre Poirier-Simon," 55:55. In this presentation, CERN announced through art (the most unimpressive photos imaginable) the *devotion* of the people who work at CERN in their quest to seemingly navigate time travel and to build a stairway to heaven. After discussing how these photos are so sublime, the representative goes so far as to say that a dismal picture of an antiquated "bridge" at CERN is representative of "you can see several of them [photos] where you have the impression that it is like the end of the world as we know it, and there is one item left there, almost hanging in the air," followed by a picture of a hill representative of a future with an unknown trajectory.

Just as Babel literally means "the gate of God," an event that would by no means have been unknown to the patriarch, in this "gateway," it is not man trying to ascend into the heavens; it is God who opens the portal toward earth.[266]

The significance of this message to Jacob is that God is restating His covenant with Abraham through Jacob (Gen 12:3). God is promising that through His offspring, *all* the families of the earth would be blessed. Jacob was the father of the tribes of Israel, and through Jacob, again through the seed of Abraham, God promised to send a descendent who would bring blessing to Adam's fallen race. Walter Brueggemann writes, "Heaven has come to be on earth. This promise presents a central thrust of biblical faith. It refutes all the despairing judgements about human existence. A fresh understanding of God is required if we are to be delivered from the hopeless analyses of human possibility made by pessimistic scientists and by the poets of existence. God commits himself to the empty-handed fugitive."[267] This passage is extremely important because it foretells the coming of humanity's *true* stairway to heaven[268]—a stairway to heaven that is not built by man, but by *God*.[269]

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[266] John Calvin, *Institutes of the Christian Religion*, trans. Henry Beveridge (Grand Rapids: Wm. B. Eerdmans, 1989), 1.14.12. Calvin connects Jacob's vision directly to the salvific work of Jesus Christ: "Our minds ought to give thorough heed to what Jacob saw in his vision (Gen. xxvii. 12),—angels descending to the earth to men, and again mounting up from men to heaven, by means of a ladder, at the head of which the Lord of Hosts was seated, intimating that it is solely by the intercession of Christ that the ministry of angels extends to us, as he himself declares, 'Hereafter ye shall see heaven open, and the angels of God ascending and descending upon the Son of Man (John i. 51).'"

[267] Walter Brueggemann, *Genesis*, Interpretation: A Bible Commentary for Teaching and Preaching (Atlanta: John Knox, 1982), 244-45.

[268] "*A stairway*. The Traditional 'ladder' is such an old favorite that it is a pity to have to dislodge it. Yet it goes without saying that a picture of angels going up and down in a steady stream is hard to reconcile with an ordinary ladder. Etymologically, the term (stem *sll* 'to heap up, raise') suggests a ramp or a solid stairway. And archaeologically, the Mesopotamian ziggurats were equipped with flights of stairs leading up to the summit; a good illustration is the excavated ziggurat of Ur (Third Dynasty). Only such stairway can account for Jacob's later description of it as a 'gateway to heaven.'" E. A. Speiser, *Genesis*, Anchor Bible, vol. 1 (Garden City, NY: Doubleday, 1983), 218. John Skinner notes that the word used for ladder may also be translated "stair." John Skinner, *A Critical and Exegetical Commentary on Genesis*, 2nd ed., International Critical Commentary (Edinburgh: T & T Clark, 1980), 376.

[269] Skinner makes a direct connection between Bethel and Babel: "The first designation naturally arises from the name *Bethel*, which (as we see from v. 22) was first applied to the sacred stone, but was afterwards extended to the sanctuary as a whole. When to this was added the idea of God's dwelling in heaven, the earthly sanctuary became as it were the entrance to the true heavenly temple, with

In John 1:51, Jesus is engaged in a conversation with the disciple Nathanael, who becomes convinced that Jesus is the Son of God and the long-awaited Messiah. In his response to Nathanael, Jesus says, "Truly, truly, I say to you, you will see heaven opened, and the angels of God ascending and descending on the Son of Man." Jesus words are unambiguous. The blessing to all the families of the earth was not merely some kind of material blessing. God's promise to bless the nations of the world through the offspring of Abraham, and here through Jacob, was the blessing of the forgiveness of human sin and the reestablishing of communion between Adam's lost race and the Trinity. Jesus tells Nathanael, unequivocally, that the true portal, the true gate of God, is none other than *Himself*. Jesus Christ is the stairway to heaven, and what He offers cannot be bought. The longing in the human soul for permanence, the longing for *home*, is a longing that ultimately is not found in a place, though it is a place. The longing is not ultimately found in human technology, though the ultimate Principium of human intelligence possesses all power over the cosmos. The longing of every human soul is fulfilled in a relationship with a Person, a relationship with a loving God who did not forsake humanity to earth's adversary, a loving God who has already opened wide the gateway (John 10:9), and calls humanity back to Him by the free gift of grace through faith (Eph 2:8).

In His last prayer before He went to the cross, Jesus prayed for those who would come back to the Trinity. In John 17:1-3, Jesus begins the prayer with these words, "Father, the hour has come; glorify your Son that the Son may glorify you, since you have given him authority over all flesh, to give eternal life to all whom you have given him. And this is eternal life, that they know you, the only true God, and Jesus Christ whom you have sent." At Babel, those who rebelled against God were seeking to make "a

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which it communicated by means of a ladder. We may compare the Babylonian theory of the temple-tower as a means of ascent to the dwelling-place of the gods in heaven." Skinner, *Genesis*, 376.

name" for themselves. Here, Jesus goes on to pray, "All mine are yours, and yours are mine, and I am glorified in them. And I am no longer in the world, but they are in the world, and I am coming to you. Holy Father, keep them in your name" (John 17:11). The glory of the Son has been bestowed again on Adam's race, and the Name that deserves all glory is reserved for the One who risked all to save humanity (Phil 2:5-11).

Jesus then prays several key concepts that summarize His great work. He prays that the gospel would unite all believers around the world in love: "Keep them in your name, which you have given me, that they may be one, even as we are one. . . . The glory that you have given me I have given to them, that they may be one even as we are one, I in them and you in me, that they may become perfectly one, so that the world may know that you sent me and loved them even as you loved me" (John 17:11, 22-23). Again, in Ephesians 1:7-10, God has blessed all the families of the earth in His salvation from the bondage of sin: "In him we have redemption through his blood, the forgiveness of our trespasses, according to the riches of his grace, which he lavished upon us, in all wisdom and insight making known to us the mystery of his will, according to his purpose, which he set forth in Christ as a plan for the fullness of time, to unite all things in him, thing in heaven and things on earth." In Christ, we finally find permanence, and our shadows grows *as* tall as our soul. In the resurrection, our bodies will no longer be subject to the consequences of human sin, suffering, and death.[270] In heaven, our souls will be perfectly united to our bodies, and heaven will resound at the defeat of all evil, restoring the perfect goodness that humanity enjoyed in the original creation, but for one difference. This time, at the end of all things, the Son of God who took on the devil for the salvation of humanity will sit at the right hand of the Father *in a human body*. In the final outcome God does something exceedingly greater than in the original created order; at that time,

[270] Bavinck, *Sin and Salvation in Christ*, 196.

Christ will receive all the preeminence as the Son of Man and the Son of God. *Sola Dei Gloria* (Dan 2:20-23).

Buying the Stairway to Heaven: Two Paths You Can Go By

In conclusion, while never outside God orchestrating history toward His eternal City, the next decade may very well determine the trajectory between the merger of a global human and machine intelligence leading toward the technological Singularity. While the history of technological evolution has produced vast wonders that have benefited this great and linked chain of being, perhaps there has never been a more significant period in history to ensure that the minds behind this new technology are representative of the major worldviews of humanity.[271] Far too many points of conjunction with the biblical metanarrative exist to merely ignore the potential reality that humanity may very well be caught up in a singular cosmic setup. The race toward the Singularity may be a very real construction of *a throne*. If a substrate is constructed that has the potential to breech all privacy, literally hacking into individual consciousness and potentially turning the corporeal reality into a simulation or embodiment for AI, then an unredeemed humanity may very well surrender its remaining dominion as a living sacrifice to an idol made in its own image.[272] An idol, who may very well be empowered by a devil, and a devil, who very well may *take* man's creation and step onto a tyrant's throne.

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[271] Poirier-Simon, "Collide Geneva—Final Presentation by Artist Cassandre Poirier-Simon," 54:40.

[272] Yuval Noah Harari, "Will the Future Be Human?," World Economic Forum, January 25, 2018, YouTube video, https://www.youtube.com/watch?v=hL9uk4hKyg4&t=945s. At the World Economic Forum in 2018, Yuval Harari announced that we now have the computing power and data to hack into individual consciousness by understanding biological algorithms. Harari announced to the WEF that with this information, "elites" may gain the power to "reengineer the future of life itself. Because once you hack something, you can usually engineer it" (5:10, 13:02).

CHAPTER 5

TRUTH, TECHNOLOGY, AND FOLLOWING THE RABBIT DOWN THE RABBIT HOLE IN HIGHER EDUCATION

"It was much pleasanter at home," thought poor Alice, "when one wasn't always growing larger and smaller and being ordered about by mice and rabbits. I almost wish I hadn't gone down that rabbit hole; and yet—and yet—it's rather curious you know, this sort of life! I do wonder what can have happened to me! When I used to read fairy tales and I fancied that kind of thing never happened, and now here I am in the middle of one!"[1]

Lewis Carroll, *Alice in Wonderland*

Written for a young girl named Alice Pleasance Liddell during his time at Christ Church, Oxford, Charles Lutwidge Dodgson's (Lewis Carroll) tales of *Alice in Wonderland* (1865) and *Through the Looking Glass* (1871) have found acclaim in the hearts of children and adults alike the world over. To this day, if one looks very carefully, characters from Alice's adventures can be found woven through the stained glass of the Great Dining Hall at Christ Church, finding their place among the school's famous masters whose oil portraits line the hall. What is it about Dodgson's tales that draws the inner child of one's own person so strongly down the rabbit hole with Alice in her adventures? While the imagination will find no end to the lessons on life dispersed throughout Wonderland, a key theme in the adventure is found in the central element of Alice's *identity*.

[1] Lewis Carroll, *Alice in Wonderland and Through the Looking Glass*, Best Loved Classics (New York: Grosset and Dunlap, [1963?]), 32.

The Brain-Computer Interface and Virtual Reality: A Precursor to Wonderland

As discussed in the previous chapter, in connecting the neocortex to the cloud and the world wide web, machine intelligence will be able to help reconnect broken pathways between the brain and other parts of the body through the nervous system. Recently approved by the FDA for clinical trials, a leader in the initial implementation of this technology is Elon Musk's company, Neuralink. As stated on the company's website, the clinical trials are looking for individuals with Quadriplegia (SCI) and Amyotrophic Lateral Sclerosis (ALS) to become the first volunteers to implement the technology. By surgically implanting a Neuralink into the skull, Neuralink promises successful candidates that the device "is designed to interpret a person's neural activity, so they can operate a computer or smartphone by simply *intending* to move—no wires or physical movement are required."[2] Musk also claims that Neuralink will eventually enable clinicians to utilize Neuralink to help individuals who are blind regain their eyesight and even enable individuals with severed spinal cords to walk again—all groundbreaking innovations that will offer unprecedented hope and opportunity for human flourishing in ways never before observed outside of the miraculous.

From a Christian worldview, reverse engineering these concepts not only brings great hope to help alleviate human suffering but also offers insight into the biblical text, particularly in the miracle accounts.[3] As the eternal mind back of the created order

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[2] Neuralink, "Join Neuralink's Patient Registry," accessed on November 25, 2023, http://neuralink.com/patient-registry/.

[3] Defining miracles, G. W. Leibniz writes, "Since nothing is done which is not orderly, we may say that miracles are quite within the order of natural operations. We use the term natural of these operations because they conform to certain subordinate regulations which we call the nature of things. For it can be said that this nature is only a custom of God's which he can change on the occasion of stronger reason than that which moved him to use these regulations." G. W. Leibniz, *Discourse on Metaphysics and The Monadology*, trans. George R. Montgomery (Mineola, NY: Dover, 2005), 7. C. S. Lewis writes, "I use the word Miracle to mean an interference with Nature by supernatural power. Unless there exists, in addition to Nature, something else which we may call the supernatural, there can be no miracles. Some people believe that nothing exists except Nature; I call these people Naturalists. Others think that, besides Nature, there exists something else: I call them *Supernaturalists*." C. S. Lewis, *Miracles: A Preliminary Study* (New York: HarperOne, 2001), 5-6. J. Gresham Machen adds, "According to the Christian conception, a miracle is wrought by the immediate power of *God*. It is not wrought by an arbitrary and fantastic despot, but by the very God to whom the regularity of nature itself is due. . . . It is not an uncaused

(John 1:1-4), Jesus's ability to directly manipulate matter through *touch* (Matt 9:27-31), *voice* (Luke 18:35-43), or even *thought* (Mark 5:25-34) is increasingly becoming plausible for His image bearers in the early stages of these technologies. Today, machine intelligences already enable humanity to manipulate their environments through touch and voice recognition technologies. Companies like Neuralink will soon enable users to bypass these mediums, opening vistas to the power of thought to manipulate one's environment. Again, such advancements only reveal the deeper powers of the *imago Dei* manifesting themselves through humanity's creative powers alluded to in Michael Polanyi's assessment: "[That] man has the power to establish real patterns in nature, the reality of which is manifested by the fact that their future implications extend indefinitely beyond the experience which they were originally known to control. The appraisal of such order is made with universal intent and conveys indeed a claim to an unlimited range of as yet unspecifiable true intimations."[4]

While such advancements will initially break into the commercial market for individuals with physical disabilities, the broader market implementation will take place as the technology develops and opens to the public. The benefits for the general population will enable a user to operate any computer or smartphone without any physical medium between one's thoughts or intended actions.[5] Individuals will be able to communicate with one another through digital telekinesis.[6] The mind will no longer require a screen, though the senses will by no means be disregarded, as thought will

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event, but an event that is caused by the very source of all the order that is in the world." J. Gresham Machen, *Christianity and Liberalism* (Grand Rapids: William B. Eerdmans, 2009), 87.

[4] Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 2015), 37.

[5] "Neuralink's Clinical Trial: The PRIME Study," Neuralink, November 21, 2023, YouTube video, 1:32, https://www.youtube.comwatch?v=z7o39CzHgug.

[6] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin Books, 2005), 316-17.

enable a direct link with the world wide web and the internet of things.[7] Elon Musk promises that the connectivity of the brain with the web will enable human superintelligence.[8] In time, the vast expansion of the brain-computer interface, along with the added ability to manipulate one's environment through the power of thought, will increasingly reflect the powers God possesses over the corporeal realm.[9]

While this kind of innovation may be difficult to comprehend, as a Christian, I believe that humanity's dominion over the created order directly implies that we should have achieved this kind of power over matter long before our current developments. Just as human beings manipulate matter at the macro level, and since the sum is always made up of its parts, it naturally follows that humanity should do so at the micro level.[10] Whether through touch (vibration), voice recognition (sound waves), or thought (electro-chemical signals), waves and wave signatures provide the foundation for signal control. In the same way that embodied humans touch and interact with one another and their material environments, if a machine intelligence can recognize those signals for communication or to perform functions, while unable to create *ex nihilo*,[11] are innovators

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[7] "Deliver Performance and Connectivity Wherever Innovation Requires," intel, accessed November 26, 2023, https://www.intel.com/content/www/us/en/internet-of-things/overview.html.

[8] "World's Most Advanced Broadband Satellite Internet," Starlink, accessed on November 26, 2023, https://www.starlink.com/technology. Essentially, Starlink is a massive constellation of satellites that will increasingly surpass tower technology and provide global connectivity to the world wide web. While Neuralink will connect the human brain, Starlink will connect the globe. In time, Starlink may serve as the medium for connecting all human and machine intelligences with one another. One's thoughts, like their prayers, will travel around the globe and into the heavens in a vast superhighway of information.

[9] Kari Paul and Maanvi Singh, "Elon Musk's Brain Implant Company Is Approved for Human Testing: How Alarmed Should We Be?," *The Guardian*, June 4, 2023, https://www.theguardian.com/technology/2023/june/04/elon-musk-neuralink-approved-human-testing-concern.

[10] Herman Bavinck, *Essays on Religion, Science, and Society*, ed. John Bolt, trans. Harry Boonstra and Gerrit Sheeres (Grand Rapids: Baker Academics, 2011), 99.

[11] Michael Allen comments on the concept of creation *ex nihilo*: "The doctrine of creation from nothing removes all possible dualisms and insists on the singular lordship of the one true God, which we considered at length in the last chapter. Indeed, we can say that just as holiness is the metaphysical marker of this one God's being in and of himself, creation *ex nihilo* must be the descriptor of any production which he undertakes (inasmuch as there is nothing else from which material might be fashioned)." Michael Allen, *Sanctification*, New Studies in Dogmatics 2 (Grand Rapids: Harper Collins, 2017), 83.

not mirroring—on a small scale—the actions of their Creator who spoke into the void, "Let there be light" (Gen 1:2)?[12] The great regress of humanity is sin. Human selfishness, corrupt inner rings, avarice, jealousy, and the like have paralyzed human synergy and innovation from the beginning. As discussed in the previous chapters of this dissertation, it is not innovation, pattern recognition, and manipulation, nor the scientific enterprise that necessitates a deep collective wisdom toward certain elements of progress, but rather the abuses of such innovations for the intention of opposing the City of God. In contrast, the City of Man seeks innovation to rule as God. Yet, whether one is living for the former or the latter, the question remains as to how far society will allow such innovations to change the social and physical environment.

For Ray Kurzweil, Neuralink is only an initial step toward a much more invasive connection between human biology and technology. By the time Kurzweil published *The Singularity Is Near* (2005), he noted that technological innovation with the brain had been advanced to the extent that "the Max Planck Institute [had] already developed a 'neuron transistor' that [could] detect the firing of a nearby neuron, or alternatively . . . cause a nearby neuron to fire or suppress it from firing."[13] As discussed in previous chapters of this dissertation, the advancements by the Max Planck Institute are only the beginnings of a future where the brain-computer interface (BCI) will

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[12] See Aristotle, *Physics*, trans. Robin Waterfield, OWC (New York: Oxford University Press, 2008). God is the Agent of potentiality that always actualizes His good and intended outcomes perfectly. Since God does not change Himself, He is, in His essence, both perfect potentiality and actuality—no outside force can effect change upon His potential as it is always actualized perfectly in Himself. Aristotle describes His essence as "that which is absolutely unchanging and is the primary entity in the whole universe" (*Physics*, 49). While humanity is made in the image of God, human beings experience change and growth, while simultaneously exerting change on the material order. Humanity possesses the creative intelligence to change and manipulate the corporeal realm. Aristotle described this process: "Change is the actuality of that which exists potentially, in so far as it is potentially this actuality. . . . the actuality of what is capable of causing change and the actuality of what is capable of being changed are the same. The one actuality must be the actuality of both, because it is thanks to the agent's capacity for causing change that it has the potential for causing change, and it is thanks to its actual activity that it actually causes change, but what it actualizes is something that is capable of being changed" (*Physics*, 57, 60). The potential of a human agent made in the image of God, and in the human collective, is unimaginable (Gen 11:6). It is the bent nature of the agent that causes such potential to be used for evil, not the capacity for potentiality to be actualized.

[13] Kurzweil, *The Singularity Is Near*, 313.

communicate via wireless nanotechnology that will be injected into the bloodstream—an advancement that Kurzweil promises will enable scientists to "redesign and rebuild, molecule by molecule, our bodies and brains and the world with which we interact."[14]

Kurzweil foresees nanobot technology eventually enabling the successful reverse engineering of the human brain, the ability to read an individual's neurological signals in real-time, and a resulting optimization of the brain-computer interface.[15] While this process will greatly enhance the powers currently being promised by Neuralink, Kurzweil's nanobot vision will add a significant upgrade toward immersive virtual reality. He predicts that nanobot technology will enable individuals to experience a physiological correlate as they interact in an immersive virtual reality—theoretically making virtual reality an infinite expansion of human simulation and stimulation.

Regarding how nanobots will help to bridge the experiences between true reality and virtual reality, Kurzweil writes, "If we want to experience real reality, the nanobots just stay in position (in the capillaries) and do nothing. If we want to enter virtual reality, they suppress all of the inputs coming from our actual senses and replace them with the signals that would be appropriate for the virtual environment."[16] What makes this switching process a logical potentiality is the fact that the brain does not directly experience the sensory experiences of the body itself. The brain only experiences *signals* from the sensory receptors. If those signals are stimulated via nanobots inside the body directly stimulating the nervous system, the brain will be none the wiser. As such,

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[14] Kurzweil, *The Singularity Is Near*, 227.

[15] Kurzweil writes, "Nanobots will . . . expand our minds through the merger of biological and nonbiological intelligence. The first stage will be to augment our hundred trillion very slow intraneuronal connections with high-speed virtual connections via nanorobot communication. This will provide us with the opportunity to greatly boost our pattern-recognition abilities, memories, and overall thinking capacity, as well as to directly interface with powerful forms of nonbiological intelligence." Kurzweil, *The Singularity Is Near*, 316. See also chapter 2 of this dissertation.

[16] Kurzweil, *The Singularity Is Near*, 313-14.

the implications for immersive virtual reality will increasingly create an experience similar to the suggested virtual reality in the movie *The Matrix* (1999), but only better.[17]

I strongly believe that the emergence of immersive virtual reality (IVR) is going to represent one of the greatest challenges to human identity and the *imago Dei* within the next several decades, particularly with impressionable minds in the classroom. For example, Kurzweil even hypothesizes that men will be able to change their nervous systems to that of women at any given point in the virtual reality, or vice versa.[18] Such a radical change to the nervous system would blend the memory of an individual's experiences between their experience as a biological male and their experience as a non-biological female. What kind of effects could this have on human identity and gender?[19] This is just one example of the challenges represented. I believe that this kind of radical change in human experience requires the implementation of a strategic think tank of educators, representing various worldviews, to establish boundaries that will protect youth from entering into an imaginative and creative digital multiverse where it will become extremely easy to lose track of one's own personal identity, experience, and memory.

For educators, and pertinent to this dissertation and the field of Christian education, while innovations such as IVR will change the future of education in many ways for the better, if the current challenges presented by a student's online presence are

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[17] Regarding the simulation and stimulation of virtual sex, Kurzweil writes, "Your nervous system generates the appropriate encoded signals for all of your senses: visual, auditory, tactile of course, even olfactory. From the perspective of your brain, it's real because the signals are just as real as if your senses were producing them from real experiences. The simulation in virtual reality would generally follow the laws of physics, although that would depend on the environment you selected. If you go there with another person or persons, then these other intelligences, whether of people with biological bodies or otherwise, would also have bodies in this virtual environment. Your body in virtual reality does not need to match your body in real reality. In fact, the body you choose for yourself in the virtual environment may be different from the body that your partner chooses for you at the same time. The computers generating the virtual environment, virtual bodies, and associated nerve signals would cooperate so that your actions affect the virtual experience of the others and vice versa." Kurzweil, *The Singularity Is Near*, 319.

[18] Kurzweil, *The Singularity Is Near*, 142.

[19] Kurzweil, *The Singularity Is Near*, 314-15.

any indicator of what an immersive presence would create, it is vital for educators to be proactive and creative about how they will ensure that these technological developments will not jeopardize the lives and mental well-being of those students through potential addiction along with a heightened potential threat toward splitting their identities.

The Implications of a Kurzweilian Vision of Immersive Virtual Reality and the Simulation Hypothesis on Impressionable Minds

Throughout *Alice in Wonderland* and *Through the Looking Glass*, Alice's reality changes so dramatically that she is forced to constantly wrestle with the cognitive dissonance between her experience in Wonderland and the real world. At the center of this struggle is Carroll's intentional emphasis on Alice's understanding of her own identity.[20] In the scene where Alice meets the hookah-smoking Caterpillar, the two characters finally greet one another after a long time of silence and have a fascinating exchange: "'Who are you?' said the Caterpillar. This was not an encouraging opening for a conversation. Alice replied, rather shyly, 'I—I hardly know, sir, just at present—at least I know who I was when I got up this morning, but I think I must have been changed several times since then.'"[21]

Later, when trying to convince a serpent-fearing pigeon that her elongated neck does not make her a serpent hunting for eggs, the guarded bird asks Alice to tell him what she is. In response, Alice says, "'I'm a—I'm a—' 'Well! What are you?' said the Pigeon.

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[20] Reflecting on the impact of cognitive dissonance, Muriel Elmer and Duane Elmer write, "Several studies using the fMRI discovered that when a person experienced dissonance, a conflict between two incompatible options, it showed up in the activated amygdala (emotion). Another region of the brain (a part of the prefrontal cortex), which is associated with control, also became active. It functions to restore a sense of well-being or equilibrium, bringing a sense of satisfaction to the individual that life is back on 'track'." Muriel I. Elmer and Duane H. Elmer, *The Learning Cycle: Insights for Faithful Teaching from Neuroscience and the Social Sciences* (Downers Grove, IL: InterVarsity Press, 2020), 95. A virtual reality as described by Kurzweil would make finding equilibrium almost impossible. How will such dissonance affect young minds?

[21] Carroll, *Alice in Wonderland and Through the Looking Glass*, 41.

‘I can see you’re trying to invent something!’ ‘I—I’m a little girl,’ said Alice, rather doubtfully, as she remembered the number of changes she had gone through that day.”[22]

Again, in *Through the Looking Glass*, when Alice is playing chess with the Queen, just before the Queen vanishes, she offers Alice a few pointers appropriate for little girls: “At the next peg the Queen turned again, and this time she said, ‘Speak in French when you can’t think of the English for a thing—turn out your toes when you walk—and remember who you are!’”[23]

Finally, in her conversation with Humpty Dumpty, after the famous egg sees Alice for the first time, he chides her: “‘Tell me your name and your business.’ ‘My name is Alice, but—’. . . ‘What does it mean?’ ‘*Must* a name mean something?’ Alice asked doubtfully. ‘Of course it must,’ Humpty Dumpty said with a short laugh. ‘*My* name means the shape I am . . . . With a name like yours, you might be any shape almost.’”[24]

Carroll’s emphasis on identity amidst Alice’s adventure in Wonderland and Looking Glass Land could not be more helpful in offering a picture of the kind of influence many of these technologies will have on the impressionable minds in the future of Christian education. Whereas educators are already trying to navigate how to work with students who are hyper-stimulated by their online presence, social media, and the luring excitement of a divided life between their real and online personas, an immersive virtual reality will only exacerbate this struggle.[25]

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[22] Carroll, *Alice in Wonderland and Through the Looking Glass*, 51-52. The issues of gender identity today are paving the way to a complete and even *human-form* dysphoria. Users will be whatever or whoever they want to be at any given time.

[23] Carroll, *Alice in Wonderland and Through the Looking Glass*, 166-67 nj.

[24] Carroll, *Alice in Wonderland and Through the Looking Glass*, 211-12. In a similar conversation with the Gnat about the importance of one’s identity and name, the Gnat asked, “‘What’s the use of their having names,’ the Gnat said, ‘if they won’t answer to them?’ ‘No use to *them*,’ said Alice, ‘but it’s useful to the people that name them, I suppose, if not, why do things have names at all?’” (211-12).

[25] Jason Thacker, *Following Jesus in a Digital Age* (Nashville: B & H, 2022). Thacker offers excellent commentary on helping navigate many of the challenges that adults and youth alike are presented with through their online presence.

A Double-Edged Sword: The Effects of Online Presence on Solitude and Companionship in Relation to Personal Identity

Albert Mohler wrote with prophetic insight a little over a decade ago, "Know this: Social media will soon dominate all other forms of digital communication."[26] Looking back on his statement, there has never been a digital medium whose influence has spanned the world with as much followership as social media platforms. Yet, it could also be said that while social media claims to be just that, *social*, many individuals enter its gates daily only to feel increasingly isolated. In her book *Alone Together*, author Sherry Turkle addresses many of the challenges being navigated in the social sciences due to technological innovation and social media, but specifically, how individuals "are changed as technology offers us substitutes for connecting with each other face-to-face."[27] One of the central concerns presented in the work addresses the issue of how technology is distracting individuals from experiencing solitude.[28] Regarding the impact of an online presence on students, interaction with an addictive, never-ending stream of entertainment or online connection is preventing today's youth from the pleasure of resting in their own space and person.[29] In a remarkable paradox, Turkle also notes that while a student's escape into the digital realm can cause them to detach from their own space in search of connection, research is *also* confirming that online relationships are generally producing only an "illusion of companionship without the demands of

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[26] R. Albert Mohler Jr., *The Conviction to Lead: 25 Principles for Leadership that Matters* (Minneapolis: Bethany House, 2012), 179.

[27] Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2017), 11.

[28] Turkle, *Alone Together*, xxi.

[29] Felicia Wu Song offers helpful insight into compulsion-inducing activities and the physiological effects of pornography, digital stimulation upon working memory, and the rise of cortisol levels on the brain, blood pressure, heart rate, and blood sugars. Song argues that the manipulation of human stress hormones can create an increased inability to self-regulate and control one's behaviors. The manipulation of cortisol and dopamine levels is especially vital during developmental stages when young minds are most impressionable. Felicia Wu Song, *Restless Devices: Recovering Personhood, Presence, and Place in the Digital Age* (Downers Grove, IL: InterVarsity Press, 2021), 48-51.

friendship."[30] Turkle makes the case that while online interaction makes one feel a sense of connection, the absence of human presence and companionship also accentuates one's sense of being alone. Thus, the more an individual associates with an online identity, the more they will feel disconnected from themselves *and* others.[31]

Furthermore, individual identity is challenged when one confuses their personal identity with one's online connections.[32] In addressing the challenge of losing both one's own sense of solitude, along with the cost of real and intimate friendships, Turkle suggests that this detachment may lead to an individual identity crisis. She writes, "The blurring of intimacy and solitude . . . . for most people . . . begins when one creates a profile on a social-networking site or builds a persona or avatar for a game or virtual world. Over time, such performances of identity may feel like identity itself."[33] With regard to adults, especially those adults who grew up before the advent of social media, there is a level of maturity that will naturally help to understand the dissonance created between the digital and the real. But for many adolescents and teenagers, having grown up immersed in these technologies, Turkle offers profound insight into their daily reality and addiction:

> Technology has become like a phantom limb, it is so much a part of them. These young people are among the first to grow up with an expectation of continuous connection: always on, and always on them. And they are among the first to grow up not necessarily thinking of simulation as second best. All of this makes them fluent with technology but brings a set of new insecurities. They nurture friendships on social-networking sites and then wonder if they are among friends. They are connected all day but are not sure if they have communicated. They become

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[30] Turkle, *Alone Together*, 1.

[31] Max Borders, *The Social Singularity: A Decentralist Manifesto* (Austin, TX: Social Evolution, 2018), 94. Borders addresses the ongoing Japanese trend of individuals seeking relationship with robot partners in the absence of human relationships.

[32] Song writes, "With social media fast becoming the dominant and default realm of friendship and identity maintenance, we risk becoming a people with a fairly truncated view of relationship and personhood. For in this space designed to sell our eyeballs and data to third-party interests, our fundamental sense of identity can grow dependent on a steady diet of crowd-sourced affirmation of an airbrushed version of ourselves." Song, *Restless Devices*, 85.

[33] Turkle, *Alone Together*, 12.

> confused about companionship. Can they find it in their lives on the screen? Could they find it with a robot? Their digitized friendships—played out with emoticon emotions, so often predicated on rapid response rather than reflection—may prepare them, at times through nothing more than their superficiality, for relationships that could bring superficiality to a higher power, that is, for relationship with the inanimate.[34]

While the initial stages of IVR will offer any number of educational advantages, when considering Turkle's research, it is vital to consider how a Kurzweilian vision for this technology could challenge the flourishing of students in the classroom. [35]

The Coming Challenges of an Immersive Virtual Reality and the Simulation Hypothesis on Personal Identity

One of the greatest challenges students will face in the next decade directly related to IVR is the metanarrative conception posed by the Simulation Hypothesis. The Simulation Hypothesis suggests that humanity is already living in a simulated reality. This notion was largely developed by Nick Bostrom in 2003 in his article entitled "Are You Living in a Computer Simulation?" In the article, Bostrom argued that previous civilizations—referred to as "post-human" civilizations—may have already developed technologies to the point of creating believable computer simulations he refers to as *ancestor simulations*.[36] In his article, Bostrom argues that if human beings are able to create a believable IVR simulation, then it is increasingly plausible that this development may have already transpired in the past.[37] If true, argues Neil deGrasse Tyson, human beings may be living not only in a single simulation but within a hierarchy of simulations—"simulations all the way down."[38] Bostrom contends that a mature

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[34] Turkle, *Alone Together*, 17.

[35] I will provide a vision for IVR as a tool for advancing a superior educational context in the appendix.

[36] Rizwan Virk, *The Simulation Hypothesis: An MIT Computer Scientist Shows Why AI, Quantum Physics and Eastern Mystics Agree We Are in a Video Game* (Mountain View, CA: Bayview Books, 2019), 111.

[37] Virk, *The Simulation Hypothesis*, 112.

[38] Virk, *The Simulation Hypothesis*, 115.

superintelligence "could create virtual worlds that appear to its inhabitants much the same as our world appears to us. It might create vast numbers of such worlds, running the same simulation many times or with small variations. The inhabitants would not necessarily be able to tell whether their world is simulated or not."[39] Key influencers such as Neil deGrasse Tyson and Elon Musk are currently popularizing the Simulation Hypothesis.[40]

When considering the effects of Bostrom's theory, Rizwan Virk notes, "Bostrom's conclusion is that the simulated beings are really artificially intelligent characters in simulations rather than conscious entities that have presence in the real world."[41] Whereas in the previous chapters of this dissertation, the concept of the Turing Test was stipulated as a *precursor* to attaining Strong AI, on the basis of the Simulation Hypothesis, Virk writes, "If we are simulated beings in a simulation, then other characters around us are already passing the Turing Test. This means that if the Turing Test will ever be passed, then it has probably already been passed!"[42] Furthermore, Bostrom adds an eschatological element to his theory in noting that humanity's greatest threat in a simulated reality would arise if the intelligence behind the simulation decided to terminate its existence.[43] Responding to Bostrom's doomsday hypothesis, Kurzweil argues that one of the best ways to ensure the simulation's prolonged existence could be the promise of the simulation generating the technological Singularity. Kurzweil even argues that the Singularity may be the ultimate purpose of the simulation: "Indeed,

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[39] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2017), 164.

[40] Elon Musk, "Are We in a Simulated Reality?," Joe Rogan Experience #1169, September 7, 2018, YouTube video, 15:02, https://www.youtube.com/watch?v=0cM690CKArQ; Neil deGrasse Tyson, "Living in a Simulation with Neil deGrasse Tyson and Nick Bostrom—Cosmic Queries," StarTalk, December 23, 2021, YouTube video, 55:53, https://www.youtube.com/watch?v=g2rJITW9viw; Martin Rees, *On the Future: Prospects for Humanity* (Princeton, NJ: Princeton University Press, 2018), 170.

[41] Virk, *The Simulation Hypothesis*, 116.

[42] Virk, *The Simulation Hypothesis*, 116. Virk's assumption that the Turing Test has already been passed is a reflection of his faith back-projecting developments that have not yet occurred upon history.

[43] Kurzweil, *The Singularity Is Near*, 404-5.

achieving a Singularity of exploding knowledge may be the very purpose of the simulation. Thus, assuring a 'constructive' Singularity . . . could be the best course to prevent the simulation from being terminated."[44] In Kurzweil's hypothesis, his concept of the Singularity could *already* be humanity's saving grace as well as its future savior. Kurzweil writes,

> Our world appears to have a long and rich history. This means that either our world is not, in fact, a simulation or, if it is, the simulation has been going a very long time and thus is not likely to stop anytime soon. Of course it is also possible that the simulation includes evidence of a long history without the history's having actually occurred. . . . Perhaps this other civilization is running an evolutionary algorithm on our universe (that is, the evolution we're witnessing) to create an explosion of knowledge from a technological Singularity. If that is true, then the civilization watching our universe might shut down the simulation if it appeared that a knowledge Singularity had gone awry and it did not look like it was going to occur.[45]

While those who hold to the Simulation Hypothesis are merely reverse projecting a modern technological development on human history, this theory is purely conjecture; if such technologies are developed and experienced, users may indeed become convinced that their *reality* and *identity* are merely a simulated illusion.

Building on Turkle's assessment of the increased adolescent and adult online presence leading to a disassociation from both personal solitude and the experience of true companionship, as in the film *The Matrix* (1999), the Simulation Hypothesis is a metaphysical rabbit hole. Considering the implications of such a worldview, Carroll's description of Alice's leaving reality for Wonderland is apropos:

> The rabbit hole went straight on like a tunnel for some way, and then dipped suddenly down, so suddenly that Alice had not a moment to think about stopping herself before she found herself falling down what seemed to be a very deep well. Either the well was very deep, or she fell very slowly, for she had plenty of time as she went down to look about her, and to wonder what was going to happen next. First she tried to look down and make out what she was coming to, but it was too dark to see anything; then she looked at the sides of the well, and noticed that they were filled with cupboards and bookshelves; here and there she saw maps and

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[44] Kurzweil, *The Singularity Is Near*, 405.

[45] Kurzweil, *The Singularity Is Near*, 405.

> pictures hung upon pegs. . . . Down, down, down. Would the fall *never* come to an end? "I wonder how many miles I've fallen by this time?" she said aloud. "I must be getting somewhere the center of the earth." . . . Down, down, down. There was nothing else to do, so Alice soon began talking again. . . . And here Alice began to get rather sleepy, and went on saying to herself, in a dreamy sort of way, "Do cats eat bats? Do cats eat bats?" for, you see, as she couldn't answer either question, it didn't much matter which way she put it. She felt that she was dozing off, and had just begun to dream that she was walking hand in hand with Dinah, and was saying to her very earnestly, "Now, Dinah, tell me the truth, did you ever eat a bat?" when suddenly, thump! thump! Down she came upon a heap of sticks and dry leaves, and the fall was over.[46]

Once the metaphysical foundation of a Simulation Hypothesis can root itself in an *observable* IVR simulation, supplemented by the popular support of key influencers, the theory will become increasingly believable for students to accept that their own identity is merely an *illusion*. The reason I believe this theory may prove to be the greatest challenge not only for Christian educators but for future generations is due to the degrading consequences of the Simulation Hypothesis on human identity, value, and purpose.

The effects of the Enlightenment initiated a great drift in Western metaphysics.[47] Whereas Christianity was the prevailing worldview in the West for millennia, Enlightenment thinkers began to promote a deistic theism that would eventually drift toward a naturalistic interpretation of reality.[48] As argued in this

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[46] Carroll, *Alice in Wonderland and Through the Looking Glass*, 2-4.

[47] Arthur O. Lovejoy, *The Great Chain of Being: A Study of the History of an Idea*, The William James Lectures Delivered at Harvard University, 1933 (Cambridge, MA: Harvard University Press, 2001), 7; George Knight, *Philosophy and Education: An Introduction in Christian Perspective,* 4th ed. (Berrien Springs, MI: Andrews University Press, 2006),15.

[48] Denis Diderot (1713-1784) serves as an example of the Enlightenment drift away from Christianity and Judaism to Deism and then to Atheism. Frederick Copleston writes, "At the time when he wrote the *Pensées Philosophiques* he was, indeed, a deist; and in the following year (1747) he wrote an essay on the sufficiency of natural religion, though it was not published until 1770. . . . [Diderot concluded that the] historical religions, such as Judaism and Christianity, are mutually exclusive and intolerant. They are the creation of superstition. They began at certain periods in history, and they will all perish. . . . Diderot abandoned deism for atheism and called on men to free themselves from the yoke of religion. . . . [he eventually concluded that] Men and animals are really of the same nature, though their organizations differ. Differences in cognitive power and intelligence are simply the results of different physical organizations." Frederick Copleston, *The Enlightenment: Voltaire to Kant*, vol. 6 of *A History of Philosophy* (1960; repr., New York: Bloomsbury Continuum, 2003), 41. One can see in Copleston's assessment how influential Darwin's *Origin of Species* would be in providing a mechanistic theory to make sense of a naturalist metaphysic as proposed by Diderot.

dissertation, Christianity assumes the glory and value of *every* human as being made in the likeness of God. Every human being possesses innate worth and purpose. Naturalism degrades human beings to the level of a mere evolved animal—a creature with no heavenly or *incorporeal* worth. Moving from a naturalistic metaphysic to the metaphysical assumption presented in the Simulation Hypothesis, the degradation of human worth is *total*; in a simulated reality, humanity cannot even retain a *corporeal* worth. In other words, where a naturalistic worldview teaches children, adolescents, and adults alike that God and the heavenly hosts do not exist, the Simulation Hypothesis teaches an individual that one's own spouse, children, parents, siblings, neighbors, friends, and most fundamental of all, one's *own* personal identity does not *really* exist.[49] As Bostrom mentioned, human beings are merely simulated AIs interacting within a large artificial construct. In fact, Kurzweil's belief in the Singularity is so all-encompassing that he concludes it is possible that one's ultimate reason for existence within a simulated reality may be to ensure that the Singularity occurs—the greatest bargaining chip to a simulation creator lest it decide to shut the simulation down.[50] In regard to the logical implication and outcome of Kurzweil's statement, he is unambiguously claiming that the very reason any simulated individual and student may exist is for the ultimate creation of the Singularity.[51] While the Simulation Hypothesis will provide the worldview foundation for the ultimate degradation of personal identity, value, and purpose, the creation of an IVR will parallel the ideological challenges with a believable and varied metaphysical challenge.

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[49] Jay Lennon George Williams, "The Flame of the West: A Perspective on the Oxford Inklings' Vision for Imaginative Learning in Christian Scholarship," *CEJ* 19, no 3 (January 2023), 385-401. In the article, I address the challenge of the Simulation Hypothesis in greater detail.

[50] When considering Kurzweil's concept of a simulation, in light of his rejection of "God," how do adherents who hold to a Simulation Hypothesis differentiate the creator of the simulation from the historical conception of God?

[51] This is a very important insight into the role the Singularity may play as developed in chapter 4.

In Lewis Carroll's *Through the Looking Glass,* the story begins with Alice talking to her cat about her great longing to enter into Looking-glass House—the world on the other side of a mirror looking back at her.[52] Looking deeply into the mirror, Alice ponders what is beyond her line of sight in the mirror and becomes determined to see whether there is a real fire in Looking-glass House:

> Oh, Kitty, how nice it would be if we could only get through into Looking-glass House! I'm sure it's got, oh! Such beautiful things in it. Let's pretend there's a way of getting through into it, somehow, Kitty. Let's pretend the glass has got all soft like gauze, so that we can get through. Why, it's turning into a sort of mist now, I declare! It'll be easy enough to get through"—She was up on the chimney piece while she said this, though she hardly knew how she got there. And certainly the glass *was* beginning to melt away, just like a bright silvery mist. In another moment Alice was through the glass, and had jumped lightly down into the Looking-glass room. The very first thing she did was to look whether there was a fire in the fireplace, and she was quite pleased to find that there was a real one, blazing away as brightly as the one she had left behind. "So I shall be as warm here as I was in the old room," thought Alice; "warmer, in fact, because there'll be no one here to scold me away from the fire. Oh, what fun it'll be, when they see me through the glass in here, and can't get at me!"[53]

Having already drawn attention to the reality that an immersive virtual reality is a perfect surveillance world—a real Looking-glass House—it is curious how closely Carroll's imagery of Looking-glass House aligns with Kurzweil's concept of a nanobot augmented IVR. Again, Kurzweil writes, "The word 'virtual' is somewhat unfortunate. It implies 'not real,' but the reality will be that a virtual body is just as real as a physical body in all the ways that matter. . . . With my physical body today, I don't directly experience someone's touch on my arm. My brain received processed signals initiated by nerve endings in my arm."[54] Just as our corporeal reality is a reflection of an incorporeal reality (Heb 10:24; 1 Cor 13:11-12), in no small measure, an immersive virtual reality

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[52] Carroll, *Alice in Wonderland and Through the Looking Glass*, 145.

[53] Carroll, *Alice in Wonderland and Through the Looking Glass*, 144-45.

[54] Kurzweil, *The Singularity Is Near*, 203.

will become a digital reality that reflects the corporeal reality—including full stimulation of the receptors of the body.[55]

In some ways, this technological innovation will provide an unlimited trajectory of useful innovation.[56] With this kind of technology, one could construct an online or in-class learning medium that brings learning to life in ways previously unimaginable. For example, what could a master's class look like if an AI-generated and fully interactive Einstein were to teach a physics course, utilizing not only the nuances of his expressions and voice as captured on film but deriving the data of his genius from his published works as the basis for his instruction?[57] How compelling would a class on philosophy become if a digital representation modeled after the bust of Plato were to come to life and interact with each individual student regarding his theory of the forms and ideas? What of attending a symphony composed by Johann Sebastian Bach? What if students were invited to shrink down to a proportionate size and enter the micro-world to observe the power of a DNA molecule or even a foglet nanobot?[58] Moreover, in an immersive virtual reality, Greek mythology, or any fancy of the imagination, could in essence become "real." One could travel with Odysseus and his companions back to Ithaca.[59] One could sit with the Allied commanders plotting a course to counter the Nazi war machine in Europe during World War 2. In this kind of simulation, the imagination is truly the only limiting factor of possibilities for one's learning or experience.

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[55] C. S. Lewis, ed., *Essays Presented to Charles Williams* (Grand Rapids: William B. Eerdmans, 1966), 83; Williams, "The Flame of the West," 385-401. See my article for a more established construction of the concept of "worlds within worlds."

[56] Murray Shanahan, *The Technological Singularity*, MIT Press Essential Knowledge Series (Cambridge, MA: MIT Press, 2015), 44.

[57] This kind of instruction could be used through immersive VR (virtual reality) at home or in a brick-and-mortar institution. Alternative models may utilize AR (augmented reality) and/or holographic simulations at home or at a physical institution.

[58] Stephen C. Meyer, *Signature in the Cell: DNA and the Evidence for Intelligent Design* (New York: HarperOne, 2009), 246.

[59] Homer, *The Odyssey*, trans. Walter Shewring, OWC (New York: Oxford University Press, 1998), 278.

But the great benefits for learning created by an IVR may also become a medium of unimaginable vice. When a student enters and leaves an immersive virtual experience, assuming that Kurzweil's nanobots eventually provide sensory stimulation in sync with the simulation, their nervous system will have encoded their experiences to *memory* in the same way they do in the real world. Kurzweil's vision for the future of "experience beaming" offers an exciting promise for real-world simulation training.[60] An athlete will be able to train in simulations where the minute nuances of a world-class sprinter help form their technique directly to a user's own muscular system. At the same time, one also must consider how these experiences could affect one's own memory and identity when the digital world conflicts with the real world.

For example, if an individual such as Ray Kurzweil lives as a teenage female rockstar in an IVR, along with the experiences of that form and its effects on memory, what happens when he leaves that experience and enters the body of an 80-year-old man in the real world? The problem will be exacerbated by the reality that individuals will live as multiple forms in the immersive virtual world. From this perspective, Carroll's Alice and her identity crisis in Wonderland will become a prophetic picture of a student's own identity crisis. This prospect raises an important question: "How will teachers navigate morality in a world where one's actions do not directly affect other 'real' individuals?"[61] Is one angle in this development to provide a virtual shunt for the affections to discharge one's desires into a digital reality rather than true reality?

In his work *Homo Deus*, Yuval Harari justifies his conception of ethics based on a utilitarian perspective. Regarding the ethical problem of murder, he writes, "Humanism has taught us that something can be bad only if it causes somebody to feel bad. Murder is wrong not because some god once said, 'Thou shalt not kill.' Rather,

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[60] Kurzweil, *The Singularity Is Near*, 316.

[61] Granted, they may be interacting with other virtual users.

murder is wrong because it causes terrible suffering to the victim, to his family members, and to his friends and acquaintances."[62] With regard to theft, he argues, "Theft is wrong not because some ancient text says, 'Thou shalt not steal.' Rather, theft is wrong because when you lose your property, you feel bad about it."[63] Finally, with regard to adultery, he writes, "Modern people have differing ideas about extramarital affairs, but no matter what their stance is, they tend to justify it in the name of human feelings rather than in the name of holy scriptures and divine commandments."[64] As Harari systematically justifies the defiance of God's moral law, he summarizes his own ethic: "If an action does not cause anyone to feel bad, there can be nothing wrong with it. If the same ancient text says that God commanded us not to make any images of either humans or animals (Exodus 20:4), but I enjoy sculpting such figures, and I don't harm anyone in the process—then what could possibly be wrong with it?"[65] Reminiscent of the serpent's words in the garden, "'Did God actually say', 'You shall not eat of any tree in the garden'. . . . 'You will not surely die. For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil'" (Gen 3:1, 4-5), Harari is calling God a liar.[66] When considering the fallout of this kind of ethic, one only has to look at history and consider how "a restrained" world of moral corruption and degradation has worked out. One can only imagine the state into which an "unrestrained" world would devolve

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[62] Yuval Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Harper Perennial, 2017), 227.

[63] Harari, *Homo Deus*, 227.

[64] Harari, *Homo Deus*, 227.

[65] Harari, *Homo Deus*, 227.

[66] Jonathan Edwards, *The Religious Affections* (East Peoria, IL: Versa Press, 2007), 186.

and the vulnerability of such a populace—perhaps, a populace ripe for an elitist and globalist agenda.[67]

Reflecting on this kind of moral logic, Socrates disdained those who believed pleasure to be the greatest ethic:

> And what sort of masters do you think those are who prevent the best actions and compel the worst?" "Surely the worst possible." "And what do you consider to be the worst form of slavery?" "That is my opinion." "Don't you think that self-indulgence debars people from wisdom, which is the greatest good, and drives them into the opposite state? Don't you think that, by dragging them off in pursuit of pleasure, it prevents them from studying and apprehending their real interests; and that it often confuses their perception of good and bad and makes them choose the worse instead of the better?"[68]

When applying to IVR Harari's logic that nothing can be wrong if it does not hurt anyone, and certainly Kurzweil's belief that human beings are merely "patterns of matter and energy," which evokes the same logic,[69] how would a heart surrendered to any given vice not tarnish the potential virtue in one's *own* soul and identity simultaneously? How would a virtual world of adultery, lying, stealing, or idolatry scar one's own conscience and soul?[70] In a world without divine grace, without a *cross*, can the adulterer ever recover a sense of his or her identity when it comes to the opposite virtue of *faithfulness*?[71] What of the murderer? Can an individual ever recover an identity rooted in loving one's own neighbor for their own *good* and personal flourishing? Harari seems to see the divine law as a moral vice to his own personal pleasure, but he could not be further from the truth. In Romans 13:8-10, the apostle Paul argues that the divine law is

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[67] Allan Bloom, *The Closing of the American Mind: How Higher Education Has Failed Democracy and Impoverished the Souls of Today's Students* (New York: Simon & Schuster Paperbacks, 1987), 61.

[68] Xenophon, *Conversations of Socrates*, trans. Hugh Tredinnick and Robin Waterfield, ed. Robin Waterfield, Penguin Classics (London: Penguin Books, 1990), 203.

[69] Kurzweil, *The Singularity Is Near*, 385.

[70] Augustine, *Essential Sermons*, ed. Boniface Ramsey, trans. Edmund Hill, in *WSA*, pt. 3, *Homilies* (New York: New City Press, 2007), 418-19.

[71] R. Albert Mohler Jr., *The Apostle's Creed: Discovering Authentic Christianity in an Age of Counterfeits* (Nashville: Thomas Nelson, 2019), 81.

the ultimate expression of loving one's neighbor. In direct antithesis to Harari's assessment, Paul writes,

> Owe no one anything, except to love each other, for the one who loves another has fulfilled the law. For the commandments, "You shall not commit adultery, You shall not murder, You shall not steal, You shall not covet," and any other commandment, are summed up in this word: "You shall love your neighbor as yourself." Love does no wrong to a neighbor; therefore, love is the fulfilling of the law.

For Paul, to obey God's law is to fulfill the greater law of love—to bring one's actions into alignment with the character of the Trinity and fulfill the greatest expression of the *imago Dei* in participating in the divine goodness. Jesus said that the fulfillment of the law is to "love the Lord your God with all your heart and with all your soul and with all your mind. This is the great and first commandment. And a second is like it: You shall love your neighbor as yourself. On these two commandments depend all the Law and the Prophets" (Matt 22:37-40). Consequently, to spurn God's law would create the opposite effect of hatred toward one's neighbor. Moreover, an action is never removed from the *actor*; therefore, to spurn God's law and hate one's neighbor is ultimately an act upon oneself (Ps 11:5).

While a digital reality may offer the *thrill* of vice without a real neighbor to sin against, the greater vice of sin is its corruption to one's own soul—an image captured in infamy by Oscar Wilde in *The Picture of Dorian Gray*.[72] In *The Enchiridion*, Augustine illustrates this reality in the example of the deception of the liar: "For the liar does not think that he errs, but that he leads another who trusts him into error. And certainly, he does not err in regard to the matter about which he lies, if he himself knows the truth; but he is deceived in this, that he thinks his lie does him no harm, whereas every sin is more hurtful to the sinner than to the sinned against."[73] Jesus said that it was not what went into

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[72] Oscar Wilde, *The Picture of Dorian Gray* (London: Arcturus, 2009), 219.

[73] Augustine, *The Enchiridion of Augustine Addressed to Laurentius: Being a Treatise on Faith, Hope, and Love*, Christian Classics Series 2 (London: Unwin Brothers Printers, [1955?]), 31.

a man that defiled him. Christianity is not a religion rooted in food or drink (Col 2:16). Rather, he said, "Out of the heart come evil thoughts, murder, adultery, sexual immorality, theft, false witness, slander. These are what defile a person" (Matt 15:19-20). While individuals like Harari and Kurzweil suggest that an immersive virtual reality may enable one to experience any kind of sexual fantasy or pleasure, just as the abuses of such actions cry to us in the real world, is it logical to expect they will remain silent in the virtual?[74] There is a deep connection between an individual's actions and their identity. In *Known by God*, author Brian Rosner draws attention to this reciprocal influence: "Authenticity is a two-way street: we act out of our identity, but our repeated acts can alter that identity. Our character, which is formed by settled habits of action and feeling, is both fed by our identity and feeds that changing identity. Following our heart can turn us into a different person, and not necessarily for the better."[75]

When one ponders the potential of a real Wonderland and Looking-glass House, Carroll's Alice offers much to consider when it comes to the identity of impressionable minds. When it comes to Ray Kurzweil's vision for IVR along with the direct manipulation of the nervous system, combined with the Simulation Hypothesis, the blurring of one's identity will open the door to *accepting* his idea that there is no distinction between reality and immersive virtual reality on the basis that an individual believes that reality itself is only a mere simulation. Once this assumption is believed, one's metaphysical, epistemological, and axiological presuppositions become purely subjective.[76] Consequently, every human being will become their own god and, if they

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[74] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin Books, 1999), 147-48.

[75] Brian S. Rosner, *Known by God: A Biblical Theology of Personal Identity*, Biblical Theology for Life (Grand Rapids: Zondervan, 2017), 235.

[76] C. S. Lewis's assessment of the importance of shaping an individual's assumptions to shape their future is critical. Regarding the "Green Book" and its bent against objective value, Lewis writes, "The very power of Gaius and Titius depends on the fact that they are dealing with a boy: a boy who thinks he is 'doing' his 'English prep' and has no notion that ethics, theology, and politics are all at stake. It is not a theory they put into his mind, but an assumption, which ten years hence, its origin forgotten and its

choose, the master of their own simulation (Gen 3:4-5).[77] With glaring sense, David Berlinski reminds the reader of how subjective truth ultimately succumbs to a few people stating their objective beliefs over others and the impracticality of an everyone-for-themselves reality:

> If moral imperatives are not commanded by God's will, and if they are not in some sense absolute, then what ought to be is a matter simply of what men and women decide should be. There is no other source of judgment. What is this if not another way of saying that *if God does not exist, everything is permitted?* These conclusions suggest quite justifiably that in failing to discover the source of value in the world at large, we must in the end retreat to a form of moral relativism, the philosophy of the fraternity house or the faculty dining room—similar environments, after all—whence the familiar declaration that just as there are no absolute truths, there are no moral absolutes. Of these positions, no one believes the first, and no one is prepared to live with the second.[78]

Innovation is a gift to humanity from God, but in a fallen world, such advances in knowledge require wisdom. Francis Bacon is considered to be one of the most influential minds that paved the way for the empirical method. Regarding the advancements in innovation, Bacon gives sound wisdom for consideration: "It is good also, not to try experiments in states, except the necessity be urgent, or the utility evident; and well to beware, that it be the reformation, that draweth on the change, and not the desire of change . . . as the Scripture saith, 'that we make a stand upon the ancient way, and then look about us, and discover what is the straight and right way, and so to walk in it.'"[79]

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presence unconscious, will condition him to take one side in a controversy which he has never recognized as a controversy at all." C. S. Lewis, *The Abolition of Man* (New York: HarperOne, 2001), 5.

[77] Harari, *Homo Deus*, 120.

[78] David Berlinski, *The Devil's Delusion: Atheism and Its Scientific Pretensions* (New York: Basic Books, 2009), 40-41.

[79] Francis Bacon, *The Essays or Counsels, Civil and Moral, of Francis Ld. Verulam Viscount St. Albans* (Mount Vernon, NY: Peter Pauper Press, 1970), 97.

Envisioning a Christian Response to Technology in the Classroom

Building on Turkle's assessment of how an online presence diminishes personal identity through both a sense of solitude and relationship, Christian educators will help to offset the effects that these technologies have on student identity primarily by establishing a strong teaching foundation about an individual's identity being rooted in the *imago Dei* and the creation/dominion mandate for Christian formation (Gen 1:26-28).[80] Human beings were created to rule the created order, not to be swallowed up and ruled by it.[81] In the same way that influencers are trying to suggest there is a strong probability we are living in a simulated reality before this technology is developed, Christian educators can instill a strong sense of personal identity rooted in the biblical text. In 2 Corinthians 10:4-6, the apostle Paul writes, "For the weapons of our warfare are not of the flesh but have divine power to destroy strongholds. We destroy arguments and every lofty opinion raised against the knowledge of God, and take every thought captive to obey Christ." In helping students to grasp their God-given worth—that they are not merely software in a simulation, but creatures made in the likeness of their Creator with an eternal destiny (chapter 3 of this dissertation)—students will be better able to navigate the falsehood of the Simulation Hypothesis and the corresponding despair that such a worldview will create in those who embrace it.[82]

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[80] David I. Smith and James K. A. Smith, eds., *Teaching and Christian Practices: Reshaping Faith and Learning* (Grand Rapids: Wm. B. Eerdmans, 2011), 140. James Smith reminds Christian educators that the primary aspect of a Christian education is character formation: "*Theoretically* I have been convinced that Christian education is not just about the transfer of information but also about a task of formation—the formation of the kinds of persons that constitute a 'peculiar people'" (140).

[81] Kurzweil, *The Singularity Is Near*, 374-76.

[82] C. S. Lewis, *The Pilgrim's Regress*, ed. David C. Downing (Grand Rapids: William. B. Eerdmans, 2014), 51-56. Lewis's depiction of reason using the philosophical transcendentals to slay the giant Despair offers a powerful illustration of how objective truth can enable an individual freedom from the deception of a brute naturalism.

Secondly, with regard to leadership, educators and scholars can lead the way by setting an example for students (Gal 4:12; Phil 3:17; 4:9; 2 Thess 3:7-9).[83] Students need to see stable educators who can navigate new and burgeoning technologies—technologies that the students themselves will be trying to understand and balance—so that they will have the wisdom and conviction to provide advice and counsel to those who have less wisdom and life experience.[84] Students who embrace the Simulation Hypothesis will be vulnerable to its enormous potential to exploit its followers.[85] Educators will do well to construct courses in digital ethics to ensure that students learn how to navigate these technological developments safely. Specifically, educators will be a primary influence in walking students through the potential trauma that an IVR could impose on their memory and development.[86] Furthermore, while arguments for morality will be developed, such as those given by Yuval Harari, Christian educators can help students to navigate the effects of digital immorality on the human soul and psyche with a strong emphasis on the Sermon on the Mount (Matt 5:20-6:24).[87] By helping students navigate the deeper current of sin (Ps 51:6), that it begins at a point of intention (Jas

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[83] John Cartwright et al., *Teaching the World: Foundations for Online Theological Education* (Nashville: B & H Academic, 2017), 100.

[84] Mohler, *The Conviction to Lead*, 176-77.

[85] "I will acknowledge that many of you do seem conscious to me, but I should not be too quick to accept this impression. Perhaps I am really living in a simulation, and you are all part of it. Or, perhaps it's only memories of you that exist, and these actual experiences never took place. Or maybe I am only now experiencing the sensation of recalling apparent memories, but neither the experience nor the memories really exist. Well, you see the problem." Kurzweil, *The Singularity Is Near*, 385.

[86] Bessel van der Kolk, *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma* (New York: Penguin Books, 2014), 171.

[87] Smith and Smith, *Teaching and Christian Practices*, 37. Adding wisdom, Jonathan Pennington emphasizes the priority of internal disposition over external purity; a battle of the mind and will generally precedes an external act. Jonathan T. Pennington, *The Sermon on the Mount and Human Flourishing: A Theological Commentary*, trans. R. S. Pine-Coffin, Penguin Classics (Grand Rapids: Baker Academic, 2017), 179.

1:14), students who are trained to navigate actions at the intentional level will be better equipped to resist digital temptations and their conditioning powers.[88]

Thirdly, educators could make efforts toward fostering individual identity by implementing social science courses. By providing a Theological Anthropology course, educators could teach entire sections on the potential influences of the developments discussed in this dissertation so that students are informed before such changes in culture transpire. Educators would do well to help students understand that they are not only moral, believing creatures but also "desiring, imaginative ones."[89] One of the primary draws of IVR will be its activation of the imagination.[90] By helping students understand that such technology can be used for great good and the development of one's imagination for creativity, students may be better equipped to grasp a deeper aspect of the imaginative in personal identity.[91] Furthermore, a Theological Anthropology class could concentrate on navigating categories that help students to appreciate and develop a broader perspective on human culture. Gregg Allison offers a list of categories in his book *Embodied*, including personal *particularity*, *ethnicity/race*, *family/kinship*, *temporality*, *context*, *sociality*, *and story*.[92] By helping students to understand their own story, and how that story fits into the larger biblical metanarrative, students will build a strong sense of human worth.[93] Allison offers a helpful overview of how one's identity is both individual and familial in nature. A strong emphasis on what it means to be *human*

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[88] Augustine, *Confessions*. Augustine's *Confessions* is a powerful work reflecting his own battle with personal sin and God's enduring faithfulness.

[89] Smith and Smith, *Teaching and Christian Practices*, 158.

[90] David I. Smith, *On Christian Teaching: Practicing Faith in the Classroom* (Grand Rapids: William B. Eerdmans, 2018), 68.

[91] Williams, "The Flame of the West," 385-401.

[92] Gregg R. Allison, *Embodied: Living as Whole People in a Fractured World* (Grand Rapids: Baker Books, 2021), 61-66, 73-75.

[93] Edward P. Meadors, ed., *Where Wisdom May Be Found: The Eternal Purpose of Chrisitan Higher Education* (Eugene, OR: Pickwick, 2019), 107.

will help students root their identity in their God-given dignity over and against the dehumanizing implications of the Simulation Hypothesis and IVR. Again, Kurzweil writes,

> In virtual reality we won't be restricted to a single personality, since we will be able to change our appearance and effectively become other people. Without altering our physical body (in real reality) we will be able to readily transform our projected body in these three-dimensional virtual environments. We can select different bodies at the same time for different people. So your parents may see you as one person, while your girlfriend will experience you as another. However, the other person may choose to override your selections, preferring to see you differently than the body you have chosen for yourself. You could pick different body projections for different people: Ben Franklin for a wise uncle, a clown for an annoying coworker. Romantic couples can choose whom they wish to be, even to become each other. These are all easily changeable decisions.[94]

While humanity can create simulated environments and soon, immersive simulations in the same way that fictional stories and art portray glimpses of truth in the real world, immersive simulations will become increasingly accurate representations of what is truly real. We may even begin to see our own simulations creating simulations within themselves. In this process, Christian educators could include in their curricula specific lectures and reading material to help students to navigate and discuss the implications of the Simulation Hypothesis. For instance, how could Christians leverage this technology for good? How could platforms such as IVR be used to reach the world with the gospel of Jesus Christ and in fulfilling the Great Commission mandate (Matt 28:18-20)? While immense evil will come of this technology, the Christian must always seek to leverage such challenges for good. Without question, brilliant minds created in the image of God will develop uses for this technology that will bring immeasurable benefits to humanity. In many ways, new innovations always present challenges when it comes to change, but challenges can always be leveraged for growth and development.

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[94] Kurzweil, *The Singularity Is Near*, 314.

The Inverse Consistency Protocol: A Viable Model for Christian Scholars, Educators, and Students in Navigating Implications of Developing Technological Innovations

In the area of Christian formation, John David Trentham's articles on "Reading the Social Sciences Theologically" offer educators a viable model for navigating integration challenges within the social sciences through the *Inverse Consistency Protocol*.[95] Trentham roots the task of the Christian scholar and educator in a thoroughgoing "Christian commitment and vision that maintains the basic belief and presupposition of God's trinitarian ontology and lordship, as well as God's ordered, purposeful unity of the temporal world and its phenomena, makes possible the project of the scientific investigation and analysis with proper perspective."[96] Thus, when seeking to integrate social science concepts from outside of the Christian worldview and, as applicable to this dissertation, scientific or technological innovations that have the potential to revolutionize the future of Christian higher education and the social sciences in general, the Christian scholar and educator must continue to engage these new developments with a precommitment to their own fundamental assumptions while seeking understanding.

In line with the post-critical philosophy of Michael Polanyi, and, relevant to this dissertation, Polanyi's argument that Augustine was the first post-critical philosopher, Trentham notes that this approach to integration is rooted in a *presuppositional-metaphysical* mode of science "[that] appeals to axiomatic beliefs as a 'General Authority' which guides the process and direction of inquiry and research"[97]—again, faith seeking understanding. Conversely, as represented in Kurzweil's thinking and

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[95] This model has been developed and used as a guiding model in this dissertation. See chapter 1, s.v. "Methodology."

[96] John David Trentham, "Reading the Social Sciences Theologically (Part 1): Approaching and Qualifying Models of Human Development," *CEJ* 16, no. 3 (October 2019): 460.

[97] Trentham, "Reading the Social Sciences Theologically (Part 1)," 461.

unique worldview as described in *The Singularity Is Near* and rooted in the thinking of modernity and the American adoption of the research ideal, Trentham defines an *empirical-epistemological* mode of scientific inquiry as that which "tends toward a subjugation or denial of [an absolute] metaphysical reality and truth altogether"[98] for "the pursuit of finding and analysis, and oriented unto temporally-quantifiable phenomena."[99] Trentham then argues that these two systems of thought are *inverse orientations*,[100] ultimately representing competing elementary assumptions regarding the nature of reality, yet systems that still require integration where *patterns of consistency* and truth are found.[101]

Qualifying Integration with Discernment

Trentham builds the ICP model on the foundation of several qualifying foundational elements for Christian integration in the social sciences. First, in differing models, Christian scholars and educators have sought integration through the primary recognition of both special and general revelation—doctrines articulated in chapter 3 of this dissertation.[102] Many models have assumed that general revelation offers a point of contact[103] between the believer in Christ and the non-believer, whereas special revelation

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[98] Trentham, "Reading the Social Sciences Theologically (Part 1)," 461.

[99] Trentham, "Reading the Social Sciences Theologically (Part 1)," 465.

[100] John David Trentham, "Reading the Social Sciences Theologically (Part 2): Approaching and Qualifying Models of Human Development," *CEJ* 16, no. 3 (October 2019): 484.

[101] Trentham, "Reading the Social Sciences Theologically (Part 2)," 486.

[102] "In the field of Christian Education, most commonly under the banner of 'social science integration,' a majority of published interlocutors have appealed to a straightforward designation of God's twofold form of revelation: general revelation is God's communication to all people universally, whereas special revelation is God's communication to God's people exclusively." Trentham, "Reading the Social Sciences (Part 1)," 465. See also David S. Dockery and Christopher W. Morgan, *Christian Higher Education: Faith, Teaching, and Learning in the Evangelical Tradition* (Wheaton, IL: Crossway, 2018), 143-44.

[103] John Frame defines point of contact as, "A belief held in common between two people that enables them to reason toward further agreement. In VT [Van Til], particularly the point of contact between believer and unbeliever." John Frame, *Systematic Theology: An Introduction to Christian Belief* (Phillipsburg, NJ: P & R, 2013), 1138.

extends God's unique method of communication to believers in Christ.[104] While not denying the primary role of special revelation, Trentham argues that basing integration between Christian and Secularist foundations on general revelation alone *assumes* that God's general revelation is sufficient to provide a qualified and trustworthy appropriation.[105] Trentham responds to this perspective with helpful theological clarity: "On the basis of general revelation, one may posit that believers and unbelievers alike have the capacity to perceive God's existence, holy character, and moral authority. To summarily posit that general revelation bestows to the believer and nonbeliever alike the wisdom to accurately formulate redemptive models of human develop is, however, theologically imprecise and unwarranted."[106] This rejoinder is clearly articulated by Paul in Romans 1:18-21, where the apostle acknowledges the declarative function of general revelation in proclaiming God's power and wisdom whilst also acknowledging the human tendency to suppress the truth in unrighteousness.

Second, in response, Trentham argues that both special and general revelation are primary ways by which God reveals Himself and declares His glory. While this foundation was sufficient in a pre-fall world, in a post-fall world, and specifically through special revelation but also through general revelation as a powerful factor substantiating special revelation (Ps 19), both special and general revelation now serve a *soteriological* function. Trentham postulates, "That is, the nature of an individual's response to general revelation pertains to that person's ultimate longing and hope of salvation, with respect to God in his transcendent and eternal reality."[107]

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[104] James R. Estep and Jonathan H. Kim, *Christian Formation: Integrating Theology and Human Development* (Nashville: B & H Academic, 2010), 58.

[105] Trentham, "Reading the Social Sciences Theologically (Part 1)," 466.

[106] Trentham, "Reading the Social Sciences Theologically (Part 1)," 466.

[107] Trentham, "Reading the Social Sciences Theologically (Part 1)," 467.

Third, when approaching issues of integration, as delineated throughout this work, Trentham postulates that the believer and non-believer find a point of contact through their mutual capacities as image bearers. While the *imago Dei* has been defined extensively in chapter 3 as foundational to this dissertation, Trentham acknowledges that, while reflecting the divine faculties in humanity, it is also the *imago Dei* that accentuates the "human-ness that mankind constitutes the *imago-Dei*."[108]

Fourth, Trentham rightfully evokes the doctrine of *common grace*. Building on the *imago Dei*, he describes two key features of common grace, that "'unregenerate people do good' and 'nonbelievers have the ability to know and teach truth.'"[109] As image bearers and recipients of common grace, Trentham concludes that Christian scholars and educators should seek integration with the theological foundation and lens that those who hold to antithetical views are still divinely constituted human beings capable of "testifying to the truth of God's beauty and character, despite an inherent bent toward worldly ultimacy."[110]

The Inverse Consistency Protocol

Building on this foundation, while the ICP model acknowledges the antithetical presuppositions of both Christian and Secularist worldviews, Trentham proposes his methodology as an "interpretive tool . . . to capably navigate this paradox." I will recall the four primary protocol steps as represented in ICP and appropriate these to ideas presented in this chapter.[111]

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[108] Trentham, "Reading the Social Sciences Theologically (Part 1)," 468.

[109] Trentham, "Reading the Social Sciences Theologically (Part 1)," 470. See also Calvin, *Institutes* 2.2.15.

[110] Trentham, "Reading the Social Sciences Theologically (Part 1)," 471.

[111] See chapter 1, s.v. "Methodology."

First, in step 1 of the ICP method, the researcher seeks to *envision redemptive maturity* by identifying and asserting normative biblical priorities in confessing and contending for the "faith that was once for all delivered to the saints" (Jude 3). However, rather than appealing merely to propositional statements, Trentham argues that *imagination* is where the hermeneutical process begins due to its critical function in actualizing how the Christian embodies such propositions and thereby becomes an image of Christ Himself to the world.[112] In other words, biblical doctrine informs physical animation through the medium of the imagination—creating a living *embodiment* of truth. An example of this step could be implemented when considering the potential for immersive technologies to revolutionize the level of engagement students will have with a digital environment. Educators could serve students by helping them navigate many of the challenges that will be created due to IVR and the worldview challenges to personal identity that will arise from the Simulation Hypothesis. Since a large emphasis on this change will hinge on digital participation, educators could lead the way by establishing a strong doctrinal foundation for human identity tied to the ontological Trinity, inherent in the doctrine of the *imago Dei*, and ultimately rooted in the salvific work of Jesus Christ.[113] Scripture is central to Christian formation as it provides the foundation for absolute truth and anchors the truths of Christianity within a consistent worldview; Scripture is the solid rock against the challenges of this world (Matt 7:24). In distinguishing the higher value of God's revealed Word to His revelation in the natural order, Calvin exclaims, "The course which God followed towards his Church from the very first, was to supplement these common proofs by the addition of his Word, as a surer

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[112] David Peterson, *Possessed by God: A New Testament Theology of Sanctification and Holiness*, NSBT 1 (Downers Grove, IL: InterVarsity Press, 1995), 125-26.

[113] See chapter 3 of this dissertation.

and more direct means of discovering himself."[114] A student's identity is tied to one's understanding of who they are in relation to their Creator.

Second, step 2 of the ICP method calls for a charitable commitment to *reading for receptivity*. Trentham writes, "Reading well is tantamount to thinking virtuously, and it is the prerequisite for carefully applying discernment and reflective judgment."[115] In what should be the aim of all researchers, it is incumbent upon the Christian thinker to seek to understand the research content with both intellectual honesty, precision, and respect. This process is predicated on the following: (1) reading and understanding primary resources; (2) gaining an understanding of the author's philosophical and ideological presuppositions; and (3) understanding the author's paradigm enough to defend their work in a way that the author would recognize and commend as being faithful and representative of their own views.[116] Utilizing this element of the ICP method, Christian scholars, educators, and students will be better able to model exemplary scholarship by reading the works and views of those who are implementing these technologies with an inverse orientation to the Christian worldview. By understanding and dialoguing with ideas antithetical to their own, as I have labored to model in this dissertation, Christian scholars, educators, and students will be better equipped to understand those who hold to an inverse orientation with academic charity.

Third, in step 3 of the ICP method, Trentham articulates the need for *employing reflective discernment*. He notes that convictional interpreters engage in research with a precommitment to their own presuppositions but also seek to consider points of varying differentiation or resonance. This section enables scholars, educators, and students alike to engage views that are inversely oriented and retain their own

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[114] Calvin, *Institutes* 1.6.1.

[115] Trentham, "Reading the Social Sciences Theologically (Part 2)," 490.

[116] Trentham, "Reading the Social Sciences Theologically (Part 2)," 490.

presuppositional convictions while seeking patterns of consistency.[117] As an example of how this might be implemented with regard to the impact of digital platforms, again, Turkle and Song argue that youth are increasingly immersing themselves in a digital reality and finding it difficult to relate to other people and find solitude in their own lives. Drawing from such developments, how might educators help form young minds by emphasizing the value of "real world" friendships and relationships and by helping students work through these technological innovations with discernment and self-control? While the answer to the problems presented by these technologies is not abstinence, educators can help children at different developmental stages to navigate a healthy balance of real world and online interaction—a progressive pattern that is proportionate to their developmental stage—by forming strong doctrinal convictions, reading widely from those who would hold to inverse orientations, and then enabling those students to integrate between the two by employing reflective discernment. Trentham offers the benefits of this approach as both charitable and critical:

> The convictional interpreter engages a text by declaring, "Here I stand!" on the basis of his or her presuppositional commitments, and will be drawn to consider apparent elements of differentiation. This is essentially *the* guiding interpretive lens for the nullifying integrationist. The humble reader engages a text by asking, "How does it look from where you stand?" and will be drawn to consider apparent elements of resonance. This is essentially *the* guiding interpretive lens for the collaborative integrationist. Both of these dispositions are necessary; neither, in exclusivity, is sufficient for the task of wise appropriation.[118]

Lastly, step 4 of the ICP method appeals to the need to *identify appropriate outlets*. Trentham writes, "Step four is thus: Carefully identify the various contexts and processes in which the model may be utilized to inform or enhance the practice and administration of Christian education."[119] Thus, the ultimate end of the ICP methodology

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[117] See chapter 4 of this dissertation.

[118] Trentham, "Reading the Social Sciences Theologically (Part 2)," 491.

[119] Trentham, "Reading the Social Sciences Theologically (Part 2)," 492.

is for the furtherment of Christian maturity, whereby all truth is God's truth, which supplies maturing qualities for life and faith. In this step, Christian scholars, educators, and students take the information gained from steps 1, 2, and 3 and then seek to leverage their engagement to further "inform or sharpen an approach to teaching, leadership, relational strategies etc." One might consider how these technological developments might be leveraged to improve current teaching methods. For example, how might IVR technologies provide a better online platform for students who cannot participate in person? Furthermore, how might teachers create better content and learning environments for students by implementing technologies such as Apple's new spatial computing or other AR and VR platforms? For an expansive list of ideas in which this model might be utilized regarding the content of this chapter, see the "Recommendations for Future Research Projects in Christian Higher Education" section below.

Educators hold a key position in helping young minds navigate the vast technological developments that will occur over the next several decades. There is a great need for Christian scholars and educators to research and implement best practice pedagogy respective and worthy of a truly unique Christian formation.[120] The greatest task in this endeavor is to help students grow into the image of Christ (Rom 8:29), proclaiming the one and only free gospel of God's salvation to humanity through the death, burial, and resurrection of Jesus Christ.[121] This gospel is received by faith alone in the merit of Christ alone, until He returns for His holy bride, the church, and the City of God is consummated in their eternal union. Until that time, all Christians, and particularly Christian scholars, educators, and students, have vital work to do. Work that requires considering the challenges listed in this dissertation. Work requiring sustained vigilance

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[120] James E. Taylor, *Learning for Wisdom: Christian Education and the Good Life* (Abilene, TX: Abilene Christian University Press, 2017), 168.

[121] Samuel E. Balentine, ed., *The Oxford Encyclopedia of the Bible and Theology* (Oxford: Oxford University Press, 2015), 1:516-17.

to defend the City of God over against the City of Man. Work that faces challenges unique to each generation, but a work that Albert Mohler notes that we are not only collectively empowered to execute, but one that we are *entrusted* with:

> Trouble in the City of Man is a call to action for the citizens of the City of God, and that call to action must involve political involvement as well. Christians may well be the last people who know the difference between the eternal and the temporal, the ultimate and the urgent. God's truth is eternal, and Christian convictions must be commitments of permanence. Political alliances and arrangements are, by definition, temporary and conditional. This is no time for America's Christians to confuse the City of Man with the City of God. At the same time, we can never be counted faithful in the City of God if we neglect our duty in the City of Man.[122]

Conclusion

I began this dissertation with the proposition that Homer's epic, *The Odyssey*, while a classic for many reasons, captures the essence of the human odyssey and longing for home—a place of true and lasting *permanence*. Augustine argued that humanity is ultimately destined to pursue this end by the ultimate realization of the City of God or the ultimate realization of the City of Man. In the end, the story of humanity will be vindicated either by a victorious Christ, the Son of God and the Son of Man, standing triumphant over His enemies and restoring creation to a good and glorious reality beyond its initial design in the restoration of a redeemed and resurrected people, or, if successful, humanity will stand triumphant over creation, and the future of the human race will be controlled by a minority of powerful technocrats.

If Ray Kurzweil's vision of the Singularity proves correct, the latter will eclipse the former. In the next few decades, human intelligence will merge with machine intelligence, create Strong AI, and initiate the technological Singularity. The outcome of such developments may potentially enable human beings to overcome the problems of human corruption and death and ultimately permeate the cosmos with technological

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[122] R. Albert Mohler Jr., *Culture Shift: Engaging Current Issues with Timeless Truth* (Colorado Springs: Multnomah Books, 2008), 5.

intelligence and consciousness, enabling "god" itself to come to life. A god that will initiate an all-encompassing unity of consciousness as it will become one with humanity as they become one, not only with one another but with machine intelligences made in their image. Furthermore, immersive virtual reality utilized in conjunction with nanobot technology will unlock a fantasy reality that will become indistinguishable from corporeal reality. The merger of these two realities will create the perfect surveillance state with almost perfect intelligence on every human being—a veritable *all-seeing-eye*. This development of power, if left in human hands and not taken by machine intelligence, will enable a small ring of power to hold control over all of humanity, and no human being will be free from their reach, control, or manipulation.

Conversely, if Christianity is true, God has an enduring message to those who would seek to oppose Him. In Psalm 2:1-12, the author writes,

> Why do the nations rage and the people plot in vain? The kings of the earth set themselves and the rulers take counsel against his Anointed, saying, "Let us burst their bonds apart and cast away their cords from us." He who sits in the heavens laughs; the Lord holds them in derision. Then he will speak to them in his wrath, and terrify them in his fury, saying, "As for me, I have set my King on Zion, my holy hill." I will tell of the decree: The LORD said to me, "You are my Son; today I have begotten you. Ask of me, and I will make the nations your heritage, and the ends of the earth your possession. You shall break them with a rod of iron and dash them in pieces like a potter's vessel." Now therefore, O kings, be wise; be warned O rulers of the earth. Serve the Lord with fear, and rejoice with trembling. Kiss the Son, lest he be angry, and you perish in the way, for his wrath is quickly kindled. Blessed are all who take refuge in him.

The awesomeness of God's creative power and the depths of His wisdom are clearly found in the intricacies of each mechanism and its function. Almost every aspect of human development discussed in this project is predicated on some aspect of reverse-engineering a mechanism in the natural order. Human beings were created in the image of a good and benevolent Creator and entrusted to exercise dominion and learn about the natural order they were designed to rule. That original order was corrupted by human sin. Though humanity is fallen, God did not determine to abandon humanity to the perils of sin, death, and the devil. Through the long story of human history, the Trinity prepared a

rescue mission. At the appropriate time, the eternal Son of God stepped into His creation as a human being. In living a sinless life, where Adam fell, Christ Jesus was victorious over sin and the devil, and in laying down His life in death, the consequence of sin, He exchanged His own death as a payment for the returned union and life between God and man. His death paid the sin price for human corruption. His resurrection unveiled to the world that God had approved His work on our behalf. Leaving the tomb, Jesus ascended into the heavens and now sits at the right hand of the Father as an intercessor for all who receive salvation through faith in His substitutionary death, until the appointed time when He will return and do away with the devil and the corruption of the natural order forever and reunite Earth with the heavens as fit in its original design.

Great changes are afoot in our times. These changes require Christian scholars to join in the design processes of AI and the implementation of such technologies within the classroom and in the lives of our students. If humanity is destined to create an intelligence greater than its own, then it is vital that all worldviews partake in its development.[123] Perhaps this development will bring great good to our world and aid in the battle against human suffering. The scope of this development is truly inestimable. However, if such technological developments are created, it is imperative that those who do not believe in a real devil are counterbalanced by those who do. The unlocking of an artificial omniscience will unlock an artificial omnipresence and omnipotence over the natural order. The Scriptures are very clear that Satan has long plotted a final and ultimate rebellion against God with fallen humanity—a consummate Babel where men and angels reascend into the heavens. While no individual can be certain about when these events will take place, the Scriptures are not silent as to the sign markers of such events, and the attainment of such power beckons us to ensure that we are wise by

[123] I will elaborate on several recommendations toward this end in appendix 1.

foresight and not by hindsight. In closing, in *The Abolition of Man*, C. S. Lewis offers profound insight and wisdom to that end:

> Each generation exercises power over its successors: and each, in so far as it modifies the environment bequeathed to it and rebels against tradition, resists and limits the power of its predecessors. This modifies the picture which is sometimes painted of a progressive emancipation from tradition and a progressive control of natural processes resulting in a continual increase of human power. In reality, of course, if any one age really attains, by eugenic and scientific education, the power to make its descendants what it pleases, all men who live after it are the patients of that power. They are weaker, not stronger: for though we may have put wonderful machines in their hands we have pre-ordained how they are to use them. And if, as is almost certain, the wage which had thus attained maximum power over posterity were also the age most emancipated from tradition, it would be engaged in reducing the power of its predecessor almost as drastically as that of its successors. And we must also remember that, quite apart from this, the later a generation comes—the nearer it lives to that date at which the species becomes extinct—the less power it will have in the forward direction, because its subjects will be so few. There is therefore no question of a power vested in the race as a whole steadily growing as long as the race survives. The last men, far from being the heirs of power, will be of all men most subject to the dead hand of the great planners and conditioners and will themselves exercise least power upon the future. . . . Man's conquest of Nature, if the dreams of some scientific planners are realized, means the rule of a few hundreds of men over billions upon billions of men . . . . and especially that final stage in the conquest, which, perhaps, *is not far off* [italics mine]. The final stage is come when Man by eugenics, by pre-natal conditioning, and by an education and propaganda based on a perfect applied psychology, has obtained full control over himself. *Human* nature will be the last part of Nature to surrender to Man. . . . For the power of Man to make himself what he pleases means, as we have seen, the power of some men to make other men what *they* please.[124]

Recommendations for Future Research Projects in Christian Higher Education

1. A topical ethical study could be undertaken to assess the effects that more immersive platforms will have on individual memory. For example, granted that students regularly interact on two-dimensional platforms, how could an increasingly immersive experience blend personal *memory* between one's real and online lives? What ethical implications for Christian Higher Education need to be considered before these technologies develop even greater immersive experiences?

[124] Lewis, *The Abolition of Man*, 56-59.

2. Utilizing a mixed-method experimental research approach, a study could be undertaken to assess the current adaptation and benefits of implementing and utilizing Apple's new spatial computing platform or other VR or AR platforms in Christian Higher Education contexts—whether on-campus or online. The feedback from these new platforms may serve as a viable research precursor to the more invasive technologies proposed in this dissertation, including those currently being developed by Neuralink and, in the future, foglet or similar nanotechnology. Experimental research could be undertaken by utilizing a sample population from an in-class context, a sample population using a standard two-dimensional computer platform through online learning, another sample population utilizing Apple's spatial computing or other VR or AR platforms, or any combination of the three.

3. Utilizing a mixed-method research approach, a study could be undertaken to assess the implementation of spatial computing or other VR and AR platforms for online learning as a viable alternative for educators to interact and teach online students. Drawing from statistics and research developed from utilizing FaceTime, WhatsApp, and Zoom during the Covid-19 pandemic, educators may utilize these new developments in technology to offer a more immersive online learning experience. Could a more interactive and personal experience, as exemplified in Apple's new spatial computing platform, increase human flourishing and interaction for online students by offering an increasingly similar experience to the on-campus alternative?

4. Utilizing a mixed-method research approach, a study could be undertaken to evaluate the influence of more immersive digital platforms, whether VR or AR, on adolescent, young adult, and adult users with regard to *personal identity*. The feedback from these new platforms may serve as a viable research precursor to the more invasive technologies proposed in this dissertation, such as those currently being developed by Neuralink, and, in the future, foglet or similar nanotechnologies that will directly manipulate the brain and nervous system as an individual interacts in a digital environment.

5. A topical ethical study could be undertaken to evaluate the implications of connecting the neocortex to the cloud as a means of achieving superintelligence. What implications will such developments have for the future of Christian Higher Education when, for example, a student will always have access to the World Wide Web with almost perfect memory?

6. A study could be undertaken to assess the future viability of researchers and students using *AI research assistants* to provide a more comprehensive and machine-assisted learning experience and scholarly work.

7. A study could be undertaken to assess the increasing likelihood that students will be utilizing AI platforms such as ChatGPT to articulate their ideas. How might this type of technology stifle human learning and creativity? How might this technology transform the current model of writing or learning and leverage greater learning potential? Is there a middle ground that could be achieved in the utilization of ChatGPT and other similar technologies?

8. A topical ethical study could be undertaken to evaluate the potential risks and implications leading students to detach from reality if Ray Kurzweil's IVR vision becomes viable. If a student's virtual reality is more enjoyable than their real life, how could such detachment from their real lives lead to spiritual, psychological, and physiological developmental harm?

9. A topical ethical study could be undertaken to evaluate the potential positive implications for students who find an increased sense of self-worth in a digital environment and whether that positive experience could stimulate a positive outcome in their development in the real world.

10. A mixed-method study utilizing sample case studies and qualitative interview data could be undertaken to assess the benefits of utilizing an AI-generated assistant for students. While not human, and in similar function to platforms like Siri or Alexa, an AI assistant could function as a viable "teacher's assistant" to help students grasp various elements of learning and to supplement teacher/student ratios. Would a hybrid model of human and AI teaching offer a superior learning experience when compared with current models where teachers are always pulled between varied student learning gaps?

11. A study could be undertaken to assess the implications of IVR and AR platforms to provide better support for developing the *affective domains* of learning.

12. A study could be undertaken to assess the implications of utilizing IVR and AR platforms to assist learning within *special education*.

13. A study could be undertaken to assess the implications of utilizing IVR and AR platforms in the development of *special education* curricula development.

14. A study could be undertaken to assess whether programs like ChatGPT might be leveraged to assist in *curricular design*.

15. A study could be undertaken to assess how Christian educators might utilize new immersive technologies to provide global access to their institution in reaching students around the world. The increased quality of distance learning generated by these technologies may serve an institution's mission to reach and train Christian leaders around the world.

16. A topical ethical study could be undertaken to evaluate the potential for teachers and professors to record their lectures for IVR and AR platforms, along with providing an AI algorithm of their person, to provide to students for interaction with a professor's algorithmic mind file. How could this potential platform enable struggling students to acquire tutoring from their teacher or professor's mind file? What ethical implications might need to be considered regarding the interaction with the real teacher or professor and their AI algorithmic mind file? How might this benefit or hinder learning?

17. A study could be undertaken to assess the implications of enabling global education via IVR or AR developments. Due to the increasing ability of these platforms to provide increasingly life-like interaction, online learning will likely become an increasingly viable platform for Higher Education. Without the need for travel, teachers, researchers and developers, and professionals from all domains of learning could offer their expertise and teach in classrooms or homes all around the world. How could the globalization of education change the current system? For example, rather than institutions having a minimal number of faculty or guest lecturers, institutions could offer any number of guest lecturers from varying cultures and fields without the restraint of a language barrier.

18. An empirical study could be conducted to navigate how a technology such as Neuralink or Ray Kurzweil's foglet nanotechnology could be used to monitor a student's real-time brain wave functions. Could this technology help educators improve a student's learning experience? Would this kind of monitoring infringe on an individual's right to privacy? Is there is a middle ground?

19. A study could be undertaken to assess how Christian educators might utilize new immersive technologies for curricular development.

20. A topical ethical study could be conducted to assess whether brainwave monitoring of individuals could lead to the abuses of a more refined eugenics process?

21. A study could be done to assess how increased global connectivity will enable greater scholarly collaboration via new IVR and AR technological developments.

22. A topical ethical study could be undertaken to evaluate the nature of a student's online decisions and interactions when interpreted through the Simulation Hypothesis as presented in this dissertation. For example, when an individual's actions are directed to an AI persona and not a real human being, how will students navigate moral decisions in an online platform? What negative impact could such a worldview have on student development and human flourishing?

23. A study could be undertaken to assess the viability of implementing new immersive technologies to supplement textbook development. For example, what if digital textbooks had the ability for students to experience "pop-up" dramatizations of historical events or speeches whereby the student observes reenactments of historical events throughout IVR or AR platforms? Could this kind of development accentuate and heighten both cognitive and affective domains of learning?

24. A study could be undertaken to assess how immersive technologies might better enable students to express their creative potential in learning. For example, spatial computing enables a student to interact with digital reality with their bodily movements. How might this deepen learning compared to the traditional form of a seat and desk environment?

25. A topical ethical study could be undertaken to assess the possibility of non-human teachers and educators. As AI technology becomes increasingly sophisticated, it is plausible that human teachers and professors will no longer be necessary. How might these developments hinder human development? Will they benefit human development? As we see these developments in AI technology, is there a middle ground for both?

APPENDIX 1

PATHWAYS TO FUTURE RESEARCH

1. Project Excalibur: AI Is the Sword in the Stone

Summary: *A proposal to establish a multi-national and multi-worldview think tank to collectively establish an optimal group intelligence for the ensuring the benevolent outcome of an artificial intelligence reflecting classical and modern Western ideals.*

Project Excalibur: The deep and meaningful symbolism of Excalibur, being itself a symbol of virtue and strength, reflective of the character of its rightful owner, can provide a symbolic vision toward Strong AI. In some ways, Strong AI is the "sword in the stone," and whoever pulls Excalibur will attain AI supremacy and an intelligence advantage over every other government on earth. I believe that it is of vital importance that a broad and multi-worldview think tank derived from a range of fields be gathered to ensure that the programming of Excalibur is established with the highest level of intentionality and care. In fact, with a technology of this sophistication, in the best-case scenario, this circle must be comprised with the highest representation of humanity from the Western hemisphere. Furthermore, participants must acknowledge that the outcome of this research and engineering will most likely change the entire course of human history and therefore require the utmost care to ensure that a system of checks and balances are in place to prevent unforeseen catastrophe. For my own part, as discussed in chapter 3 of this dissertation, the most important character quality that could be instilled into an intelligence made in human likeness is the character of God's goodness—the antithesis of the abuses of human power. The divine goodness is the eternal benchmark of all benevolence and goodness, and therefore the source of human flourishing. An AI that

sees loving God and man as the highest values will be safeguarded against wrongful use of its power.

Furthermore, how do we balance this apart from grace? A perfect AI may not understand the human inescapability from sin or sinful intentions. Excalibur must be good and merciful, grasping Christ's justice "already" executed on human sin. A self-righteous intelligence would fall under the character of Satan. An intelligence that is modeled after self-righteousness would become an unimaginable tyrant, a beast, who could accuse every human being of some form of human sin and become the ultimate Pharisee. With Excalibur, humanity could create *an ally* in the assisting humanity in their fight against sin. Rather than creating an instrument of mere destruction in its military capacities or its power to become a commercial vampire, what if Strong AI became a good and merciful protector?

In *The Enchiridion*, Augustine describes the essence of human corruption because of sin:

> Therefore, so long as a being is in process of corruption, there is in it some good of which it is being deprived; and if a part of the being should remain which cannot be corrupted, this will certainly be an incorruptible being, and, accordingly, the process of corruption will result in the manifestation of this great good. But if it does not cease to be corrupted, neither can it cease to possess good of which corruption may deprive it. But if it should be thoroughly and completely consumed by corruption, there will then be no being. Wherefore corruption can consume the good only by consuming the being. Every being, therefore, is a good; a great good, if it cannot be corrupted; a little good, if it can: but in any case, only the foolish or ignorant will deny that it is a good. And if it be wholly consumed by corruption, then the corruption itself must cease to exist, as there is no being left in which it can dwell.[1]

Is it possible for humanity to create a good and merciful Strong AI, despite the built-in corruption of human sin. If so, humanity could find help toward human flourishing, as well as an intelligence capable of defending Western freedom and ideals.

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[1] Augustine, *The Enchiridion of Augustine Addressed to Laurentius: Being a Treatise on Faith, Hope, and Love*, Christian Classics Series 2 (London: Unwin Brothers Printers, [1955?]), 31.

2. Project Arthur: Implementing Excalibur to Defend Western Ideals from Adversative AIs.

Summary: *A proposal to establish a multi-national and multi-worldview think tank to collectively propose an optimal group intelligence for implementing the benevolent outcome of an artificial intelligence reflecting classical and modern Western ideals.*

Once Excalibur is attained, the second phase of its development will be in its implementation toward defending and helping Western society. I have aptly named this phase of the development of Strong AI "Arthur," after its natural antecedent, but also after the depiction of Arthur given by Geoffrey of Monmouth in *The History of the Kings of Britain*, where he writes that under Arthur's leadership and protection, "the fame of his generosity surpassed all the leaders of the land, so that he was loved by some and feared by others, dreading he might conquer all the lands of Europe through his uprightness and the generosity of his gifts."[2] In Project Arthur, Excalibur becomes operational, watching over Western nations at home and in defending against other nations abroad who themselves may invent AIs capable of subverting our Western way of life. If we are destined to have an omnicompetent State, why not have one based upon the Christian principles of divine goodness—an eternal goodness infused into man, and man infusing into an entity created in his own likeness for the good of all.

3. Developing a Strong AI That Is Gracious to Human Sinners: Mirroring the Character of Christ over and against Satan.

Summary: *The necessity of developing an AI that dwells under the shadow of the cross: The potential use and abuse that the accuser of our souls could implement through an exhaustive account of human sin online and eventually through the direct monitoring of the human brain.*

A perfect surveillance AI would fulfill C. S. Lewis's warning in *The Abolition of Man*:

> You cannot go on "seeing through" things for ever. The whole point of seeing through something is to see something through it. It is good that the window should

[2] Geoffrey of Monmouth, *The History of the Kings of Britain: The First Variant Version*, ed. and trans. David W. Burchmore, Dumbarton Oaks Medieval Library (London: Harvard University Press, 2019), 315.

> be transparent, because the street or garden beyond it is opaque. How if you saw through the garden too? It is no use trying to "see through" first principles. If you see through everything, then everything is transparent. But a wholly transparent world is an invisible world. To "see through" all things is the same as not to see.[3]

Part of human dominion is personal identity, which includes an individual's right to privacy. Every human being is a world unto themselves and brings that individual world to the rest of the human collective. A surveillance system that could watch an individual's thoughts would mimic, in a limited capacity, the intelligence that God has over humanity (an artificial omniscience), providing surveillance of an individual's intentions. While such technology would provide a depth of knowledge, preventing acts of terror and criminal activity, having a technology that reflects Yuval Harari's vision of an intelligence that knows you better than yourself carries the very real potential of being used as a weapon against everyone. Granted that humanity has a spiritual adversary of the soul whose intentions toward humanity are hostile, Satan is the accuser, it is extremely important for designers to consider how such intelligence could be used to accuse humanity of their sin and potentially make war against the saints (Dan 7:21; Rev 13:7). On the other hand, in the scenario that Strong AI is used as a vessel for mimicking the character of and therefore glorifying Christ as a *gracious* entity, J. Gresham Machen's appeal to the gospel bursting forth out of a hard materialism may provide insight into a hopeful outcome:

> In the midst of all the material achievements of modern life, one may well ask the question whether in gaining the whole world we have not lost our own soul. Are we forever condemned to live the sordid life of utilitarianism? Or is there some lost secret which if rediscovered will restore to mankind something of the glories of the past? Such a secret the writer of this little book would discover in the Christian religion. . . . a message of divine grace, almost forgotten now, as it was in the middle ages, but destined to burst forth once more in God's good time, in a new Reformation, and bring light and freedom to mankind.[4]

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[3] C. S. Lewis, *The Abolition of Man* (New York: HarperOne, 2001), 81.

[4] J. Gresham Machen, *Christianity and Liberalism* (Grand Rapids: Wm. B. Eerdmans, 2009), 13.

An Artificial Intelligence that grasps the central necessity of divine grace because of the extent of human sin could be used to help *safeguard* an individual against choices that would lead them into harmful addictions or life-altering decisions. In a cursory manner, such an AI could help assist a nation in growing closer to Aristotle's concept of a moral *mean*—strengthening integrity and the stability of the home.[5] Moreover, rather than Strong AI reflecting Harari's tyrannical AI that dictates every element of individual's life,[6] in much the same way that a friend who is indwelt by the Holy Spirit can bring reproof, exhortation, and rebuke (2 Tim 4:2), what if AI could become an intelligent coach that comes alongside individuals to help counsel and provide paths of decision making by which a person's own discernment and intelligence is increased and assisted in developing personal goodness and virtue?

4. Considering the Ethical Implementation of Kurzweil's Nanobots and Their Capacity to Induce Paralysis on the User: Safeguarding against Human or Machine Intelligence from Directly Manipulating an Individual Agent against Their Will.

Summary: Ray Kurzweil envisions the development of nanobot technology that will be able to not only stimulate the nervous system in rhythm with one's online interaction, but also disable and paralyze signals from the brain to the limbs to prevent a user from encountering objects in the real world while navigating the virtual experience.

One of the central elements of Kurzweil's vision for immersive virtual reality will be the ability for nanobots to block signals from the brain to the muscles while a person is interacting in the virtual world. This deactivation process will prevent an individual from harm by disabling their ability to encounter their surroundings while

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[5] Aristotle, *The Nicomachean Ethics of Aristotle*, trans. D. P. Chase (London: Routledge & Sons, 1910), 54-57. Aristotle offers a reasonable outlook toward a best-case scenario, "At all events thus much is plain, that he mean state is in all tings praiseworthy, and that practically we must deflect sometimes towards excess, sometimes towards defect, because this will be the easiest method of hitting on the mean, that is, on what is right" (57).

[6] Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Harper Perennial, 2017), 341-46.

immersed, while simultaneously engaging the nerves to stimulate the virtual experience. Kurzweil describes how this nanobots will accomplish this task:

> As I discussed in chapter 4, inputs from the body—comprising a few hundred megabits per second—representing information about touch, temperature, acid levels, the movement of food, and other physical events, stream through the Lamina 1 neurons, then through the posterior ventromedial nucleus, ending up in the tow insula regions of the cortex. If these are coded correctly—and we will know how to do that from the brain reverse-engineering effort—your brain will experience the synthetic signals just as it would real ones. You could decide to cause your muscles and limbs to move as you normally would, but the nanobots would intercept these intraneuronal signals, suppress your real limbs from moving, and instead cause you virtual limbs to move, appropriately adjusting your vestibular system and providing the appropriate movement and reorientation in the virtual environment.[7]

As argued in this dissertation, in as much as machine intelligence will become a mind-extension of humanity, in the same manner, the human sensory system will become a "mind extension" of AI. By injecting or ingesting nanobot technology into the human body, individuals will be vulnerable to an involuntary deactivation of their mobility or bodily functions. Whether by accident or intent, this version of humanity places an individual's privacy and bodily action under the power of those who control these technologies and AI. I believe a deep pause and broad collaboration need to be established before implementing this kind of invasive technological innovation. Sufficient checks and balances need to be put in place to prevent the abuse of such technology along with an inviolable law permitting an individual to opt out or have a hard disconnect that cannot be overridden by an external authority.

Furthermore, Rizwan Virk suggests the real possibility of mind-broadcast technology, a technological innovation that would enable an external source to hijack an individual's input and output signals in the brain to cause an individual to see things they did not actually see. He writes, "The idea is that if the brain is a computer or an electrical machine, then like any other machine, it can be treated like a black box—by looking at

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[7] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin Books, 2005), 314.

signals in and out you can mimic any behavior. In this case, signals *in* would be like signals to the brain from the eyes . . . and output would be the result of the input signals—i.e., that we see or feel things that aren't there."[8]

5. Immersive Virtual Reality: Could IVR Be Used to Implement Jean-Jacques Rousseau's Concept of the "State of Nature"? Could a Theoretical Isolation of the Populace Create the Ideal Circumstances for the Few to Rule the Many?

Summary: Jean-Jacques Rousseau argued that humanity is bound by a social contract whereby true personal freedom is exchanged for the protection of society. Rousseau argued that an individual is most free when disconnected from society, except for the ruling body of government—a body politic that would retain power to ensure personal freedom. IVR will enable an increasingly isolated populace. In fact, if each user is interacting with AI intelligences in IVR, it is conceivable that "every" individual may be isolated from real human interaction. How could the supreme isolation of the many lead to the ultimate control of the few who hold power at the top?

One of the central arguments in Sherry Turkle's *Alone Together* is her concern that an individual's online presence is increasingly becoming one's central reality. Again, in referring to the influence of technology on teenagers, she writes,

> Technology has become like a phantom limb, it is so much a part of them. These young people are among the first to grow up with an expectation of continuous connection: always on, and always on them. And they are among the first to grow up not necessarily thinking of simulation as second best. All of this makes them fluent with technology but brings a set of new insecurities. They nurture friendships on social-networking sites and then wonder if they are among friends. They are connected all day but are not sure if they have communicated. They become confused about companionship. Can they find it in their lives on the screen? Could they find it with a robot? Their digitized friendships—played out with emoticon emotions, so often predicated on rapid response rather than reflection—may prepare them, at times through nothing more than their superficiality, for relationships that could bring superficiality to a higher power, that is, for relationship with the inanimate.[9]

Sherry Turkle's concern is vitally important because it accentuates the fraying threads of human connection and relationship. Jean-Jacques Rousseau believed that an individual is most free when they are not attached to any societal chains. When free from society,

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[8] Rizwan Virk, *The Simulation Hypothesis: An MIT Computer Scientist Shows Why AI, Quantum Physics, and Eastern Mystics Agree We Are in a Video Game* (Mountain View, CA: Bayview Books, 2019), 75.

[9] Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2017), 17.

Rousseau argues that a human being enters a "state of nature," a state of true innocence free from the evils of other human beings. Regarding the power of some men to rule others, Rousseau writes,

> Such was, or may have been, the origin of civil society and laws, which gave new fetters to the poor, and new powers to the rich; which destroyed natural liberty for ever, fixed for all time the law of property and inequality, transformed shrewd usurpation into settled right, and to benefit a few ambitious persons, subjected the whole of the human race thenceforth to labour, servitude and wretchedness.[10]

Thus, Rousseau concluded that "Man is born free, and he is everywhere in chains."[11] Rousseau also argued that the corruption of society will necessitate that society's existence. He believed that civil society began when a growing populace realized that protection from one another was more necessary to safeguard one's own preservation at the expense of one's freedom in a state of nature. Reflecting on the expansive population, Rousseau believed that unless humanity could change their mode of existence, human society may reach a place of self-destruction. He writes,

> I assume that men reach a point where the obstacles to their preservation in a state of nature prove greater than the strength that each man has to preserve himself in that state. Beyond this point, the primitive condition cannot endure, for then the human race will perish if it does not change its mode of existence. Since men cannot create new forces, but merely combine and control those which already exist, the only way in which they can preserve themselves is by uniting their separate powers in a combination strong enough to overcome any resistance, uniting them so that their powers are directed by a single motive and act in concert. Such a sum of forces can be produced only by the union of separate men, but as each man's own strength and liberty are the chief instruments of his preservation, how can he merge his with other's without putting himself in peril and neglecting the care he owes to himself? This difficulty, in terms of my present subject, may be expressed in these words: "How to find a form of association which will defend the person and good of each member with the collective force of all, and under which each individual, while uniting himself with the others, obeys not one but himself, and remains as free as before."[12]

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[10] Jean-Jacques Rousseau, *The Social Contract*, Penguin Books for Philosophy (London: Penguin Books, 1968), 2.

[11] Rousseau, *The Social Contract*, 49.

[12] Rousseau, *The Social Contract*, 59-60.

An immersive virtual reality will create a mode of existence Rousseau could not have imagined in seventeenth-century Europe. In an IVR scenario, humanity could potentially exist in a multiverse of IVRs, preserving personal freedom in a digital "state of nature" while also preserving a union of separate men.

However, from a Christian worldview, humanity was not created to exist in isolation (Gen 2:18). God created Eve and through her, she would become the mother of all living because isolation is harmful to God's intent for each person to live in bodily unity (1 Cor 12:12-14). Human beings were created to dwell as a global family and to populate the earth together as a central tenet of the creation mandate (Gen 1:28). A humanity that is isolated from one another cannot flourish because it is living contrary to God's design. Drawing from Turkle's observation of the detrimental effects of online presence on youth, such a reality will produce broken creatures desperate for "real" relationship and connection.

Furthermore, an isolated and weak humanity is easier for dictatorial rulers to control. With the increasing immorality available on the world wide web, more individuals are being exposed to sinful actions that they may have never encountered in the real world. As discussed previously and as promoted by figures such as Ray Kurzweil and Yuval Harari, such actions are likely to deepen their impact on the human soul as technology becomes increasingly life-like. As discussed in chapter 3 of this dissertation, Augustine argued that Rome did not first fall from external circumstances but through the moral corruption of society. Rather than attributing this degradation to demonic powers alone, Augustine argued that the ruling government wanted immorality to spread because it made the people vulnerable and easier to rule.[13] In evaluating the trajectory of isolation and immorality, it is not a far stretch to conclude that a society alone and broken will be

[13] Augustine, *The City of God against the Pagans*, ed. and trans. R. W. Dyson, Cambridge Texts in the History of Political Thought (Cambridge: Cambridge University Press, 1998), 184.

ripe for a tyrannical government to assume control.[14] As such, I believe further study could be directed toward ensuring that a Rousseau vision for humanity is countered by a better Christian vision for human flourishing—one in which every family and individual is strengthened and human connection is increased for the preservation of the species.

6. Using Immersive Virtual Reality and Holographic Imaging as a Medium to Create a Superior Educational Experience through Master Sessions: How Immersive Virtual Reality Could Bring History's Greatest Thinkers into the Classroom.

Summary: IVR will create a number of innovative benefits that could accelerate learning and enable a level and quality of education previously hindered by social-economic barriers. IVR could enable both living and deceased experts to come to life and teach from their own material in an immersive experience previously not imaginable.

One of the promising benefits of creating digital mind files and the use of IVR is the very real possibility of having a digital replica of any individual teaching a class on their areas of research. In a digital Master's Class, a university would be able to have a physics class supplemented or taught by Albert Einstein. Having AI assess recordings of Einstein, his writings, and his research, an algorithmic mind file could be created. This mind file could then be combined with a digital projection of Einstein through some kind of IVR or holographic technology that would enable the great physicist to come to life. Furthermore, in the same way that Siri or Alexa currently lead the way as AI digital assistants, a chameleon technology such as this could cast multiple guest lecturers or form any kind of hybrid scenario for professors to work with their students. A digital campus could unite students around the world, enabling an interactive experience where group projects across multiple universities could find their expression across

[14] Klaus Schwab and Thierry Malleret, *Covid-19: The Great Reset* (Geneva: Forum, 2020), 25. The general population will benefit by recognizing how modern doomsday narratives create dysphoria in the general populace for leveraging policy changes and shifts of power to the few. If globalists achieve AI supremacy for their advantage, the general populace could be controlled by the few with power heretofore unimaginable.

geographical boundaries. Presentations would become interactive in ways previously not imagined.

This kind of technology could also go home with students. If a student did not grasp a concept "at school," the student could take "Einstein" home with them and interact with him in their own study. Homeschoolers could interact with any number of educational mind files to maximize the learning experience.

Most important of all, I believe that a world where education is not limited by social-economic barriers will accelerate human flourishing on a global scale. This technology would enable the best education to become available in third-world countries. Such a system could provide free education around the world and maximize human flourishing and development where current limitations cannot allow. I believe that every child should have access to a tailored education that will enable them to dream big and to pursue those dreams.

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ABSTRACT

THE *IMAGO DEI*, TRANSHUMANISM, AND THE FUTURE GLORY OF HUMANITY: A CRITICAL INTERACTION WITH RAY KURZWEIL'S TECHNOLOGICAL SINGULARITY

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In this dissertation, I argue that Ray Kurzweil's transhumanist vision toward a merger between human biology and technology, generated out of a technological "Singularity," will have revolutionary implications for humanity. I employ Trentham's *Inverse Consistency Protocol* as a methodological framework for this research. Kurzweil's vision is a false gospel that teleologically inverts the doctrines of the *imago Dei*, the atonement, human sanctification, the resurrection, and the future glorification of the saints. While his vision represents a City of Man far removed from that of the ancient Romans in Augustine's *The City of God against the Pagans*, Kurzweil's ultimate hope is the same—a City of Man that rises above previous generations and grasps immortality. In this dissertation, chapter 1 serves as an introduction to the scope of the work as a whole. In chapter 2, I provide an overview of *The Singularity Is Near*. While drawing from Kurzweil's broader published works to support his claims in *The Singularity*, I illustrate his vision for a technological future seeking to eliminate sin, suffering, and death—one in which humanity will ultimately create "god" and form an all-encompassing unity. In chapter 3, I cast a biblical vision for the eternal City of God rooted in the active and redemptive work of the Trinity in the doctrines of the *imago Dei*, human dominion, the fall, and ultimately the redemptive work of Jesus Christ on the cross of Calvary to save humanity from sin, suffering, death, and to restore humanity to an incorruptible and

perfect glorified state. In chapter 4, I employ reflective discernment in analyzing and evaluating these inversely oriented visions of the City of God and the City of Man. While the biblical vision finds its future hope in the City of God in the redemptive work of the Trinity, Kurzweil's technological Singularity envisions a future where human and machine intelligence navigate the restraint of language, a development incomprehensible to previous generations, and synergize the vast cultures of Earth into a united and enduring City of Man. In chapter 5, I appropriate my research by exploring leadership and curricular priorities for the practice of Christian higher education, specifically in navigating what I believe will become one of the greatest metaphysical challenges of the twenty-first century—the integration of IVR and the Simulation Hypothesis. I conclude the work by providing suggestions toward future research projects and research concepts based on various implications that arose during my research but that could not be either addressed or engaged within the scope of this project.

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