

**Transhumanism-Christianity Diplomacy:
*To Transform Science-Religion Relations***

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Table 3 – Latour's Modes of Existence, page 102, used by permission:

AN INQUIRY INTO MODES OF EXISTENCE: AN ANTHROPOLOGY OF THE MODERNS
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ABSTRACT

Transhumanism is an emerging philosophical and social movement that aims, through technology, to extend human life and radically expand intellectual, physical, and psychological capabilities. Many of transhumanism's goals overlap the eschatological hopes of Christians, such as the elimination of sickness and death. Yet observers who see transhumanism and Christianity in monolithic terms often portray them as adversaries. Against this view, I argue that within each community are factions that have comparable, but contested, views on God, the divine attributes, and human origins, responsibility, and destiny. As a result, an emerging dialog between particular transhumanists and Christians seeks to shape the future of humanity by integrating the basic commitments of transhumanism and Christianity.

Bruno Latour's concept of *modes of existence* offers a framework for both developing and analyzing diplomacy between and within Christian and transhumanist communities. Specifically, Latour's work allows for the identification of *category mistakes* that set the terms of intermodal conflicts and dialog. Some transhumanists and most Christians hold beliefs about the nature and meaning of God. Christians believe in a Trinitarian God that is the preexistent, eternal, and personal creator of the universe. By contrast, elements of the transhumanist movement believe that in the future an artificial God will inevitably emerge as an omniscient and omnipotent supercomputer. The attributes, concepts and purposes of God and, by extension, nature lend a basis for developing diplomatic relationships between factions of transhumanism and Christianity.

Diplomacy between transhumanism and Christianity exists via social media and virtual meeting places. At the forefront of this movement is a new *Christian Transhumanist Association* that I analyze in some depth. It is only a couple of years old, but its leaders have already attracted international attention. Their strategy of theological minimalism seeks to reduce friction among stakeholders. I show that this strategy sacrifices the insights that Christian theology and philosophy could bring to the development of transhumanism. I conclude that in order to affect transhumanism Christians must find ways to apply their insights into personal creator-creature relationships to the challenges of safely developing artificial superintelligence.

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GENERAL AUDIENCE ABSTRACT

Progress in science and technology raises the possibility that essential elements of human life could be transformed and enhanced by applications of science and technology.

Transhumanism is a philosophical and social movement that believes that such transformations are both possible and desirable.

In several respects, transhumanism's goals overlap with the hopes of Christians, who long for a Second Coming of Christ and the subsequent elimination of sin, suffering, and death for all eternity. Based on Bruno Latour's work, I analyze the superficial similarities between transhumanism and Christianity to argue that diplomacy between Christians and transhumanists is both possible and potentially beneficial.

In developing this argument, I examine a new *Christian Transhumanist Association*, its leaders, and their diplomatic strategy of "theological minimalism." I argue that this strategy is flawed because it does not apply the rich insights of orthodox, biblical theology to the most vexing problem of transhumanism development: the threat that an artificial superintelligence could be hostile to human life.

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books and articles to read, asking probing questions, and freely offering constructive criticism and encouragement. Prof. James Collier has been of special help to me, prodding or encouraging me as situations required. Professors Sonja Schmid and Matthew Goodrum have been a great help too; I have learned a great deal from them both. MVNU President Henry Spaulding's support has been a witness to the Love of Christ. I am very grateful to count all of these people as friends.

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PREFACE

Science and Technology Studies (STS) is a growing field that draws on the full range of disciplines in the social sciences and humanities to examine the ways that science and technology shape, and are shaped by, our society, politics, and culture. We study contemporary controversies, historical transformations, policy dilemmas, and broad philosophical questions. The graduate program in STS at Virginia Tech prepares students to be productive and publicly-engaged scholars, advancing research and making a difference.¹

This dissertation is the result of my general interests in the complex and evolving relationships between Christianity and technology. I address how these relationships and an emerging field of science and technology could be mutually shaped through STS diplomacy. Specifically, I explore ways that Christianity might interact with *transhumanism*, a futuristic philosophical and social movement that seeks to enhance human beings through technology. By doing so, I hope to show how Christians can positively affect technology developments by deepening and applying their theological assets and giving the Church a positive vision for transforming culture. But before laying out the details of my project, a few words on my perspective may be helpful to readers.

My STS Journey

For 37 years (1975–2012) I participated in a variety of engineering research and development (R&D) projects, first for the U.S. Navy, and then for the Defense Logistics Agency. Only at the end of my career did I recognize that technical solutions to problems are insufficient; engineering *know-how* must be coupled to *know-why*. It is commonly understood that motives for R&D are defined and expressed through social processes. Unfortunately, superficial links between ends and means, such as those generated by imperfect political processes, are often

¹ Department of Science and Technology in Society, Virginia Tech, <http://www.sts.vt.edu/> (accessed July 1, 2016).

insufficient. When revolutionary technologies are developed on the basis of shallow or transient requirements, deep underlying problems eventually come to overshadow what was once seen as progress.² Instead, a comprehensive approach is required, one that integrates the details of science and technology with the overarching worldviews in which they operate.

As a Christian, I have long thought that answers to social problems could be found by applying *biblical* wisdom. Unfortunately, today's discussions of science, technology, and society rarely involve religious voices, and when they do, it seems that theological arguments seldom affect decisions. Sometimes prejudice against religion blocks the way, but in many other cases poorly framed, contested, or incoherent theology serves only to muddle important conversations. Consequently, I often see disconnects between problems that desperately need solutions and my most basic beliefs. As a result of such disconnects, people of good will are unable to come to agreements on *what* needs to be done or *how* to do those few things where common goals are identified. With this in mind, I have sought, through STS, to understand the challenges of applying Christian thought to technology development, to get beyond too-common knee-jerk reactions, and to squarely address the frustrations of deeply interested factions talking past one another.

I began my STS journey in January 2010 by reading the founding text of STS: *The Structure of Scientific Revolutions* by Thomas Kuhn.³ Its repudiation of the popular image of

² The development and use of atomic weapons during World War II demonstrates this pattern. Without a doubt, Presidents Roosevelt and Truman took action based on what they saw as compelling reasons, but the challenges they faced were soon overshadowed by the specter of thermonuclear war with the Communist Bloc. Today, although the Cold War is over, its irony continues: just as Herbert York observed in the midst of the Cold War, every year America's military capabilities grow, but the nation is less secure from attack than at any time in history. The specter of global thermonuclear war has faded, but today's threat of nuclear terrorism represents a more immediate and intractable long-term challenge. See Herbert York (Director, Defense Research and Engineering, 1958-1961) "Ch. 12: The Ultimate Absurdity," in *Race to Oblivion: A Participant's View of the Arms Race* (New York: Simon and Schuster, 1970), 228-239.

³ Thomas S. Kuhn (1922–1996), *The Structure of Scientific Revolutions* (1962; 3rd ed., Chicago: The University of Chicago Press, 1996).

science as an unstoppable accumulation of facts was eye opening. My own observations of irrational forces in R&D were confirmed; popular paradigms can indeed prevent recognition of alternative solutions to scientific and technological problems.

My STS ambitions growing, I next read *The Philosophy of Science and Technology Studies* by Steve Fuller.⁴ I was drawn to Fuller by his testimony in the Kitzmiller v. Dover court case, which outlined reasons why the teaching of *Intelligent Design* (ID) in American public schools was legitimate and not an unconstitutional teaching of religion.⁵ Pilloried by many natural and social scientists that were outraged by his “betrayal” of their secular-science paradigm, Fuller refused to recant. Since then he has developed a range of theological insights into science. Given my interests in Christianity and technology, Fuller’s work has been inspirational to me. In particular, I share his view that “the art of living scientifically involves taking theology much more seriously than either practicing scientists or believers are inclined to do.”⁶

Two more books encouraged my STS interests. First, *The Logic of Scientific Discovery* by Karl Popper confirmed the critical role of imagination in science.⁷ Next, *The Technological Society*, the prophetic cry of Jacques Ellul against mindless “progress,” highlighted the many gaps between the modern world and biblical ideals.⁸ So when the possibility of taking STS classes at Virginia Tech arose in April 2010, I was ready; I enrolled in that summer’s *History of Technology* course. Subsequent classes have exposed me to a variety of STS figures, methods,

⁴ Steve Fuller (1959–), *The Philosophy of Science and Technology Studies* (New York: Routledge, 2006).

⁵ Testimony and other information on Kitzmiller v. Dover, plus other court cases involving science and religion, is available from the National Center for Science Education, <http://ncse.com/creationism/legal/intelligent-design-trial-kitzmiller-v-dover> (accessed July 1, 2016).

⁶ Steve Fuller, *The Art of Living: Science*, Mark Vernon, series ed. (Durham, UK: Acumen, 2011), 1.

⁷ Karl Popper (1902–1994), *The Logic of Scientific Discovery* (1935; London: Routledge, 2009).

⁸ Jacques Ellul (1912–1994), *The Technological Society*, trans. John Wilkinson (1954; repr. New York: Vintage Books, 1964).

and subjects. Through them, I came to an appreciation of Bruno Latour as a second light to my STS path.

Latour and Diplomacy

Although Latour is arguably today's most influential STS figure, he is—like Fuller—something of a maverick. Best known for developing Actor-Network Theory (ANT), he famously disavowed its validity, remarking that “there are four things that do not work with actor-network theory: the word actor, the word network, the word theory and the hyphen!”⁹ It seems that ANT serves others' purposes, but it fails to achieve what *Latour* intended. How so? What is Latour's primary STS interest?

Latour's work is often described as a *micro* form of STS, one that examines in minute detail the operations of a laboratory, changing verb tenses in reports as a hypothesis is transformed into a fact, or the machinations of agents (e.g., Louis Pasteur) as they create world-changing networks. Yes, Latour does study the minute details of science, but the purpose of his micro-STS studies reveals a *macro* interest. His dissatisfaction with ANT and other forms of STS is because they are inadequate for his project of a bottom-to-top overhaul of how the modern world understands itself. And Latour's goal? To find ways to build and maintain peace—*shalom*—in a conflicted world with serious problems in need of solutions. And is there evidence in Latour's work of a religious sensibility? Yes, quite a bit, as I will show in my analysis and applications of his scholarship. For now, I only point to the Latin preface to his most-recent book, “*Si scires donum Dei*,” that is “If thou didst know the gift of God.”¹⁰

⁹ Bruno Latour, “On recalling ANT,” *The Sociological Review* 47 (1999): 15–25.

¹⁰ Bruno Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 2013), v.

Latour's quest for a comprehensive view of science, technology, and society, one that respects religion as an important influence, appeals to my interest in developing a Christian form of STS, one suited to subjects with strong religious significance. This dissertation represents my attempt to extend and apply the thinking of Fuller and Latour to an emerging area of techno-social conflict, transhumanism, which is saturated with religious meanings and connotations.

Of Peace and Progress

Fortunately, the ways and means of peace have been subjects of close academic study in recent years. Organizations like the *United States Institute of Peace* (USIP) have popped up.¹¹ They work to understand and resolve conflicts at many levels, even as Latour seeks to develop understanding and trust between social factions as the foundation of STS diplomacy. Often, this work begins at the level of language, seeking basic agreements on the words used by parties in conflict. Even when disputants share a common tongue, finding common meaning can be difficult. For example, what is peace? Consider the USIP's nuanced definition:

The word "peace" evokes complex, sometimes contradictory, interpretations and reactions. For some, peace means the absence of conflict. For others it means the end of violence or the formal cessation of hostilities; for still others, the return to resolving conflict by political means. Some define peace as the attainment of justice and social stability; for others it is economic well-being and basic freedom. Peacemaking can be a dynamic process of ending conflict through negotiation or mediation. Peace is often unstable, as sources of conflict are seldom completely resolved or eliminated. Since conflict is inherent in the human condition, the striving for peace is particularly strong in times of violent conflict. That said, a willingness to accommodate perpetrators of violence without resolving the sources of conflict—sometimes called "peace at any price"—may lead to greater conflict later.¹²

¹¹ United States Institute of Peace, <http://www.usip.org/> (accessed November 17, 2015).

¹² Dan Snodderly, ed., *Peace Terms: Glossary of Terms for Conflict Management and Peacebuilding* (Washington: United States Institute of Peace, 2011), 40. Available online at <http://glossary.usip.org/> (accessed July 3, 2016)

If diplomacy's *goal* is this complex, then clearly would-be diplomats have a difficult task. Their very lives must be an exercise in defining, planning, and executing the *means* of diplomacy, often without the appreciation of those that benefit from their work.

Finally, although peace and diplomacy are critically important, along my STS journey I hope to gain insight (at least personally) on an even more important matter: the nature and possibility of progress. I see this as the heart of STS, the place where its critical capacities can have the greatest impact. Science and technology have made undeniable progress in many areas of life; human beings have vastly greater knowledge and capabilities than ever before in history, and modern life has been transformed. They have also contributed to the mission of the Church. This is because Christianity is devoted to both (1) the understanding and appreciation of God's creation, and (2) human progress by applying what God reveals to the benefit of everyone. In effect, science and technology provide ways for Christians to fulfill the Great Commandments, to love with all our being both God and our neighbors—even our enemies. At the same time, Christian ethics requires that the work be done for the glory of God and in obedience to His commandments. Otherwise the Bible indicates that even “the plowing of the wicked is sin.”¹³ So at the end of the day, progress for Christians can only be judged *as* progress in a religious context. Is it not so with others?

Ultimately, *I* believe peace can only come through Jesus Christ, the *Prince of Peace*. When He returns, the toil of improving the human condition will end. Until then, I embrace the paradoxical directives of two of the Church's leading apostles, Paul and John. The former called believers to “If possible, so far as it depends on you, live peaceably with all,” but the latter

¹³ See Proverbs 21:4, King James Version (KJV). Unless otherwise noted, quotes are from the ESV, *The Holy Bible, English Standard Version* (Wheaton, IL: Good News Publishers, 2001).

warned “Do not be surprised, brothers, that the world hates you.”¹⁴ So knowing the challenge is great, and aware of my many weaknesses, I aim to follow Paul’s words of advice to the Galatians: “So then, as we have opportunity, let us do good to everyone, and especially to those who are of the household of faith.”¹⁵ In attempting this task I hope to live out Virginia Tech’s motto: *Invent the Future*.¹⁶

¹⁴ Romans 12:18 and 1 John 3:13.

¹⁵ Galatians 6:10.

¹⁶ In STS, critiques of progress, expressed in one form or another, are common. In view of this fact, it is somewhat ironic that Virginia Tech’s *Department of Science and Technology in Society* operates within an academic institution so thoroughly dedicated to progress. Of course, STS practitioners offer their critiques to work toward *their* definitions of progress. By contrast, *this* STS dissertation does *not* critique in depth the progressive visions of Christians and transhumanists. Instead, their progressive claims are simply described and brought into discussion as a step forward in a diplomatic process. Leaving peripheral issues aside, *my* focus is on whether or not a collective sense of progress can and should be developed. If and when this happens, there will be many opportunities for STS critiques by other scholars. However, my hope is that their work will in some way contribute to *diplomatic progress*, taking society closer to a peaceful resolution of differences and a less conflicted and threatening future.

INTRODUCTION

In this dissertation, I argue that diplomatic engagement between segments of Christian and transhumanist communities can be mutually beneficial. This is a bold claim since the perceptions of many observers is that Christianity and transhumanism are natural enemies, adversaries bound inevitably for war.¹ No doubt, deep conflicts exist, ones that cannot be entirely resolved without sacrifices in basic commitments of each party. Perfect harmony is impossible, but nevertheless, I argue that diplomatic engagement can limit the harmful effects of such conflicts. Mutual trust, peace, and even collaboration, is both possible and desirable. To reach this end, it is necessary for both sides to be clear about their basic commitments.

My research indicates that leading figures of transhumanism express a range of views. All of these leaders, to a greater or lesser degree, appear open to coexistence with people holding to religious faith. Their philosophical, metaphysical, and technical commitments are openly expressed through a variety of media, and they work through other communication channels to resolve differences and flesh out the details of their common vision. Ordinary transhumanists, if there are such people, tend to be less inclined toward religion, often dismissing it as meaningless superstition. At their level, diplomacy is difficult; open hostility is common.

So too, Christians hold to a range of views of culture, including pursuits in science and technology. A few Christians actively seek to integrate technology advances into their worldview, engaging with the transhumanism community and seeking to spread the gospel of Christ among its members. Unfortunately, the nascent *Christian Transhumanist Association* seems averse to making theological commitments, a strategy that will harm its relationships within the Church and severely limit its ability to positively influence the development of

¹ For example, see Ted Peters, “The Transhumanist Denunciation of Religion” in Ronald Cole-Turner, ed., *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement* (Washington: Georgetown University Press, 2011), 72–73.

transhumanism. I argue that a different strategy is needed, one that embraces the basic doctrines of biblical Christianity. A consequence of this approach would be an enhanced ability to engage with the transhumanism community by speaking to its most serious challenges.

So how shall I begin my argument?

As already noted, “Peace” is a difficult term to define, more difficult than it is commonly thought. Diplomatic missions must create a functional definition that is appropriate to the situation. Now consider first the challenge of how to define the parties to my diplomatic mission: Christianity and transhumanism. The first has vast historic and social dimensions, while the second is a collective and contested vision of the future, with much that is to be determined. To define either in any depth is an enormous task, and yet deep definitions are not needed to begin diplomatic efforts; just the basics are enough. Even as a practical matter, a dissertation scope must be limited. So what specific elements of Christianity, transhumanism, and diplomacy are of interest? What is inside and outside my boundaries? What developments in theology and science have produced the current situation, and where are we going?

Christianity

In his sermon on the mount, Jesus said “Blessed are the peacemakers, for they shall be called sons of God.”² Later, he cautioned his disciples against unrealistic expectations saying “Do not think that I have come to bring peace to the earth. I have not come to bring peace, but a sword.”³ I take these statements to mean that while temporal peace is a worthy goal, the ultimate purpose of Christianity is peace with God, even if its price is conflict with the world. Even so, Christians must seek the best for their neighbors, remembering that “God is not willing that any

² Matthew 5:9.

³ Matthew 10:34.

should perish.”⁴ These passages mark out the diplomatic terrain I tread in my dissertation. How are Christians to seek peace in this world? If conflict is inevitable in this world, what *kind* of peace is possible?

Christians differ in how they answer these (and many other) questions. Depending on circumstances (historical, political, theological, social, etc.) the Church has taken many positions with respect to culture. Church factions are visible in the New Testament (e.g., Gnosticism), and many more have emerged since that time. The *Great Schism* between the Western and Eastern Church (1054 A.D.) and the Protestant Reformation (beginning in 1517 A.D.) are the best known, but many more divisions have occurred along the way, and many more are likely to occur moving forward. Indeed, ecclesiology is in large measure an ongoing theoretical and practical study of internal-to-the-church diplomacy.

For many Christians, the progress in science and technology that lead to the transhumanist vision can be seen as a legacy of the Church, especially for Reformed traditions, whose theology is credited by some with encouraging the scientific revolution.⁵ Some Christians would argue that science and technology fulfill, at least partially, God’s promise to Abraham that through him “all the nations of the earth would be blessed.”⁶ They would even embrace science and technology as gracious gifts from God. For others, science and technology are understood as potential threats to basic Christian commitments. At the extreme, consider Amish communities, which take seriously the harms that new technologies could have on family and social life, even to the point of rejecting the use of motor vehicles and electric power in homes.

⁴ 2 Peter 3:9.

⁵ See Robert K. Merton, “The Puritan Spur to Science,” (1938) in *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1979), 228–253.

⁶ Genesis 12:3.

Across this spectrum of views, Christian theology plays an important role in shaping perceptions of technology. It traces how the attributes of Christianity's triune God are manifest in nature. The creator's character is reflected in the created order, especially in human beings made in the image and likeness of God.⁷

For this reason, it is not surprising that both Steve Fuller and I gravitated to transhumanism as a nexus of emergent science, technology, *and* theology. His growing interest in technological enhancement can be traced through several of his books leading to *Humanity 2.0*, his examination of the movement's historical, social, and political roots and future.⁸ Theology is close to the heart of Fuller's analysis—and mine—but *his* interest is pragmatic; he looks to use religion as an organizing principle in society and as a guide to public policy, not as a tool to understand or remedy the fallen (and falling) human condition. A different approach is needed, one that sees religion as an enduring feature of society. In this view faith is a never-ending source of insights into the meaning and purpose of life, with practical matters rising up from the hearts of believers in community. For this purpose I have come to realize, through my STS classes and reading, that Bruno Latour's religious sensibilities are more suitable to my task. To Latour, religion has social meaning, but only as a side effect of deep personal, community, and spiritual connections.

Before proceeding, an important boundary must be established: in this dissertation Christianity is limited to those systems of belief, denominations, and individuals that hold the Bible, consisting of the Old and New Testaments, as superior to other sacred texts. Most significantly, this boundary excludes the *Church of Jesus Christ of Latter Day Saints*, commonly known as the Mormon Church, whose theology is remarkably consistent with transhumanism.

⁷ Genesis 1:26–27.

⁸ Steve Fuller, *Humanity 2.0: What it Means to be Human Past Present and Future* (New York: Palgrave Macmillan, 2011).

This fact explains the large number of Latter Day Saints in the transhumanism community. An in-depth study of the relationships between Mormon and transhumanist thought would, no doubt, be a worthy task, but it is not mine to undertake. So my primary focus, for lack of a better term, will be on orthodox biblical Christianity and its relationships with transhumanism.⁹ References to other belief systems will be made, but only to put Christian diplomatic matters into perspective.

Transhumanism

Just what is transhumanism, and given my interests, why is it so interesting? What issues are important in its relationships with Christianity, and what is outside the scope of this dissertation?

To begin, transhumanism is based on an anticipated convergence of *biotechnology*, *nanotechnology*, *information and communication technology*, *neuroscience*, and *robotics*. In one way or another, all of these fields, plus hybrids of them, are subjects of ongoing scientific research and technology development. Transhumanism anticipates that this research will eventually end up in technological applications to enhance human life. For this reason, I will refer to these fields of research as transhumanism's constituent *technosciences*.¹⁰

Many transhumanist thinkers expect this technoscience convergence to occur in this century. Consider Ray Kurzweil, who boldly predicts a techno-social “*Singularity*” that will

⁹ Of course, history shows that the meaning of biblical orthodoxy is strongly contested. However, there is a marked difference between intramural debates between Christians that accept the Bible as their central reference point and others that do not privilege biblical arguments. The former tend to focus primarily on theological matters within Christianity, while the others would deal with broader issues of religion generally. Hence, I view orthodox biblical Christianity as encompassing a wide range of denominations, including Roman Catholics, Protestants, and members of various Eastern Orthodox churches that hold to creeds based upon the Bible.

¹⁰ In some STS circles “technoscience” has a special meaning: an integrated philosophical, social, and technical enterprise. In *this* dissertation I use technoscience as it is commonly used outside the academy: as a compound noun that spans the sciences and technologies of interest to transhumanism.

arrive around 2045.¹¹ He bases his prediction by looking back at historical data on a variety of information-processing systems, which have seen exponential growth in performance relative to cost. As the Singularity draws near, he expects even faster rates of progress; even the exponent of the exponential growth rate would increase. In large part, progress would accelerate as intelligent machines took over the labor of all sorts of technoscientific R&D, including work of improving computers. At the Singularity, progress would be so fast and society would change so rapidly that it is practically impossible to predict what life would be like on the other side.

Although the technical details of the relevant technosciences, plus Kurzweil's predictions about their convergence, are of some interest to me as an engineer, I do not intend to explore them in any depth in this dissertation. Having worked as an R&D engineer, I know that predictions of how research will benefit various constituents are routine in technical organizations. They must work to inspire researchers and sponsors, identify and prioritize courses of action, and maintain their funding streams. This is especially so for R&D of disruptive technologies, which overturn existing technical and social institutions with deeply invested constituencies.¹² The evolution of large techno-social systems is shaped by many technical and social factors, and transhumanism's vision is to change virtually every area of human existence through technology. Could anything be more disruptive than this?

So my focus is not on what will (or will not) happen in 2045. I am interested in what is happening now, in transhumanism's philosophical and social development, and in how an emerging discourse between Christians and transhumanists could shape the future. Here, Latour's *desire* for diplomacy comes into play.

¹¹ Ray Kurzweil (1948–), *The Singularity is Near: When Humans Transcend Biology* (New York: Viking, 2005).

¹² See Thomas P. Hughes, "The Evolution of Large Technological Systems," in Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: The MIT Press, 1987), 51–82.

The Need for Diplomacy

As a Christian, I am concerned about transhumanism because I love the Church. It grieves me when it stumbles or is broken by controversy. I have some knowledge of my own weaknesses and limitations, and I know that I am blind to much more. The Church, as an institution that is shaped by social *and* divine forces, consists of sinners like me, and only by God's grace can the Church thrive. Science and technology have, in my view, been great blessings to the Church and the world it would reach for Christ, and I want these blessings to continue and grow. At the same time, I know that science and technology offer temptations and opportunities to do great harm. I cannot sit idly by when so much is at stake.

I find that my sentiments are echoed by many people that are devoted to improving the human condition, but are not committed to Christ. Atheists, Jews, Muslims, Hindus, Buddhists, and members of other religious traditions seek to bless their families, the whole human race, and all of creation through science and technology. In the process, religious commitments extend into laboratories and boardrooms, public discussions and legislatures. In these places, multiple definitions of progress interact, and by one social process or another R&D goals are set. Their achievement seems to depend upon cross-cultural collaboration, or progress can be destroyed by its absence. So now, as society looks toward the future, with the transhumanist vision beckoning us toward technological immortality, how should society respond?

Christians will wrestle with transhumanism, asking a lot of questions before they take a pro or con position. How should they understand transhumanism? Is it a threat or an opportunity? Are its technological "enhancements" blessings or curses? Are they both or neither? Conversely, scientists, technologists, and futurists will have questions about Christianity. What is its

relevance in modern society? Is it relevant at all, or is it an empty legacy of the past? How can society deal with a multiplicity of Christian denominations? Can a divided Church inspire people to understand the natural world and to apply that knowledge to address our problems, or has it become a threat to progress?

For transhumanists, Christianity offers a rich philosophical and theological heritage that can help address some of the movement's most vexing problems. *All* transhumanists aspire to godlike abilities, and some seek to create a godlike *Artificial Intelligence* (AI). *Many* see that transhumanism involves theological concerns, but *few* of its leading figures seem to take them seriously. As far as I can tell, *none* of its leading figures looks to Christianity for answers. Self-sufficiency based on reason alone is, more often than not, their ethos, so although Fuller has proposed theological foundations for transhumanism, it seems that his proposal falls on deaf ears. However, self-proclaimed *Christian Transhumanists* have begun work to break down resistance to techno-theological discussions, to bring peace to the perceived war between science and religion. Their efforts are a small piece of Latour's project to bridge the many dichotomies that divide the modern world.

How can Christians engage in a diplomatic mission with transhumanists that are indifferent, even hostile, to the Church? In the face of such opposition, should Christians even attempt a diplomatic mission? Others will disagree, but I argue that the mission is worth the effort. If, on the one hand, diplomatic overtures are ignored by the transhumanist movement, Christians can still benefit from learning about its vision and (re)considering the place of technology in their lives. On the other hand, if its overtures are accepted, the Church can participate in the development of transhumanism in ways that accord with biblical norms. In this way, Christians might indulge their longing to change the world.

World changing is also an ambition of STS, and it offers a number of ways to approach the task. Latour's most recent work is most consistent with Christianity. His focus is neither politics nor epistemology, the study of how we know. Instead, he starts his quest for diplomatic solutions with metaphysics and ontology, the study of being, of *what is real* at its core:

At all events, we shall not cure the Moderns of their attachment to their cherished theme, the modernization front, if we do not offer them an alternative narrative made of the same stuff as the Master Narratives whose era is over—or so some have claimed, perhaps too hastily. We have to fight trouble with trouble, counter a metaphysical machine with a bigger metaphysical machine.¹³

Latour would judge the success of his “perilous enterprise” of reinstituting metaphysical solutions by whether or not the world would be more congenial to life, more “sustainable and reasonable.”¹⁴ Let us look a little closer at Latour's thoughts on how to change the world through diplomacy.

Clausewitz Variations

In 1991 Latour revealed his goal of restructuring how society is perceived by denying the very existence of modernity. *We Have Never Been Modern* brought to a head the irrationalism of his previous work by declaring modernity a sham.¹⁵ In effect, Latour sent a rude wake-up call to the pretensions of a complacent and self-satisfied modern world. How rude? Paraphrasing Carl von Clausewitz (1780–1831), the famous Prussian military theorist, Latour characterized science—surely a pillar of modern society—as “politics pursued by other means.”¹⁶

¹³ Latour, *An Inquiry into Modes of Existence*, 19.

¹⁴ *Ibid.* 21 and 23.

¹⁵ Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter, (1991; Cambridge, MA: Harvard University Press, 1993).

¹⁶ *Ibid.*, 111.

In Latour's analysis, society only *appears* to run on scientific reason. In reality, Latour shows that society operates according to a "Constitution of Modernity" that is full of paradoxes and contradictions.¹⁷ Although deeply incoherent, the constitutional paradoxes offer practical benefits to the dominant elements of society. In effect, they can rationalize anything—do one thing and claim it is doing another—while dismissing both criticisms and those that offer them. Such rationalizations are especially relevant to this study's emphasis on theology.

Latour describes how modern society marginalizes God, "removing Him for ever from the dual social and natural construction, while leaving Him presentable and useable nevertheless."¹⁸ On the surface society holds to a secular ideal, yet it freely invokes its "crossed-out God" whenever it is convenient to do so. In effect, modern society *constitutionally* regards theism as an anachronism, one targeted for elimination, even as it constructs new idols. Latour will not settle for such an irrational and misleading commitment to secularism. Indeed, his scathing criticisms of modernity bring to mind Alasdair MacIntyre's analysis of modern moral fictions. In his view, cut off from any coherent system of morality, emotivism saturates contemporary ethical and political debates.¹⁹

It seems that Latour's primary interest in 1991 was to reveal STS to the world in the hope that its insights would bring "moderns" to their senses.²⁰ Presumably, he thought that revealing modernity as a contradictory illusion would lead to a sort of reunification of society, allowing naturally occurring political processes to move forward again. This hope has not been realized. If anything, society today seems more deeply divided than ever.

¹⁷ Ibid., "Constitution," 13–48.

¹⁸ Ibid., 32.

¹⁹ Alasdair MacIntyre, *After Virtue* (1981; 3rd ed., Notre Dame, IN: University of Notre Dame Press, 2007) 68–71.

²⁰ Op. Cit., ix; Latour makes this goal explicit, stating: "Having written several empirical books, I am trying here to bring the emerging field of science studies to the attention of the literate public through the philosophy associated with this domain."

Latour's recent work has been more analytic than practical, less focused on reunifying social processes by STS magic than on developing better diagnostic and analytic tools. The latest product of this shift in tactics was published in 2014: *An Inquiry into Modes of Existence*.²¹ Believing that social and political processes are falling behind the world's problems, Latour gave up his naïve 1991 idea of a transformative STS gospel in favor of a handbook on the dynamics of social interactions. In the former, Latour seems to thrust a mirror into the face of modern society and demand a confession. In the latter, he attempts to balance sensitivity and effectiveness. Rather than denying the modernity's existence, he looks to draw out its character and hidden values as a step toward renegotiating its future. Enlisting and encouraging others to join him in this task, he comments:

If we were to succeed, the Moderns would finally know what has happened to them, what they have inherited, the promises they would be ready to fulfill, the battles they would have to get ready to fight. At the very least, the others would finally know where they stand in this regard. Together, we could perhaps better prepare ourselves to confront the emergence of the global, of the Globe, without denying any aspect of our history. The universal would perhaps be within their grasp at last.²²

Latour's *modes of existence* describe fundamentally different ways that groups of people interpret reality, each basing their logic on distinct ontological commitments and ways of explaining its claims of truth. From this starting point, Latour develops ways to identify modes' distinct natures, intermodal category mistakes that disrupt dialogue, and the possibility and character of hybrid modes. His purpose: to get past the paralyzing stalemates of today's fractured

²¹ Bruno Latour, *An Inquiry into Modes of Existence*.

²² *Ibid.*, xxvii.

society. Through *diplomacy*, Latour would restore grounds for intermodal trust, allowing conflicting modes to negotiate agreements on how to address the problems facing society.²³

Although diplomacy is most often associated with relationships between national governments, the term can be applied to other institutions, or even to individuals. Diplomacy encompasses a rich set of practices that shape how people get along with each other. At one extreme, it includes the everyday etiquette of polite interpersonal relationships. Going up a step, it is “The art of dealing with people in a sensitive and effective way.”²⁴ In both realms, diplomacy is purposeful; it seeks peace, not by eliminating conflicts, but by minimizing their harmful effects. Unfortunately, diplomatic purposes and the means used to reach them can also exacerbate conflicts. After all, there is truth in the original Clausewitz observation that “War is a mere continuation of politics by other means.”

Going forward, it is important to understand that diplomacy is not easy, and it is *never finished*. Circumstances change; yesterday’s bitter enemies can become best friends, and vice versa. Personal and world histories seem to be marked by diplomatic failures more often than successes. Latour’s concern—and mine—is that the stakes of conflicts are higher now than ever before. The world’s population grows day by day, and so does its capacity to endanger that population through technology. Unfortunately, even in seeking and keeping the peace, there are

²³ Latour is not the first to link STS and diplomacy. In one way or another, practitioners from all schools of STS aspire to influence science and technology debates—especially its activist wing—by several methods and with varying degrees of success. In my opinion, Sheila Jasanoff’s appraisal of what STS can contribute in public policy applies more generally: “Clearly, STS has much to provide, but it also has a major task of intellectual diplomacy.” Sheila Jasanoff, “STS and Public Policy: Getting Beyond Deconstruction,” *Science, Technology & Society* 4, no. 1 (1999): 65.

²⁴ Oxford Dictionaries, http://www.oxforddictionaries.com/us/definition/american_english/diplomacy (accessed November 17, 2015).

risks. Diplomats must be mindful of Foucault's *reversal* of Clausewitz when he observed that "peace can be merely a continuation of war by other means."²⁵

The Diplomatic Process and its Limited Goal

If the transhumanist vision unfolds as its advocates hope, churches will encounter transhumanism, and some form of diplomacy will occur. Such diplomacy is likely to follow the pattern of international relations. Over time, established nations come to recognize the existence of a newly formed independent domain. This is quickly followed by the necessity of working out how the established and emergent nations will relate to one another. Questions arise regarding the terms by which travelers from one may enter another. Will they be welcomed, protected, subject to the host's laws and customs? How will organizations in each domain operate? Will commerce be regulated? Conflicts will arise, not only between domains, but also within them. The nature of international diplomacy emerges from these internal political struggles, which can display a wide range of diplomatic approaches. Hence, in this dissertation, it is necessary to examine Christianity as a *collection* of views and practices operating under a common commitment to Jesus Christ as Lord and Savior. This collection of Christian views is faced with transhumanism, a prospective new entity, a new mode of existence in Latour's terminology, and there is much to be worked out in their relationships. What might seem initially to be a simple task becomes more complex when factions within transhumanism appear.

If peace between Christianity and transhumanism is the goal, what will it look like? How will each side benefit? What are the risks of engaging in a diplomatic process? If factions of the two camps come to agreements, how will others react? What new divisions will emerge? Such

²⁵ Mark G. E. Kelly, *Foucault and Politics: A Critical Introduction* (Edinburgh, UK: Edinburgh University Press, 2014), 94.

issues have deep theological roots, and as a result, the diplomatic challenge is closer to efforts to build ecumenical links between religions than diplomatic engagements between nations. For this reason, Fuller's commitments to theology come into play, as they are extended through Latour's model of diplomacy.

An important element of Christian engagement with culture is its various views of progress. To what extent are the aspirations of Christians accessible in this life? What must be deferred to the next? To what extent are fallen human beings capable of identifying and achieving worthy temporal goals? Generally, Christians are hopeful that through God's grace substantial healing of the human condition is possible. So too transhumanism, with its deep commitment to improving and extending human lives, is in a very different way progressive to its core. In fact, both tend to discuss their quests in spiritual terms. On the one hand, many Christians associate temporal progress with the coming eschaton. On the other, many transhumanists look forward to the creation of a *technological god*.²⁶ Indeed, transhumanist eschatology boils down to a never ending striving for self-transcendence. It seems that the entire movement, with its goal of elevating people through technology, reflects Durkheim's concepts of religion as the heart of human societies. Seen in this light, progress is best judged in a religious context.

So in my view, diplomacy between Christianity and transhumanism should be a perpetual interfaith dialogue on progress. How shall progress be defined? Is an ecumenical or intermodal definition possible? If so, what are its dimensions and limits? Does it have an end, in terms of

²⁶ As later quotes will show, transhumanists routinely capitalize the word "God." In my writing capitalization will indicate the God of the Bible, and the lower-case god will indicate the transhumanists aspirational artifact.

either time or fulfillment? Most importantly, can those holding competing views find ways to live together in peace?²⁷

Ontology and Why it Matters

Latour and Fuller differ significantly in their approach to ontology. In part, this is a result of Latour's trademark interest in understanding the world from the bottom up, versus Fuller's preference for top-down analysis. Faced with a new challenge, the former looks to understand root existence, while the latter deals with meaning and how it changes over time, a natural interest for a leader of social epistemology. Which perspective is most suited to my purposes?

Although both are important, an ontological approach is foundational to my task. Epistemology seems to take center stage after conversion, especially in terms of how faith is explained and defended, a field of theology known as apologetics. However, prior to conversion, transhumanism and Christianity deal with many concepts—God, spirit, consciousness, personhood, and many more—that pose intractable problems for epistemology. Even Alvin Plantinga, a preeminent Christian epistemologist, must resort to an ontological argument to explain how faith is warranted.²⁸ In essence, he finds that faith is reasonable if God exists; the ontological question precedes all others. This perspective also fits well with how Scripture describes conversion, with a sinner “born again” to become a “new creation” by the Holy Spirit.²⁹ In this way, Christian theology has strong connections to ontology.

So how do ontological distinctions affect my diplomatic project?

²⁷ Perpetual arguments over progress are not the subject of this dissertation. Instead, I focus on the possibility that communities with superficially similar ideas of progress can identify and work through their differences.

²⁸ Alvin Plantinga, *Warranted Christian Belief* (New York: Oxford University Press, 2000), 190.

²⁹ See John 3:3 and 2 Corinthians 5:17.

A “central” point in Fuller’s analysis of transhumanism comes from *Radical Orthodoxy* theology, as it has been developed by John Milbank, et al, which views a medieval shift in ontology as the “original sin” of modernity.³⁰ Thomas Aquinas held that God and human beings were ontologically distinct. Under the *imago Dei* doctrine, human creatures were made in the image and likeness of God. Their existence and attributes were regarded as the same, but only in an equivocal sense, for God’s being always precedes that of creation. As a result, human beings and their creations have meaning only in the context of God’s being, and all of creation is perpetually suspended from the transcendent.

Aquinas’ view of the “equivocity of being” was rejected by John Duns Scotus. His alternative, the “univocity of being,” held that the existence of God and human beings could be understood in the same way, and their respective attributes could be described in the same terms. Scotus’ univocal view diminished the ontological gulf between God and human beings. The differences between God and man were of degree, rather than kind.

Fuller acknowledges the importance of this turning point but reverses its nature.³¹ Turning Milbank on his head, Fuller interprets human striving toward divinity, not as hubris, but as a fulfillment of God’s purposes. Seeking to re-enchant science, to put it into a right perspective with respect to the transcendent, Fuller proposes two Christian theologies of transhumanism.³² However, Fuller’s move, one embraced by many Christians that are attracted to transhumanism, seems to fall short of his own standard, for he does not take theology seriously enough. Rather than holding onto God as the ultimate source of transcendence, he imagines a human source of transcendence. Turning away from God as the focus of theology, Fuller elevates humanity to preeminence. Human pragmatism seems to drive his choice of

³⁰ Steve Fuller, *Humanity 2.0*, 78–81.

³¹ *Ibid.*, 97–98.

³² *Ibid.*, “A Theology 2.0 for Humanity 2.0: Thinking Outside the Neo-Darwinian Box,” 163–208.

“heretical scientist-theologians” for a foundation for human enhancement policy.³³ This position leaves much of Christian theology behind, including its radical sense of human transcendence, which is critically important to the understanding of transhumanism.

Here I part ways with Fuller. As with other revolutionary development efforts, a superficial integration of know-how and know-why, done for pragmatic reasons, will not do for transhumanism. Yes, theological rationalizations of human technological enhancements could further transhumanism’s R&D program. Yes, theological reasoning has a place in transhumanism, as many others have already noted.³⁴ And yes, some semblance of a near-term theological and moral consensus is desirable to shape legal and policy decisions. Still, there is no reason to think that a consensus resolution is within easy reach; the fact that religious differences have existed for thousands of years points toward a long road ahead. Dialogue between Christian theology and transhumanism has barely begun. To prematurely terminate discussions to achieve short-term goals could prove destructive down the road.

My approach is to encourage a peaceful, serious, and perpetual dialogue, first, between Christians on the meaning of technology and second, between the Church and transhumanism. Why? There are several reasons:

1. Science and technology generally, and the technoscientific vision of transhumanism in particular, raises new questions for consideration by Christian theology. In seeking answers to these questions, the nature and scope of God and the gospel is further developed. Indeed, the evolution and persistence of Christianity through the course of history can be seen as one

³³ Ibid., 195.

³⁴ For example, see Cole-Turner, *Transhumanism and Transcendence*.

way in which God's mercies are "new every morning."³⁵ This can even be true in times when things go wrong, as they often do when new technology and human frailties are involved.

2. Transhumanism aspires to radically transform human life, including the mitigation or elimination of many elements of the human condition. Although at present its scientific credentials are debatable, it is undeniable that its advocates view their project as one rooted in science and reason. However, the project's ultimate goal, immortality, marks it as an *inherently religious* enterprise. Sociologists from Durkheim and Weber through Peter Berger and William Sims Bainbridge have recognized the importance of religion in addressing death. Without it, society is ill-prepared to deal with mortality "because it threatens the basic assumptions of order on which society rests."³⁶ The fact that many leading transhumanists are open to, and even embrace, spirituality confirms this surprising and significant finding: as a scientific *and spiritual* project, transhumanism represents an extraordinary venue in which to examine the interactions of the Church and science.
3. With few exceptions, religious transhumanism is distinct from traditional forms of spiritual life. As a result, many observers see basic conflicts between transhumanism and religion, especially Christianity. Such views are often marked by mutual ignorance and misunderstandings between traditional churches and the transhumanist community. The consequence is that what could be useful dialogue never occurs or else it is cut short before it becomes productive.
4. Communication breakdowns between the Church and other communities have been frequent in modern society. If another breakdown can be prevented—if both sides can come to see the benefits of discussing shared beliefs and dreams while offering constructive criticisms—

³⁵ Lamentations 3:22–23.

³⁶ Peter Berger, *The Sacred Canopy: Elements of a Sociological Theory of Religion* (1967; repr. New York: Anchor Books, 1990), 23.

perhaps the long “war” between religion and science could reach a truce, or at least be shown to be an antisocial illusion? The achievement of a continuous and mutually useful dialogue between Christian and transhumanist communities could demonstrate a new and productive means of engagement.

How might I reach this ambitious goal? I find in Bruno Latour’s philosophical works important clues that promise to help unravel the tangled relationships between transhumanism and the Church.

Method, Style, and Scope

STS is a methodologically rich field, yet my topic seems beyond the grasp of standard methods. I appreciate Sheila Jasanoff’s “idiom” of “coproduction” as a way of describing the interactions between science and society.³⁷ I have also found *Social Construction of Technology* (SCOT) methods useful in several situations.³⁸ Unfortunately, cookbook STS methods tend to *reduce everything* to social constructions, and this is inadequate when theology is a central concern.³⁹

If God exists, then He is not a social construction. Even so, it is undeniable that human beliefs about God, as well as institutions established in view of those beliefs, are developed by social processes. Indeed, Christians believe that God created them to participate in developing human culture, redeeming it by spreading the gospel and other good works, and the Holy Spirit is active in the process. However, even if God does not exist, the beliefs that Christians hold are

³⁷ Sheila Jasanoff, “The idiom of co-production,” “Ordering knowledge, ordering society,” and “Afterward,” in Sheila Jasanoff, ed., *States of Knowledge: The co-production of science and social order*, (London: Routledge, 2004), 1–45, 274–282.

³⁸ Bijker, Hughes, and Pinch, *The Social Construction of Technological Systems*.

³⁹ For a critique of social construction, its uses and abuses, see Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999).

real, and they affect their patterns of social engagement, just as belief in idols affects the behavior of idol worshippers. To the extent that Christians and transhumanists operate through social processes, both can be studied symmetrically as social constructions. However, in this study it is necessary to look beyond social phenomena to the *theological* commitments that drive *both* communities in their pursuits. As a result, my dissertation shall take a more philosophical approach, supplemented by sociological and historical detours as they are needed. In this I seek to follow in the pattern set by STS leaders Fuller and Latour.

As mentioned before, Fuller appreciates the relevance of theology to science. He even borrows ideas from Radical Orthodoxy, which reinterprets all of modernity in theological terms. Add to this Fuller's ability to apply historical lessons to current social developments, and the result is a multitude of data that relates transhumanism to the human experience.

Compared with Fuller's rapid-fire, point-by-point style, Latour's writing tends toward impressionism. Often, it seems that Latour toys with his readers, teasing or even annoying them in order to draw attention to his real interest, which is hidden in the subtext. This stylistic approach is made explicit in his 2010 essay on science and religion: "*Thou Shall Not Freeze-Frame,*" *Or How Not to Misunderstand the Science Religion Debate*.⁴⁰ Written as a sermon, Latour attempts to draw out the *flow* of scientific and religious communications, causing readers to look beyond the mere transmission of information to their experiential effects. His provocative conclusion:

By ignoring the *flowing* character of science and religion, we have turned the question of their relations into an opposition between knowledge and belief, an opposition that we then deem necessary, either to overcome—to politely resolve—or to widen violently. What I have argued in this lecture is very different: *belief is a caricature of religion exactly as knowledge is a caricature of*

⁴⁰ Bruno Latour, "'Thou Shall Not Freeze-Frame,' Or How Not to Misunderstand the Science Religion Debate," in *On the Modern Cult of the Factish Gods* (Durham, NC: Duke University Press, 2010), 99–123.

science. Belief is patterned after a false idea of science, as if it were possible to raise the question “Do you believe in God?” in the same ways as “Do you believe in global warming?” except the first question does not possess any of the instruments that would allow the reference to move on, and that the second is leading the interlocutor to a phenomenon even more invisible to the naked eye than God, since to reach it we have to travel through satellite imaging, computer simulation, theories of earth atmosphere instability, or high stratosphere chemistry. Belief is not a quasi-knowledge question *plus* a leap of faith to reach even *further* away; knowledge is not a quasi-belief question that would be answerable by looking directly at things close at hand.⁴¹

Instead of adopting a distorted “freeze-frame” view of science and religion, Latour argues for a dynamic view, one that draws attention to the hidden realities toward which they both point. In this approach, the spiritual qualities of science and religion emerge, qualities that ebb and flow in the relationships between Christianity and transhumanism.

So in practice, how do I interpret Latour’s meaning?

Christianity and transhumanism aspire to transcendent goals, to ends that make sense of the details of existence in view of eternal purposes. I want to do the same in this dissertation. Against the graduate-student dogma that dissertation topics must be minimized and narrowly focused to succeed, I hold that a micro-level study of transhumanism is incapable of effectively addressing its meaning. Theology, with its shaping of grand narratives to explain the *flow* of cosmic history, is the right tool for examining Christianity and transhumanism. Fuller and Latour have shown the way toward a theologically sensitive macro-STS approach, and now I seek to follow their example, avoiding the distortions that come from a “freeze-frame” approach.

Now as a practical matter, I will only bite off a small piece of this intellectual smorgasbord, seeking to apply Latour’s idea of diplomacy enabled by the application of his concept of modes of existence. If I can successfully show that factions in Christianity and

⁴¹ Ibid., 121–122 original emphasis.

transhumanism accord with distinct modes of existence, and that Latour's methods of identifying different modes hold true, then the diplomatic task ahead can be made clear, even if it will not be easy.

Outline

Five chapters develop my concepts of diplomatic engagement between Christian and transhumanist communities:

- Chapter 1 examines Christianity in more detail, focusing especially on two aspects: (1) the fundamental unifying commitments and interests of the institutional Church, and (2) divisions in how Christians, individually and collectively, relate to culture, including science and technology. It will be necessary to understand both of these theological domains before church diplomacy can be undertaken in following chapters. I conclude with a proposition that is not popular among Christians: the idea that Christianity affects society as a form of mythology. When it operates as a myth, Christianity can exert influence in society far beyond the limited domain of the Church.
- Chapter 2, in similar fashion, examines transhumanism, especially elements that are most relevant to Christians and this study. To begin, its constituent technosciences are reviewed. I then examine transhumanism's connections and commitments to *spirituality*. This is accomplished through a survey of the views of spirituality held by five major figures in transhumanism. In view of mythic scientism, the spiritual side of transhumanism is both surprising and important, for it cracks the door to meaningful and useful theological dialogue with Christianity.

- Chapter 3 brings the theological field of dialogue into sharper focus, opening wide the door to a diplomatic program between Christian and transhumanist communities. Here, Latour's *modes of existence* come into play, offering ways to distinguish common and divergent elements in Christian and transhumanist accounts of existence. The fact that both communities have commitments to conceptions of God—defined in radically differently ways, yet sharing many common attributes—suggests several potential areas of diplomatic engagement.
- Chapter 4 describes the state of *Christian Transhumanism*, the recent attempt of various individuals to integrate Christian thought with futuristic technological development. Although the engagement of Christianity with technology, and transhumanism in particular, is a positive development, I argue that the most-organized form of Christian Transhumanism sacrifices too much of its theological roots to be either credible or acceptable to other Christians, and for the same reason, it is also ill-prepared to assist in the development of transhumanism.
- Chapter 5 begins the development of a different approach to Christian diplomatic engagement with transhumanism, a way ahead that retains and extends the biblical foundations of Christianity to understand and apply technology. Most importantly, I show how the work of several Christian theologians and philosophers address many of the most vexing problems inherent in transhumanism. My specific focus is the nature of sin, which is a critical area for productive dialogue and collaboration.
- Finally, Chapter 6 briefly presents a few concluding thoughts on my subject, including my ideas for additional research and a few personal reflections.

CHAPTER 1: CHRISTIANITY AND TECHNOLOGY

Christianity, in all its forms, and encompassing the lives of individual Christians and their collective functioning as the Church, has strong historic connections with modern science and technology. These ties have fundamentally shaped how science and technology have developed and are understood, not only by Christians, but by today's technoscientific culture generally. Today, Christian influences continue to play an important role in the development and interpretation of the potential human enhancements of transhumanism. To lay a foundation for diplomacy between Christian and transhumanist communities, it is important to closely consider these influences.

To begin, let us take a quick tour of the Bible to consider the place of technology in its narrative. Note that, although the Bible is central to Jewish theology and important in Islam, I will deal with Christian views only.¹ Further, I will *initially* set aside denominational differences, questions of biblical authority, matters of inspiration, and alternative interpretations. Subsequent sections will consider these matters, as needed, and especially as they complicate diplomatic engagement with transhumanism.

To facilitate this analysis, I draw heavily on the *Westminster Confession of Faith* (WCF) as a concise, well-documented, and historically important summary of biblical theology. The WCF was developed by English Puritans—the Westminster Divines—in 1646, a generation after their translation of the Bible into English, the *King James Version* (KJV), in 1611. It is a primary document in the English Reformation, and it remains an important doctrinal statement in many Protestant denominations.² Given the close associations between the English Puritans and the

¹ I will limit the term Bible to include the books of the Old and New Testaments only. The Apocrypha, which is accepted by Roman Catholics as part of the Bible, is excluded.

² For example, the *Presbyterian Church in America* (PCA) holds the WCF as its doctrinal statement constitutionally “subject to and subordinate to the Scriptures of the Old and New Testaments.” See references to the WCF in the

rise of modern science, the WCF interpretation of scripture is especially relevant to this study.³ Of course, many branches of Christianity have deep differences with the doctrinal system of the WCF, but there are also many points of agreement. For the purposes of this study, doctrinal disagreements can be set aside until later. In this chapter, I will focus on those doctrines that are widely held by Christians, individually and collectively as the institutional Church, as they are expressed in the WCF.

GENESIS, SCIENCE, AND TECHNOLOGY

The opening chapters of Genesis are critical to a Christian understanding of many topics, including the place of technology in society. As they are understood in the context of the Bible as a whole, these chapters deal directly with the development and biblical meaning of technology. Further, they establish many foundational theological elements of that are important in this study of Christianity and transhumanism.

God, Creation, and the Good

Genesis begins with the assertion that “In the beginning God created the heavens and the earth.”⁴ The successive “days” of creation begin with God speaking: “Let there be.” Through these decrees, God creates in phases: first, inanimate matter, time, and physical laws, then life in plants, fish, and land animals, then human beings: “And it was so.” Several times God pauses to

PCA’s *Book of Church Order*, as well as the pdf version of the WCF with scripture references at <http://www.pcanet.org/beliefs/> (accessed July 3, 2016).

³ Robert Merton’s argument—that Puritan theology was a key factor in launching the scientific revolution, commonly known as the *Merton Thesis*—has been vigorously contested. Such debates should not distract from my purpose in using the WCF in this dissertation: Christians are naturally sympathetic to Merton’s hypothesis, so the WCF will be especially relevant to them. For those interested in the debate, first see Merton, “The Puritan Spur to Science,” in *The Sociology of Science*, and then an overview of criticisms in Edward B. Davis and Michael P. Winship, “Early Modern Protestantism,” in Gary B. Ferngren, ed., *Science and Religion: A Historical Introduction* (Baltimore: The Johns Hopkins University Press, 20002) 117–128.

⁴ Genesis 1:1.

observe and judge what He has created: “And God saw that it was good.”⁵ The Genesis account climaxes in the creation of mankind, and afterwards God considers all of creation and declares it “very good.”⁶ Through this account, the characteristics of God, the created order, and human beings are closely linked. Such links are held by many Christians to provide the basis for modern science, with a rational God creating thinking people that can trace the divine plan in nature.⁷ Let us now consider the biblical concepts and categories most relevant to this study.

First, *God* is presented as a pre-existent, transcendent, all-powerful, and creative being who has created all things: matter, physical laws, inanimate objects, life. As with science, the chronology is significant. The basic principle, going back to Aristotle, is that “first things” shape what follows. As a result, God—*The First Cause*—stands above all created things, which can only be understood in the light of God.⁸ An implication of this view is that materialist forms of theism, such as those which are emerging in transhumanism, are illegitimate. The LORD of the Bible is a “jealous God” that will not share His glory with any imposters.⁹

Another implication is that since God is the source of all things, creation has obligations to God. The cosmos owes its very existence to God, from the smallest subatomic particle to the largest galaxies, along with all living creatures:

It pleased God the Father, Son, and Holy Ghost, for the manifestation of the glory of his eternal power, wisdom, and goodness, in the beginning, to create, or make of nothing, the world, and all things therein whether visible or invisible, in the space of six days; and all very good.¹⁰

⁵ From Genesis 1:4–25, the refrain “God saw that it was good” is repeated six times.

⁶ Genesis 1:31.

⁷ For example, see Vern S. Poythress, *Redeeming Science: A God-Centered Approach* (Wheaton, IL: Crossway Books, 2006).

⁸ The significance of this idea is reflected in the name of a popular Christian web site, *First Things*, published by the Institute on Religion and Public Life, <http://www.firstthings.com/> (accessed July 3, 2016).

⁹ The first biblical reference to the “jealous God” appears in the Ten Commandments, Exodus 20:5. Other references to God’s jealousy are sprinkled through the Old Testament. The clear message is that jealousy, like anger, can be righteous when it exercises and defends divine prerogatives.

¹⁰ WCF 4:1.

Of course, the biblical account of creation out of nothing—*ex nihilo*—is vigorously debated, not only by those that do not regard the Bible as the authoritative Word of God, but also by those that do.

Second, God declares what is *good* in creation. All that is good originates in, and is defined by, God. This includes *all* of creation, including material things, in opposition to Platonic or Gnostic views that show disdain for bodily entities. This is especially relevant to our study because transhumanism resembles a modern-day form of Gnosticism, emphasizing knowledge above any material instantiation.

Third, God is *personal*, as indicated by the plural pronoun used in the creation of man: “Then God said, “Let us make man in our image.”¹¹ Christians understand this as foreshadowing the Trinity:

In the unity of the Godhead there be three persons, of one substance, power, and eternity: God the Father, God the Son, and God the Holy Ghost: the Father is of none, neither begotten, nor proceeding; the Son is eternally begotten of the Father; the Holy Ghost eternally proceeding from the Father and the Son.¹²

Hence, personal relationships pre-exist the created order, together with the good things that they include, such as companionship, communication, and love. As we shall see, the nature of personhood, and especially interpersonal relationships as exemplified in the Godhead, is a central issue in both Christianity and in transhumanist thought.

¹¹ Genesis 1:26a.

¹² WCF 3:2.

Mankind in the Image and Likeness of God

A fourth critical point made by Genesis 1 is that God's nature is reflected in the climax of creation: mankind. Men and women are placed in a superior position with respect to all other created things:

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 the image of God he created him; male and female he created them.

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."¹³

The meaning of man made in the image and likeness of God—the doctrine known as the *imago Dei*—has been interpreted in many ways.¹⁴ How do we compare the attributes of God and those of man? Which are communicable, and which are incommunicable? Some place emphasis on mankind as a creative species, while others emphasize personhood and relationality. The issue is also tied up in the doctrine of the *incarnation*, the uniquely Christian concept of God becoming man. This aspect of the creator God and mankind is developed in the first chapter of Hebrews in the Bible's New Testament:

¹³ Genesis 1:26-28.

¹⁴ For a brief overview of *imago Dei* interpretations, see Steve W. Lemke, "The Intelligent Design of Humans: The Meaning of the Imago Dei for Theological Anthropology," presented at the March 2008 annual meeting of the Southwest regional Evangelical Theological Society at Harvard School for Theological Studies in Houston, TX. New Orleans Baptist Theological Seminary, <http://www.nobts.edu/faculty/itor/lemkesw/> (accessed October 29, 2016).

Long ago, at many times and in many ways, God spoke to our fathers by the prophets, but in these last days he has spoken to us by his Son, whom he appointed the heir of all things, through whom also he created the world. He is the radiance of the glory of God and the exact imprint of his nature, and he upholds the universe by the word of his power.¹⁵

So too, God's first commands to mankind—"Be fruitful and multiply" and "have dominion"—have been interpreted differently. The Genesis 1:28 *cultural mandate* has been used by some as a license to exploit the world, and as a result Christianity has been blamed for the ecological demise of the earth. In response, Christians have shown that the mandate is a charge to exercise stewardship, a responsibility to care for God's creation in the process of using resources to create a world that is habitable by human society.¹⁶ In any case, the biblical charges given to mankind have developed through history, and they encompass the development of science and technology as cultural artifacts. As a result, some see transhumanism as fulfilling biblical mandates, but others view it as a Christian heresy.

Divine-Human Collaboration

The creation story of Genesis 2 is followed by an elaboration of God's methods and purposes in Genesis 2. God shows Adam the other creatures, and exercising dominion over them, he gives them names. This task, together with the work of tending the garden, portrays a kind of collaboration between God and man. God's creation *ex nihilo* provides the substance of human creativity, including the categorization of nature and its manipulation to meet perceived needs. For this reason Adam is regarded as a sort of co-creator by some Christians. As we shall see later, this notion is taken as a biblical warrant for some transhumanist aspirations.

¹⁵ Hebrews 1:1-3.

¹⁶ Lynn White, Jr., The Historical Roots of Our Ecologic Crisis, *Science*, New Series, Vol. 155, No. 3767 (Mar. 10, 1967): 1203. White's essay is reprinted and contested in Francis A. Schaeffer, *Pollution and the Death of Man: The Christian View of Ecology* (Wheaton, IL: Tyndale House Publishers, 1970).

Following this episode, and even in His “very good” creation, God finds fault with Adam’s state, declaring “It is not good that the man should be alone.”¹⁷ Specifically, Adam lacks the kind of interpersonal peer relationships that exist within the Triune God. The result is God’s creation of Eve from Adam’s rib. Satisfied “at last,” Adam declares her to be “bone of my bones, and flesh of my flesh” in recognition of their identical and God-given bodily constitutions.¹⁸ In the process, interpersonal relationality, sexual reproduction, and social productivity are promulgated as divinely sanctioned norms.

Before moving on to consider the entrance of sin into the world, a couple of points must be made about the nature of God’s creative work. First, the creation of the world has been traditionally understood as a miraculous act, one that transcends the normal operations of nature. This position still holds with respect to modern science, the *Big Bang* marking the moment of creation. Subsequent evolution of the universe and the rise of life are seen as natural processes. Some transhumanists go a step farther, speculating that a God of some sort used physical means that are not yet understood to create the universe. In other words, the entire universe is seen as a work of technology, a machine, with God standing as a sort of cosmic design engineer. In an echo of La Mettrie's *L'Homme Machine* (Man a Machine), one Christian transhumanist points to humans *as* artificial intelligence.¹⁹

Second, and going a step farther, transhumanists aspire to the kinds of naturalistic godlike powers that they believe account for creation. This would allow posthumans to engage in creating their own universes and forms of life. Although this vision clearly transcends the capabilities of humans, at least for now, it falls short of traditional conceptions of God as a

¹⁷ Genesis 2:18.

¹⁸ Genesis 2:23.

¹⁹ Christopher Benek, “All Christians Believe in Artificial Intelligence,” the Christopher Benek, blog, <http://www.christopherbenek.com/?p=4389>. Also see Julien Offray de La Mettrie, *L'Homme Machine*, 1748, translated into English, *Man the Machine*, at <http://bactra.org/LaMettrie/Machine/> (accessed July 3, 2016).

wholly other, miracle-working being. Further, the reduction of God to a sort of super-engineer does not elevate creation; quite the opposite. As we shall see later, the reduction of the divine to materialism and physicalism leads to incoherence and the willing suspension of beliefs in what it means to be human.

Of Sin and its Aftermath

Immediately following the creation account, Genesis 3 tells the story of mankind's fall into sin. From its opening verse—"Now the serpent..."—the existence of an enemy of God and human beings is revealed, for the fall occurs at the instigation of the serpent, later identified as Satan.²⁰ It also shows, not only the consequences of not obeying God's commands but also the thinking process that leads to disobedience. The serpent questions the truth of God's decree, as well as His intent. Eve is enticed to disobey God in order to "be like God, knowing good and evil."²¹ This knowledge goes beyond mere intellectual recognition; in the Bible knowledge suggests intimacy, as indicated by the connection between knowledge and sexual intercourse. Adam follows Eve into sin, and God pronounces curses on them: toil in labor for men, pain in childbirth for women, and striving for rule between them.

The reality and meaning of the fall is, of course, contested, along with its cause—sin—and principle consequence—death. All people, including Christians, have sought relief from the fall's secondary and tertiary consequences by various means. Indeed, the development of technology has mitigated many of the problems Christians attribute to the fall. Relieving human suffering through technology has been at the heart of Christian participation in science and a central element of mission work. Medical missions have been active for many decades, and

²⁰ Revelation 12:9.

²¹ Genesis 3:5.

recently engineering has become a focus of some Christian missionary organizations. Still, the transhumanist aspiration to eliminate death through human inventions is often regarded as a violation of God's plan. Why?

As we shall see in Chapter 4, the Bible associates sin with creativity and inventiveness, which is an indispensable element of work in the sciences and technology. The disobedience of Adam and Eve was, in some respects, a creative act, one done to achieve what *seemed* to be a worthy goal: to become like God. Hence, it is clear that creativity is not, without regard for God's will, an inherently good deed. Here, a sharp difference between Christians and transhumanists comes into focus. The former accept that God has ordained limits on human action, while the latter tends to reject *any* limits on human thinking or actions. As we shall see later, some even aspire to overturn physical laws that stand in the way of their goals.

The aftermath of the fall is especially significant to this study. First, it is significant that although their bodies are mortal, Adam and Eve are not immediately executed for their disobedience. God does not set aside his decree. Instead, its meaning and God's intent are revealed. In forbidding them to eat of "the tree of the knowledge of good and evil," God had said that "in the day that you eat of it you shall surely die."²² It turns out that the nature of death (like life) is not as clear-cut as it might first appear; alternative translations suggest that after Adam and Eve ate the forbidden fruit they immediately became mortal.²³ It also seems that they experienced immediate *spiritual* death, a condition that affects all of Adam and Eve's descendants, as Paul explains in Ephesians.²⁴ Conversely, spiritual death provides by contrast a distinct biblical definition of life as God intended it to be, something that is far beyond mere physical existence.

²² Genesis 2:17.

²³ Mortality, not immediate death, is implied by alternative translations from the Hebrew: "dying, thou shalt die."

²⁴ Ephesians 2:1.

Second, concluding His curses upon the serpent, God states, “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.”²⁵ This passage is rich in meaning, indicating the terms on which the human race will persist. Not only will mankind not die, but God’s command that they be fruitful and multiple will be fulfilled. Further, Satan’s rebellion against God, which led to the fall, shall separate creation; enmity between factions is ordained by God. Even so, there is hope for restoration in the prophecy of one that will crush the serpent’s head. This first gospel—the *proto-evangelium*—accounts for the Judeo-Christian idea that history has a destination, that human existence has a purpose. At the same time, it is significant that God ordains conflict between His people and the rebellious world, and this surely limits what Christian diplomacy can achieve.

A third significant result of the fall involves technology directly. After their sin, Adam and Eve recognize their nakedness, and in response they fashion loincloths from fig leaves.²⁶ After cursing the serpent and pronouncing judgments on Adam and Eve, “the Lord God made for Adam and for his wife garments of skins and clothed them.” God replaces the makeshift garments with clothes made from skins. In this act, God sacrifices part of His good creation, at least one animal, for the sake of providing fallen humanity with protection against the now-harsh elements. What is the significance of this act?

The development and use of technology by human beings follows the pattern followed by God. He produces what we would recognize today as technological artifacts: articles of clothing. He does this out of compassion and love for the fallen creatures that bear His image and likeness. Their betterment justifies the sacrifice of other creatures, so part of creation is consumed in order to produce artifacts that improve the lives of people. In the process, the effects of the fall are

²⁵ Genesis 3:15.

²⁶ Genesis 3:21.

mitigated. The same can be said for human technologies. Indeed, in view of the Second Great Commandment to love our neighbor as ourselves, God's divine creative action to clothe Adam and Eve suggests a biblical mandate to develop technology for the betterment of human life.²⁷

Of course, technology and its uses in human society have been corrupted by sin. This corruption can be seen in how technology marks the division of the human race into those motivated by self-interest and others who seek God.²⁸ Genesis 4 tells the story of Cain, who kills his brother Abel, along with his descendants. They develop cities, agriculture, musical instruments, and forged instruments of bronze and iron. Their technological advances are accompanied by a moral decline, reaching a low point in the boast of Lamech that "I have killed a man for wounding me, a young man for striking me."²⁹ In contrast, the inventions of Seth's righteous descendants are not mentioned. However, in place of Lamech's self-reliance, they "call on the name of the LORD."

Later, Genesis tells the story of Noah. God saw the evil of man, "that every intention of the thoughts of his heart was only evil continually."³⁰ He then directed Noah to build the ark. It is instrumental in preserving human and animal life during the flood, a form of technological salvation in the midst of God's destruction of evil.

In contrast, the Tower of Babel is erected to exalt mankind, to "make a name" for its proud builders.³¹ God notes their hubris, foresees human ambitions to do much more evil, and confuses human language to forestall their plans. The use of technology as an instrument of rebellion against God is unmistakable. Indeed, Babel has become a symbol of the technological rebellion of mankind against God.

²⁷ Mark 12:28–34.

²⁸ See St. Augustine, *City of God*, Henry Bettenson trans. (London: Penguin Books, 1984).

²⁹ Genesis 4:23.

³⁰ Genesis 6:5. The story of Noah and the flood continues through Genesis 9.

³¹ Genesis 11:4. The entire episode spans verses 1–9.

Summary

The book of Genesis is foundational in developing a Christian understanding of technology. It introduces and develops concepts and categories that are critical to this study:

- God, existing in multiple persons, and holding to standards of good and evil.
- Creation, consisting of matter, energy, physical laws, information, and life, including man, made in the image and likeness of God, and given dominion over creation.
- Sin, its consequences, and the prophecy of its eventual defeat through Christ.

All of these items have connections to the development and use of technology, which is not only used to mitigate human suffering, thereby mitigating the effects of God's judgments, but also used to exalt human beings in opposition to God.

POINTS OF DIVISION

Within Christianity the Bible is the exclusive sacred text. Still, interpretations of the Bible, including concepts that are critical to this study, vary significantly. The most important interpretive issue is the degree of authority given to the Bible. The Roman Catholic Church holds the Bible *and* church traditions as authoritative. The Protestant Reformation, responding to perceived abuses of power in Roman Church applications of scripture to achieve its worldly purposes, adopted scripture alone—*sola scriptura*—as its interpretive guide. The WCF expresses this commitment:

The supreme judge by which all controversies of religion are to be determined, and all decrees of councils, opinions of ancient writers, doctrines of men, and private spirits, are to be examined, and in whose sentence we are to rest, can be no other but the Holy Spirit speaking in the Scripture.³²

Since the Reformation, and especially since the scientific revolution, interpretations of biblical authority have multiplied. The great schism between Catholicism and Protestantism has been followed by many more, resulting in many denominations, each seeming to have its own peculiar view of the Bible and its relationship to history, science, government, and many other cultural matters. Some groups have largely given up on the Bible as anything more than one moral story among many. Others still embrace the Bible as the literal and unchangeable word of God, often denying allegorical interpretations. Between these extremes, most Christians still look to the Bible as an inspirational or inspired book, worthy of close study and application in living a good life, even if parts of the biblical account are not fully understood or treated as authentic history. This broad spectrum of beliefs makes it difficult, if not impossible, to obtain agreement on many doctrinal issues, including several that are important factors in relationships between Christianity and transhumanism.

Of the Gospel

At its core, Christianity is about the gospel of Jesus Christ. The gospel is, in Paul's words, "the power of God for salvation to everyone who believes."³³ However, disagreements arise in *how* this power is applied, the order of events through which people become and live as Christians, relationships between salvation and life, and what to expect in the future. Many of

³² WCF 1:10.

³³ Romans 1:

these disagreements involve questions of *agency*. There *seems* to be a “division of labor” in salvation, the persons of the Trinity doing some things, individual Christians doing others.

Soteriology is the branch of Christian theology that explores the process and nature of salvation. It includes Christianity’s demarcation problem, the determination of minimum requirements for salvation. Like the demarcation problem of science, there are controversies over where to place biblical Christianity’s boundaries. Still, a wide range of views are accepted as Christian based on the belief that the gospel message is made clear in scripture by repetition of simple, direct language. The WCF expresses the concept of a *perspicuous* gospel:

All things in Scripture are not alike plain in themselves, nor alike clear unto all: yet those things which are necessary to be known, believed, and observed for salvation, are so clearly propounded, and opened in some place of Scripture or other, that not only the learned, but the unlearned, in a due use of the ordinary means, may attain unto a sufficient understanding of them.³⁴

This statement follows from God’s intent in revealing himself in scripture: to graciously and patiently save those that have rebelled against Him, for God is “not wishing that any should perish, but that all should reach repentance.”³⁵ Since God’s grace is sufficient for salvation, relatively little or nothing is required from the sinner. Great intellectual powers are not required to understand and respond to the gospel; even small children can understand and believe the gospel. Indeed, Jesus states that the kingdom of God consists of those that accept the gospel in the same way as a little child: unencumbered by the burdens of deeper biblical doctrines.³⁶

Many children learn the gospel in Sunday School in the course of memorizing the simplest and best-known expression of the gospel in John 3:16:

³⁴ WCF 1:7.

³⁵ 2 Peter 3:9.

³⁶ All three synoptic gospels—Matthew, Mark, and Luke—emphasize the importance of children and the purity and legitimacy of child-like faith. For example, see Matthew 18:1–4; Mark 10:13–16; Luke 18:15–17.

For God so loved the world, that he gave his only Son, that whoever believes in him should not perish but have eternal life.

This verse makes it clear that God the Father, for the sake of sinful man, was willing to send Jesus Christ the Son in order to provide a means of salvation to those that believe. Let us look a bit deeper at what that salvation will mean.

First, the *hope* of the gospel is that believers will be saved for eternity. This hope will be fully realized at the Second Coming of Christ. As Jesus stated:

Let not your hearts be troubled. Believe in God; believe also in me. In my Father's house are many rooms. If it were not so, would I have told you that I go to prepare a place for you? And if I go and prepare a place for you, I will come again and will take you to myself, that where I am you may be also.³⁷

Note here that salvation opens the way for believers to enter *a place*, one that *Jesus* prepares.

There, believers *and their Savior* will live together. All others, those that reject Christ, will perish.

Second, in an echo of the transformation of Jesus' body at the resurrection, salvation will transform the *bodies* of believers. Going from this world into *the place* of salvation, believers will receive immortal bodies. Paul expresses this transformation in 1 Corinthians:

When the perishable puts on the imperishable, and the mortal puts on immortality, then shall come to pass the saying that is written:

“Death is swallowed up in victory.”
“O death, where is your victory?”
O death, where is your sting?”

The sting of death is sin, and the power of sin is the law. But thanks be to God, who gives us the victory through our Lord Jesus Christ.³⁸

³⁷ John 14:1–3.

³⁸ 1 Corinthians 15:54–57.

Third, salvation will transform the *lives* of believers. They will no longer be encumbered by sin and sorrow. John's Revelation reveals a few details about this transformation *and* its cause:

Then I saw a new heaven and a new earth, for the first heaven and the first earth had passed away, and the sea was no more. And I saw the holy city, new Jerusalem, coming down out of heaven from God, prepared as a bride adorned for her husband. And I heard a loud voice from the throne saying, "Behold, the dwelling place of man is with God. He will dwell with them, and they will be his people, and God himself will be with them as their God. He will wipe away every tear from their eyes, and death will be no more, neither shall there be mourning nor crying nor pain anymore, for the former things have passed away."³⁹

These passages make it clear that the principle agent of change of salvation is *the triune God*. The Father gave the Son to save believers. The Son has gone on to prepare a place in which to live eternally after the Second Coming. This much seems clear in orthodox biblical Christianity.

Now, some of the *deeper* aspects of soteriology *are* subject to debate. Christians generally accept that sin harms the human spirit. It severely damages sinners' capacity to know and commune with God. Two major schools of theological thought divide over the extent of this damage. Reformed theology—sometimes called Calvinism after John Calvin (1509–1564), its leading theologian—teaches that sin *kills* sinners' souls. As a result they are left "dead in their sins" and unable to respond to the gospel apart from the quickening power of the Holy Spirit.⁴⁰ Arminian theology—named after Jacobus Arminius (1560–1609), and substantially encompassing the teaching of the Roman Catholic Church, John Wesley (1703–1791), and many others—leaves a small measure of spiritual life in sinners. As a result of this residual spark of

³⁹ Revelation 21:1–4.

⁴⁰ Ephesians 2:1–2.

spiritual life, even the worst sinner is able to choose to believe the gospel, typically with the *aid* of the Holy Spirit.

Conversely, there is agreement that the loss of spiritual life is reversed when sinners respond to the gospel. Somehow the Holy Spirit works to repair the noetic damage done by sin, and believers are once again able to apprehend God's presence and appreciate his works. John Calvin called this capacity the *sensus divinitatis*, an idea developed as *Reformed Epistemology* by philosopher Alvin Plantinga. He interprets the *sensus divinitatis* as a *basic function*, a kind of sixth sense that allows Christians of all kinds to perceive, know with certainty, and appreciate God and the divine attributes.⁴¹ Others interpret the dynamics of the restoration of sinners differently, but in any case, the gospel is intended to restore humanity to its *original* state, making the elect willing and able to fulfill their original purposes in God's plan, as given in the first question of the Westminster Shorter Catechism (WSC):

Q: What is the chief end of man?

A: Man's chief end is to glorify God, and to enjoy him forever.⁴²

In sum, the gospel points toward the restoration of fellowship between God and man. This restoration begins in this life, growing deeper as the believer grows closer to Christ, but its completion takes place in the next.

For this study, it is important to note that biblical Christianity underscores that the redemption of fallen humanity, including the elimination of sin and death, is to be *through Christ*, for *this* brings glory to God, including all three persons of the Trinity. Other means of achieving salvation are ruled out by conventional Christian theology because they would not bring glory to God.

⁴¹ See Plantinga, *Warranted Christian Belief*; the *sensus divinitatis* is discussed 172–176.

⁴² The Westminster Shorter Catechism, Longer Catechism, and many others are intended to break down the truths of scripture for both children and adult converts. See <http://opc.org/confessions.html> (accessed July 3, 2016).

What of Human Effort in Salvation?

God has good intentions for mankind, as demonstrated by the Christian gospel. Even after the fall, God seeks to restore mankind to a place of fellowship and participation in the divine plan. Salvation achieves this intention. At the Second Coming, Christians will receive eternal life, but what about life in this world? What *can* Christians accomplish here and now?

In Reformed theology, salvation is the work of God from beginning to end, a result of divine *irresistible grace*. Christians participate in their sanctification and in doing good works, but the inclination and power to do so is entirely divine, a fruit of the Holy Spirit that abides in them. Other Christian traditions maintain a greater role for humanity in achieving good works. The Arminian core of Roman Catholic and Wesleyan theology does not deny God's sovereign power and grace, but emphasizes the role of human volition in their application. Grace is offered on a "just in time" basis. This Arminian concept of *prevenient* grace opposes the Reformed concept of irresistible grace. For this study, it is important to note that all mainstream views, even Calvinism, maintain some degree of free will. People are not robots without wills of their own, and so they are responsible for their choices, which can then be carried out through the power that God has graciously given them through either natural giftedness or supernaturally by the Holy Spirit.

Does this mean that Christians can achieve *anything* through God's power? Do not Christians receive gifts through the Holy Spirit? Perhaps it is God's will for human frailties to be eliminated through human efforts? At some level, the answers to these must be yes; the God that created the heavens and the earth can move in His creatures to execute the divine plan. How far

might this go? To what extent can humanity be restored on this side of the Second Coming? Can Christians take the initiative in working toward the goals of salvation?

Reformed Christians, who hold to a strong form of predestination, deny that God's perfect plan can be changed by human or demonic powers. Generally, other traditions uphold the sovereignty of God, while allowing for a greater role for human choices. The critical difference between these views lies in how sin and its corrupting influences affect Christians. A key to this study is the question of whether or not Christians *can* be restored to their original state in this world, or will full restoration take place only in the next?

Some branches of Christian thought, especially in Reformed thought, maintain a low view of human capabilities, even after accepting Christ as savior. This view emphasizes the persistence of sin in Christians throughout their earthly lives. This side of the resurrection, sin is ever-present, as John indicates in his first epistle:

If we say we have no sin, we deceive ourselves, and the truth is not in us. If we confess our sins, he is faithful and just to forgive us our sins and to cleanse us from all unrighteousness. If we say we have not sinned, we make him a liar, and his word is not in us.⁴³

Other branches of Christianity allow for a greater degree of perfection in this world. They emphasize the possibility of living victorious lives through God's power, following the pattern of the Paul. From prison he writes to the Philippians:

I rejoiced in the Lord greatly that now at length you have revived your concern for me. You were indeed concerned for me, but you had no opportunity. Not that I am speaking of being in need, for I have learned in whatever situation I am to be content. I know how to be brought low, and I know how to abound. In any and every circumstance, I have learned the secret of facing plenty and hunger, abundance and need. *I can do all things through him who strengthens me.*⁴⁴

⁴³ 1 John 1:8–10. Paul openly confesses his struggles against sin in Romans 7.

⁴⁴ Philippians 4:10–13, emphasis added.

Wesleyan theology emphasizes the possibility of holiness in this life by taking full advantage of grace that God provides in any situation moment by moment. As we shall see later, an extreme form of this view allows for the possibility of salvation and eschatological triumph *through technology*. Indeed, some Christians see transhumanism as a practical fulfillment of God's promises. To do so, they must engage in some artful hermeneutics to reconcile this view with the doctrine of "*salvation through Christ*."

So Christians seeking to do the will of the Lord face a dilemma. The Scriptures encourage faith, even the "I can do all things" faith of Paul. Even so, there are limits to what a Christian can and should do; their desires must conform to God's will.

Eschatological Hope

Christian eschatology, which deals with the end times, is a controversial topic in the Church. It is, perhaps, the *least* perspicuous subject in Christian theology, one largely based on John's Revelation, the last and *least* perspicuous book in the Bible. Still, eschatology has a powerful role in shaping how Christians live their lives, deal with death, and understand culture. Some forms of Christian eschatology are more consistent with transhumanism than others, which would interpret its agenda in the *worst* terms possible.

The three main strands of Christian eschatology are distinguished by different interpretations of the millennium: a thousand-year period at the end of history when Satan is bound and Christ reigns.⁴⁵ Some Christians hold that the millennium represents the current age and that the Second Coming of Christ could occur at any time. This *a-millennial* view interprets "a thousand years" as figurative language for a long time. Many details of Revelation prophecies

⁴⁵ Revelation 20:1–7.

are understood to have been fulfilled in the past. The a-millennial view is bracketed by two more-literal interpretations of the millennium that have strong links to transhumanism.

On the one hand, there is an optimistic view of the millennium, one that sees it as a long period of peace, progress, and prosperity at the end of history. Although exciting to contemplate, this happy time would have only penultimate importance, for it is only the prelude to a *post-millennial* return of Christ. In this view, progress of all sorts can be interpreted as steps toward the restoration of the cosmos. Some Christians find motivation for their work—either spiritual or secular—because they believe that to the degree that it promotes peace and prosperity, the Second Coming is brought closer. Such work could be in evangelism or science and technology. In extreme forms, transhumanism can be seen as the fulfillment of God’s promises by means of the technosciences.

On the other hand, there are those that believe Christ’s return to earth will precede the millennium. This *pre-millennial* view foresees a harmonious thousand-year period while Christ reigns on earth. However, the millennium would be followed by the release of Satan and a “great tribulation.”⁴⁶ This period is marked by war between God and Satan: the *apocalypse*. In the end, God prevails, but the victory occurs in spite of human striving, not because of it. Seen in this light, human striving toward a posthuman state can be seen as foreshadowing or part of a war between spiritual forces.

What separates these views? Sincere Christians hold to all sorts of eschatological views based on personal and denominational interpretations of scripture, which is held to be inspired and authoritative to one degree or another. In fact, the differences arise from the issues uncovered during our quick look at the opening chapters of Genesis: the existence and character of God, mankind made in God’s image and likeness, and the reality, nature, and consequences of

⁴⁶ Revelation 7:14 refers to saints “clothed in white robes” that are “coming out of the great tribulation.”

sin. Together, these issues put God's plan of salvation into perspective, including eschatological speculations, along with applications of technology to transcend the human condition. In any case, questions of ends and means are central to Christian ethics, including its view of transhumanism.

What unites these views? For this study, the pre- and post-millennial views hold the greatest significance, especially to those holding to *literal* interpretations of *selected* Bible passages. This tendency unifies what are otherwise diametrically opposed views. Specifically transhumanism is either:

- A fulfillment of God's divine plan, a restoration of humanity, achieved through gifted human agents, and a herald of a post-millennial Second Coming; or,
- A sign that the final pre-millennial rebellion against God is approaching, perhaps even the way through which the Anti-Christ will appear; or,

Ultimately, all Christian eschatology anticipates one outcome: God wins. Christians of all stripes live in confidence of this result, even as they struggle along the path of life.

A Glorious Destiny

Christians seek to better themselves in this world, putting to death their sinful natures and growing to be more like Christ. Whatever their eschatological stance, they believe that the sinful nature will be completely eliminated in the resurrection. With new incorruptible bodies, the saints will be united with their Lord forever, living a life of *glorification*. This too is a point of division between Christians.

At one extreme, glorification is seen as the full attainment of godlike existence, a realization of part of Psalm 82:6: "You are gods, sons of the Most High, all of you." The

theological term for this belief is *theosis*, a doctrine held in high esteem in the Eastern Church. In contrast, other Christians minimize the nature of glorification, leaving it as something for God to reveal after the Second Coming. Indeed, Reformed theologians, if they speak of glorification at all, seem to avoid talking of it, sometimes treating the doctrine as an unseemly thing for still-sinful creatures to discuss.

When Christian theologians *do* deal with glorification, they deny that saints can become gods. They often appeal to the context of Psalm 82, which focuses on the wicked. After setting up haughty men as “gods,” it concludes “nevertheless, like men you shall die, and fall like any prince. Arise, O God, judge the earth; for you shall inherit all the nations!”⁴⁷ After expressing what glorification is not, it is typically defined in terms of all that God does for His people, not only in the resurrection, but also in this life. There is an “already, but not yet” quality to the Christian life, with substantial healing in this world and to-be-determined improvements in the next.

For this study, glorification is significant because it is closely associated with the goals of transhumanism: transcendence of the human condition, including the elimination of death, full knowledge of creation, and the attainment of a new life, one that is designated as post-human. The consistency between Mormon theology and transhumanism turns on this point. Since Mormons aspire to a full-fledged form of *theosis*—to *become* gods—transhumanism is seen as a route to this end. Orthodox biblical Christianity stops short of this view. Yes, Christians are to be transformed into the likeness of Christ, but as in the Genesis account, likeness does not mean duplication. As a result, biblical references to the glorification of saints are embraced, but direct comparisons between God and His attributes versus glorified saints and their capabilities tend to

⁴⁷ Psalm 82:7–8.

be muted or avoided altogether. Now, the rise of transhumanism opens a door for revisiting the meaning and necessity of glorification.

Human Pride and Humility in God's Plan

As I have shown, there are many contested points of Christian theology that have a proximate relationship with transhumanism. Does scripture ever speak directly to how technology should be understood? Yes, I am convinced that it does. I find 2 Chronicles 26 to be helpful, especially in considering the place of technology in Christian life.

This chapter recounts the efforts of King Uzziah to ensure the prosperity and security of Judah. He does this, at least in part, through technology. Uzziah was a good king, one that “did what was right in the eyes of the LORD.” He fights Judah’s enemies and makes provision for defense:

And Uzziah prepared for all the army shields, spears, helmets, coats of mail, bows, and stones for slinging. In Jerusalem he made machines, invented by skillful men, to be on the towers and the corners, to shoot arrows and great stones. And his fame spread far, for he was marvelously helped, till he was strong.⁴⁸

In the King James Version, the catapults are described as “engines, invented by cunning men,” foreshadowing the emergence of engineering (and its mixed connotations) from its roots in military affairs. Unfortunately, the next verse identifies the end of Uzziah technological prowess: “But when he was strong, he grew proud, to his destruction.”⁴⁹

The lesson of 2 Chronicles 26 is clear: technological capabilities, even those that serve good purposes, come with a temptation. It seems that Uzziah was doing the Lord’s work in service to his subjects. God gave intellectual and practical gifts to those “cunning men” so that

⁴⁸ 2 Chronicles 26:14–15.

⁴⁹ Uzziah’s decline into leprosy and death is recounted in 2 Chronicles 26:16–23.

they could build such marvelous machines. Through them, Judah was prepared to stand against its enemies. Nevertheless, technological superiority led to pride and the downfall of their sponsor. As we shall see, the same possibility for unintended consequences is present in transhumanism.

WHAT TECHNOLOGY MEANS TO CHRISTIANITY

Given the Holy Bible, what it says concerning a range of topics associated with technology and transhumanism, and various Christian interpretations of them, can we draw any conclusions about the place of technology in Christianity? Surely, we are faced with a confusing set of data, and since the future evolution of science, technology, and Christianity is unknown (and perhaps unknowable), caution is necessary. Still, patterns can be discerned in the data that can help us on our way. Technology is a cultural phenomenon, and a number of scholars have analyzed the ways in which Christians have engaged with their host cultures.

For the purposes of this study, H. Richard Niebuhr's analysis of how the Church has engaged with culture, *Christ and Culture*, offers a good starting point.⁵⁰ Science and technology saturate today's world, so it is a simple matter to take a contemporary account of how Christians could or should approach culture and extend it to speak to issues of science and technology. What makes *Niebuhr's* account special is its historical perspective. Through the ages, five patterns of cultural engagement are discernible. All five remain visible in today's Church, and all five point to different attitudes Christians can take toward human technological enhancements.

Note that many Christian intellectuals have criticized Niebuhr's analysis. He is often accused of "stacking the deck" to promote Evangelical Christianity at the expense of other varieties. Conversely, Evangelicals criticize Niebuhr for mischaracterizing their approach to

⁵⁰ H. Richard Niebuhr, *Christ and Culture* (1951; repr. New York: Harper Collins Publishers, 2001).

culture.⁵¹ It seems that everyone, for one reason or another, finds fault with his introductory descriptions of Christ, the Church, and culture in general. Often, criticisms involve complaints about his choices of exemplars for the five positions. Considering the differences between their eponymous traditions, some object to Niebuhr's placement of Calvin and Wesley in the same category. To focus on Niebuhr's critics is to distract from the fact that over 50 years after its publication, *Christ and Culture* stands as a classic study, and everyone else is measured against its pioneering claims. In this dissertation, I will avoid such distractions, only identifying exemplars of one position or another where necessary. A comprehensive analysis of how Christians view technology is far beyond the scope of this dissertation. It is also a difficult task, for few Christian theologians take stands on the place of technology. My focus will be on how Niebuhr's broad themes speak to the engagement of Christianity with transhumanism.

H. Richard Niebuhr: The Enduring Struggle

From its inception, the Christian Church has struggled to find its place within human cultures. On the one hand, Christians have suffered severe persecution, from the crucifixion of Christ by Roman soldiers to beheadings of Christians by Islamic radicals in our day. On the other hand, the emergence of Christendom did not result in peace on earth; far from it. The Genesis prophecy of conflict has been fulfilled. In view of this fact, Marcela Pera comments that "Our [Western] civilization sprang into being at the foot of the Cross, and under that sign it divided into factions and fought its battles inside and outside its territory. It hardly knows how to exist without the Cross."⁵²

⁵¹ For example, see D.A. Carson, *Christ & Culture Revisited* (Grand Rapids, MI: William B. Eerdmans Publishing Company, 2008).

⁵² Marcello Pera, *Why We Should Call Ourselves Christians: The Religious Roots of Free Societies*, trans. L.B. Lappin (New York: Encounter Books, 2008), 51.

The question of *how* the Church should relate to culture is, in the words of theologian Niebuhr, the “enduring problem” of Christianity.⁵³ In theological terms, the problem reduces to the question of how Christians can be “in the world,” but not “of the world?”⁵⁴ Niebuhr observes that “the repeated struggles of Christians with this problem have yielded no single Christian answer, but only a series of typical answers.”⁵⁵

The scientific and industrial revolutions have complicated struggles to answer this perpetual question; Christians were deeply involved in both revolutions, yet they resulted in weakening the place of the Church in society. Robert Boyle, Isaac Newton, and many other early scientists held strong Christian beliefs. Still, modern science developed as a *secular* institution, one based on methodological naturalism. On this basis, people from around the world with diverse religious and cultural perspectives have come together to develop science and technology. At the same time, there has been a general elevation of science and naturalism at the expense of traditional religious faiths, a phenomenon described in social science as secularization.⁵⁶

Dramatic changes in the sciences—both natural and social—have altered church-culture relationships. Since 1900, the foundational science of physics has been revolutionized. Newtonian physics, which interpreted the universe in mechanistic terms, had reigned supreme for 200 years, but it came under challenge through the 20th century, first by relativity, then by quantum mechanics. Today, physics research seeks to unify these perspectives, but it continues to reveal new complications. All the while, applications of modern physics in atomic power,

⁵³ Niebuhr, “Chapter 1: The Enduring Problem,” in *Christ and Culture*, 1–44.

⁵⁴ The paraphrased admonition for Christians “to be in the world, but not of it” stems from multiple Bible passages, especially John 17:11–19 and Romans 12:1–2.

⁵⁵ *Op. Cit.*, 2.

⁵⁶ Again, see Merton, “The Puritan Spur to Science,” in *The Sociology of Science*. Like the *Merton Thesis*, secularization and its causes have been subjects of debate for many years. See John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1991).

electronics, and biology have given humanity enormous and unprecedented powers, with many more on the horizon. Ironically, scientific and technological successes have led to diminished confidence in it as an icon of modernity. The real and imagined horrors of chemical, biological, and nuclear warfare, experienced in two world wars and the Cold War; environmental degradation and runaway global warming; and, numerous and persistent techno-social problems have brought science, along with other modern institutions, into question. To many observers, the bright promises of the Enlightenment have gone unfulfilled, and as a result, secularization has slowed—or even reversed—as society increasingly looks for ways to find meaning in an age of accelerating technological change.⁵⁷

For the last 50 years or so, scholars from many disciplines have increasingly sought to analyze and reinterpret modernity and its underlying assumptions. As narrow definitions of rationality have fallen under suspicion, conversations about modern and postmodern woes have begun to include religious voices. Several post-secular theological movements have arisen, such as Milbank's Radical Orthodoxy.⁵⁸ From the outset, Milbank and his associates have denied the very existence of the secular, pointing to metaphysical presuppositions that lie at the root of politics, economics, the social sciences, and other disciplines. Likewise, religious forms of transhumanism have emerged as a synthesis of natural sciences, emergent hopes for life-altering technologies, and spirituality.⁵⁹

With this background, how can we classify Christian reactions to technology? Consider Table 1 in which I summarize Niebuhr's fivefold classification.⁶⁰ How do his types of responses

⁵⁷ Peter L. Berger, ed., *The Desecularization of the World: Resurgent Religion and World Politics* (Washington, DC: Ethics and Public Policy Center, 1999).

⁵⁸ John Milbank, *Theology & Social Theory: Beyond Secular Reason* (1991; 2nd ed., Oxford: Blackwell Publishing, 2006).

⁵⁹ For example, see Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Viking Penguin, 1999).

⁶⁰ Niebuhr, Chapters 2–6, in *Christ and Culture*, 45–229.

deal with technology? How might they respond to the prospect of transhumanism in particular?

In what ways would they approach diplomacy?

Table 1 – Niebuhr’s Typology

Type	Descriptive Word(s)	Exemplars	Sects
Christ <i>Against</i> Culture	Radical, Adversarial	Clement of Rome, Tertullian, Tolstoy	Mennonite, Quaker, Fundamentalist
The Christ <i>of</i> Culture	Cultural, Accommodationist	Abélard, Locke, Leibnitz, Kant, Jefferson, Schleiermacher, Ritschl	Gnostic, Liberal Protestant
Christ <i>Above</i> Culture	Synthesist	Justin Martyr, Clement of Alexandria, Aquinas	Roman Catholic, Anglican
Christ and Culture in <i>Paradox</i>	Dualist	Luther, Kierkegaard	Lutheran, Conservative Protestant
Christ the <i>Transformer</i> of Culture	Conversionist	Augustine, Calvin, Wesley, Edwards, F.D. Maurice	Evangelical, Reformed, Methodist

The Radical Church – Christ *Against* Culture

To radical Christians, culture is perceived as a threat. Their elevated view of God is matched by a low view of unregenerate man. Hence, all human institutions are, to one degree or another, suspect; Christian participation in them carries the risk of sinful entanglements. This includes institutional science, government, corporations, universities, and, in some cases, *even* organized churches. The rejection of human institutions is associated with a strong distrust of fallen human reason and a preference for simple spiritual devotion. Niebuhr observes in the radical church a tendency toward “the denigration of reason and the exaltation of revelation.”⁶¹ In this view, secularism-run-amuck transhumanism would surely be seen as a conspiracy of

⁶¹ Ibid., 76.

institutions bent on the commission of unnatural evil acts against humanity, a view consistent with pre-millennial eschatology.⁶²

Even though it opposes the world, the radical church tends to avoid confrontations unless directly threatened. This suggests that the radical church would prefer to hold transhumanist developments at arm's length, just as some churches and their members avoid close associations with secular institutions. Conversely, cultural institutions would be naturally suspicious of radical Christians. Hence, meaningful diplomatic engagements between radical Christians and transhumanists are made impossible by their mutual distrust. Besides, the primary strategic goal of the radical church is to persevere in the midst of what it sees as inevitable cultural decline. As a result, radical Christianity is unlikely to directly oppose the development of transhumanism, even though it will be seen as extremely distasteful. Its approach to diplomacy would tend toward isolationism, ignoring transhumanism as much as possible, while internally decrying its attempts to overturn the created order. Under no circumstances would Christian commitments be sacrificed for the sake of diplomatic dialogue. If forced to deal with its enemies, Radical Christianity would prefer war to compromise.

Conversely, this perspective places strains on the radical church, for it may prove impossible to be totally insulated from the surrounding culture. Nor could the radical Christian, without engagement with the culture at some level, fulfill the command to "love your neighbor." Relationships between such Christians, transhumanists, and post-humans would be strained at best. Indeed, some elements of transhumanist development are likely to creep into the Church out of love for suffering members. When considering his exemplar of the radical position, Niebuhr notes that Leo Tolstoy "could choose the life of poverty, but not for wife and children,

⁶² For an example of this view, see Britt Gillette, "Transhumanism and the Great Rebellion," on *Rapture Ready* <https://www.raptureready.com/featured/gillette/transhuman.html> (accessed October 29, 2016).

who did not share his convictions.”⁶³ So, would a *Christ Against Culture* sect persist in suffering if futuristic cures are proven to be safe and effective? How long could a radical sect resist when all around them are finding renewed health and prolonged lives?

The Accommodationist Church – The Christ *Of* Culture

At the opposite extreme, the accommodationist approach seeks to separate culture and theology as if they were independent spheres of life. When cultural phenomena are considered, God—including all three persons of the Trinity—is regarded as distant, or even nonexistent, a mythic being whose primary significance is inspirational. As a result, accommodationist Christians would have little use for diplomacy in engaging with transhumanism, consciously or unconsciously taking a “peace at any price” position.⁶⁴ Under the banner of “The Fatherhood of God, and the Brotherhood of Man,” cultural Christians hold that “the human situation is fundamentally characterized by man’s *conflict with nature*,” little attention is paid to the orthodox Christian view that man’s conflict is “with God, and that Jesus Christ stands at the center of that conflict as victim and mediator.”⁶⁵

Accommodationist Christians would show great enthusiasm for human enhancement through technology, for “Though their fundamental interest may be this worldly, they do not reject other-worldliness; but seek to understand the transcendent realm as continuous in time or character with the present realm.”⁶⁶ Under this view, little attention would be given to the possibility that transhumanism might be corrupted by sin. It is written off as an unimportant

⁶³ Ibid., 75.

⁶⁴ Recall that according to the United States Institute of Peace, a “peace at any price” strategy “may lead to greater conflict later.” USIP, *Peace Terms*, 40.

⁶⁵ Op. Cit., 101.

⁶⁶ Ibid., 84.

element in a Bible that emphasizes love and fellowship. Otherwise, Church doctrine would be open to negotiation and reinterpretation in light of the transhumanist developments.

Kurzweil exemplifies this position.⁶⁷ Raised a Unitarian, he has become an enthusiastic advocate of human enhancement, while disregarding religious and ethical objections as merely “stones in a stream” of technological progress, for “The water just flows around them.”⁶⁸ Two thousand years of Christian theology are of little importance to him, for the Singularity—the rapid acceleration of progress in the 21st century—is “an insight that causes one to rethink everything, from the nature of health and wealth, to the nature of death and self.”⁶⁹

The embrace of transhumanism by the accommodationist church would, of course, deepen its tensions with other church factions, just as different views of biological evolution have split the Church. It would also deepen tensions within its ranks. Although, the accommodationist church is “enabled to work for the reformation of the culture,”⁷⁰ would transhumanism be any different for its input? In fact, it seems that members of a cultural church that embraced transhumanism would have few reasons to hold onto their appellation as Christians. As a result, intra-Church diplomacy would be required, with the accommodationist strongly favoring unity over purity. To the extent that other Christians remain firm in their doctrinal stances, further Church splits are likely, with some denominations open to transhumanist hermeneutics, with others opposing it.

Again, Kurzweil seems to exemplify this position, regarding traditional religion as only “deathist rationalization—that is, rationalizing the tragedy of death as a good thing.”⁷¹ In a

⁶⁷ Ray Kurzweil, *The Singularity is Near*, 1.

⁶⁸ Ray Kurzweil & Max More, “Ray Kurzweil and Max More on the Singularity,” *The Ray Kurzweil Reader*, 154–170; Kurzweil’s reference to “religious and ethical stones in the transhumanist stream” is on 169); the reader is available online at <http://www.kurzweilai.net/pdf/RayKurzweilReader.pdf> (accessed July 3, 2016).

⁶⁹ *Op. Cit.*, 371.

⁷⁰ Niebuhr, *Christ and Culture*, 106.

⁷¹ Kurzweil, *The Singularity is Near*, 372.

conversation with Bill Gates, Kurzweil looks to the development of a technological god: “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.”⁷² This demonstrates the potential for a nominal Christian to be a transhumanist, notwithstanding deep inconsistencies with orthodox biblical theology.

Irrelevant Extremes

Between Niebuhr’s polarized radical and accommodationist views, there are three median types to be considered. But first, it is important to note a key similarity between the extreme views: both radical and cultural Christians seek to isolate spiritual life from culture. Instead, each allows science, technology, and transhumanism to proceed without substantive moral guidance from the Church, even as they believe that the Church will not be harmed in the end.

For the purposes of this study, the extreme views are not likely to play an important role in diplomatic engagement. On the one hand, radical Christians will resist dialogue with transhumanism, seeing it as idolatrous and evil, even a possible sign of the Anti-Christ and tribulation. On the other, accommodationist Christians will be practically indistinguishable from transhumanists, unwilling to hold any doctrinal beliefs that would interfere with a final victory of technoscience over death. Their diplomatic challenge will be maintaining unity in the Church. So let us now examine the intermediate views for a diplomatic base on which to build.

The Synthesist Church – Christ *Above* Culture

In this view, the Church assumes a superior place in society, accrediting its goals and supporting actions to reach them. It values culture, but understands that the fundamental conflict

⁷² Ibid., 375.

of life is between man and God. As a result, it works with other institutions, such as government, to the extent that their moral interests coincide. Further, it “offers to Christians an intelligible basis for the work they must do in co-operation with nonbelievers.”⁷³ So, the synthesist engages with culture, but not at the expense of basic beliefs: God, creation, sin, redemption, and others. As society evolves, it analyzes the philosophical grounds of new developments and decides, on the basis of its basic belief system, whether or not the Church should support them.

How might Christianity be synthesized with transhumanism? One possibility would be selective acceptance of transhumanism’s technological advances without its more exotic philosophical or religious trappings. For example, the synthesist church could endorse technologies that would eliminate genetic causes of disease and aging, greatly extending its members’ lives. At the same time, it could reject any integration of biological and artificial minds as contrary to its understanding of God-given human nature. It might accept the labor of intelligent robots in accomplishing its mission, but not accept them as persons or members. Still, there would be the risk that associating with artificial minds or transhumanist culture could harm the Church, just as the radical Christians fear.

The Catholic Church is the prototype for the synthesist approach, along with its Anglican offspring. For many decades, it has sought to comprehend the bewildering advances of science, while seeking to find theological grounds for their operations and implementation in technology. Recent Catholic studies of human dignity in view of genetics and biotechnology are good examples.⁷⁴ So also Radical Orthodoxy, with its cutting critiques of modernity, has sought to build on traditional church perspectives to speak to postmodern challenges. So far, the Catholic Church has taken little interest in transhumanism, but that is changing. Skepticism is prominent

⁷³ Niebuhr, *Christ and Culture*, 143.

⁷⁴ For example, see the relevant doctrinal statements of the Congregation for the Doctrine of the Faith at http://www.vatican.va/roman_curia/congregations/cfaith/doc_dottrinali_index.htm (accessed July 3, 2016).

in most Catholic accounts; in the near future we may see this skepticism hardening in a conclusive condemnation of transhumanism. In view of its links with transhumanism, Pope Francis' characterization of transgenderism as "the annihilation of man as the image of God" seems to be a step in this direction.⁷⁵

Diplomacy for the synthesist church would follow the patterns demonstrated by Catholic and Anglican authorities. Its challenge would be the continuing slide from its former place of esteem and authority in the world. While the Church may be interested in shaping the production of knowledge and society—including development of transhumanism—society has so marginalized the Church that its social relationships have become increasingly hostile. Will its voice be heard in the coming transhumanism debates? The Catholic Church has been heavily involved in bioethics debates for some time, but its opponents seem immune to its sanctions and have launched numerous counterattacks. As this trend continues and is extended in transhumanism debates, the Catholic Church is likely to move out of the synthesist mold into another type, blending elements of the radical, accommodationist, dualist, and conversionist positions. Doctrinal shifts would seek a greater diplomatic voice in the culture, but at the expense of internal diplomacy with conservatives.

The Dualist Church - Christ and Culture *In Paradox*

The dualist church understands that it is connected to the surrounding culture, but this is not cause for rejoicing. Instead, there is an acute awareness of the chronic corrupting influence of sin in world *and church* affairs. Niebuhr observes that "the dualist of Luther's type discerns

⁷⁵ For an analysis of Pope Francis' statement, see Ben Kew, "Pope Francis Describes Transgenderism as the 'Annihilation of Man,'" *Breitbart*, posted August 4, 2016, <http://www.breitbart.com/tech/2016/08/04/pope-francis-describes-transgenderism-annihilation-man/>. The Holy See's transcript of the Pope's remarks is at <http://press.vatican.va/content/salastampa/it/bollettino/pubblico/2016/08/02/0568/01265.html#en> (both accessed August 12, 2016).

corruption and degradation in all man's work."⁷⁶ Its deep comprehension of the nature of sin seems to speak directly and critically to transhumanism's transcendent aspirations.

For example, to the dualist "Godlessness appears as the will to live without God, to ignore Him, to be one's own source and beginning, to live without being indebted and forgiven, to be independent and secure in one's self, to be godlike in oneself."⁷⁷ So to the dualist, transhumanism's quest for godlike immortality apart from God would seem deeply sinful. Niebuhr further comments, "The dualist likes to point out that the will to live as gods, hence without God, appears in man's noblest endeavors, that is, those that are noblest according to human standards."⁷⁸ And behind those noble endeavors:

Where the synthesist rejoices in the rational content of law and social institutions, the dualist, with the skepticism of the Sophist and positivist, calls attention to the lust for power and the will of the strong which rationalizes itself in all these social arrangements. In monarchies, aristocracies, and democracies, in middle-class and proletarian rules, in episcopal, Presbyterian, and congregational polities, the hand of power is never wholly disguised by its soft glove of reason. In the work of science itself reason is confounded; as on the one hand it humbly surrenders itself to the given in disinterested questioning, and on the other hand seeks knowledge for power.⁷⁹

Hence, even relief of human suffering, achieved through human effort without an acknowledgement of God, would be perceived as a sugar-coated rebellion.

The focus on potential harms gives direction to the dualist's cultural goals. The dualist church and its partner institutions could easily serve a negative function: to restrain sin, "to prevent sin from being as destructive as it might be otherwise."⁸⁰ Even so, there are strong possibilities for positive social collaboration in the dualist position. Its sensitivity to potential

⁷⁶ Op.Cit., 152.

⁷⁷ Ibid., 154.

⁷⁸ Ibid., 155.

⁷⁹ Ibid., 156.

⁸⁰ Ibid., 165.

harms could be of great value to society in regulating powerful convergent technologies and transhumanism. Conversely, encounters between transhumanism and the dualist church could serve as a proving ground for their claims. For example, Lutheran theologian Ted Peters writes:

At the birth of the computer age, we should have been able to predict the coming of the computer virus, or something like it. Now, at the birth of transhumanist technology, similar predictions would be in order. A transhumanist spirituality would need to incorporate this kind of realism regarding human nature, a human nature not capable of changing through the augmentation of intelligence.⁸¹

Sadly, Peters also notes the strong tendency of transhumanists to denounce religion, mischaracterizing it as “necessarily atavistic and recalcitrant.”⁸² Such attitudes can only confirm the Church’s low opinion of transhumanism, minimizing hopes that Church concerns will be heard by technology and policy developers. Indeed, dualist diplomacy with the world would be difficult, requiring as much internal soul searching as engagement with those outside the Church.

How will transhumanism affect the dualist church? No doubt, advances toward transhumanism would creep into the lives of dualist Christians, just as they would into the radical church. Still, technoscientific successes would probably have less impact on the dualist, whose spiritual suspicions would not be easily overcome by material gain. Conversely, any failures in transhumanism would serve as confirmation of the foolishness of seeking good ends by evil means. The dualist church seems to be a refuge for those seeking an escape from run-amuck technology and oppressive cultural hubris.

⁸¹ Ted Peters, “Chapter Five: Progress and Provolution: Will Transhumanism Leave Behind Sin,” in Cole-Turner, *Transhumanism and Transcendence*, 63–86, quote 80.

⁸² *Ibid.*, 72.

The Conversionist Church - Christ the *Transformer* of Culture

The last of Niebuhr's church types shares the dualist view of culture, but without the pessimism. In keeping with post-millennial eschatology, it seeks to engage with the culture, converting and transforming it, purging its faults, and redeeming it as an appropriate context for society and the Church to thrive. Like the *Christ Above Culture* position, the conversionist church seems (over?)confident in its ability to "know better" than society. It does not hope for this outcome based on esteem for human nature. Instead, it believes that the divine plan underwrites an active approach to culture, and as a result, God's grace will be sufficient to the task. Conversionists hold that "culture is under God's sovereign rule, and that the Christian must carry on cultural work in obedience to the Lord."⁸³ As a result, the conversionist church seems most capable of engagement in shaping transhumanism and society. Its diplomatic moves would seek to adapt transhumanism to church purposes through maximum cooperation with the world. Its challenge would be identifying the limits of that cooperation. Too much emphasis on cooperation, and the transformative church would drift toward accommodation.

The biblical foundation of the conversionist church consists of many verses that speak of God's power in human life.⁸⁴ It finds additional support in history, which it regards as "fundamentally not a course of merely human events but always a dramatic interaction between God and men."⁸⁵ With respect to transhumanism, the strong connections between the Reformation and the scientific revolution would provide reasons to believe that theological insights can produce good results. "For the conversionist," Niebuhr writes, "the creative activity

⁸³ Niebuhr, *Christ and Culture*, 191.

⁸⁴ For example, Jesus' words to the disciples in Matthew 17:20, which concludes "nothing will be impossible for you." Also see Luke 1:37, in which the angel Gabriel tells Mary "For nothing will be impossible for God."

⁸⁵ Op.Cit., 194.

of God and of Christ-in-God is a major theme, neither overpowered by nor overpowering the idea of atonement.”⁸⁶ This view is often reflected in an emphasis on creativity in the *imago Dei*.

An example of the conversionist approach is Abraham Kuyper, who was both a theologian and prime minister of the Netherlands. His lecture *Calvinism and Science* establishes close links between the two fields, claiming “that Calvinism fostered and could not but foster *love for science*” as part of God’s plan to restore creation.⁸⁷ Yes, sin has corrupted creation, and difficult times lie ahead, but in Kuyper’s view:

The Apocalypse returns to the starting-point of Gen. 1:1—“In the beginning God created the heaven and *the earth*.” In keeping with this, the final outcome of the future, foreshadowed in the H. Scriptures, is not the merely spiritual existence of saved souls, but *the restoration of the entire cosmos*, when God will be all in all under the renewed heaven on the renewed earth.⁸⁸

This appears remarkably close to Kurzweil’s vision of a man-made posthuman future: “Having reached a tipping point, we will within this century be ready to infuse our solar system with our intelligence through self-replicating non-biological intelligence. It will then spread out to the rest of the universe.”⁸⁹ It seems that such similar perceptions of human destiny could be grounds for diplomacy and collaboration.

What might be the impact of transhumanism on the conversionist church? Like the synthesists, it is likely to accept advances in technology that are consistent with its basic beliefs. However, its approach would be more open to change, considering that it is less bound by traditions or fixed systems of belief. Compared with others, members of the conversionist church seem more willing to (re)examine its interpretation of the Bible in light of scientific knowledge

⁸⁶ Ibid., 192.

⁸⁷ Abraham Kuyper, “Ch. IV: Calvinism and Science,” in *Calvinism: Six Stone Lectures* (Grand Rapids, Michigan: Wm. B. Eerdmans Publishing Company, 1943) 110–141; quote 110, original emphasis.

⁸⁸ Ibid., 119, original emphasis.

⁸⁹ Kurzweil, *The Singularity is Near*, 372.

and history. Of course, not everyone seeking to transform the world would agree, and so subsequent disagreements could lead to further fragmentation in theology and practice.

Conclusions

What conclusions can be drawn from this survey of Christianity and its fractured approach to culture? The most important conclusion is that transhumanism will provoke multiple responses from Christians. The Church is not a monolithic institution, and those who treat it as such, including some transhumanists, mischaracterize it. My argument remains: diplomatic dialogue between the Church and transhumanist communities can positively shape technical and social outcomes. This is especially true for many evangelical Christians who hold to transformer-of-culture positions. Fundamentalism exists in both religion and science, but history shows that collaboration can be productive for both institutions.

What hope is there that such a fractured community can participate in diplomacy? It seems that without some unifying element(s), whatever influence the Church has in the world will inevitably dissipate in a fog of confused disputation. This possibility underscores the necessity of firm doctrinal commitments that speak to the Christian demarcation problem. The most visible of these commitments is recognition of the Bible as its source document. This means that Christians must hold a commitment to the biblical account of history that reaches its climax in Jesus Christ. Any person or organization whose worldview does not turn on Christ as its center cannot claim to be Christian in any meaningful way. Yes, there are deep divisions on whether or not the Bible is the literal and inspired word of God, contains the word of God, or is only a guiding myth. Still, another important conclusion can be drawn, one with great significance in considering the relationships between Christianity and transhumanism: *Even at*

the level of myth, Christianity unites many people around a common past, a moral present, and a transcendent future.

MYTHOLOGY AND ITS USES

Science, based on methodological naturalism, has proven to be a powerful tool to understand the universe and improve the human condition. People from many cultures and religious backgrounds participate in its advance, and their work opens doors to diverse applications. Unfortunately, scientific *know-how* has surpassed society's capacity to choose between alternative paths based on consensus beliefs and values. But how can people with different *metaphysical* views work together to judge the value of potential technologies? Must society rely on haphazard and confrontational political, legal, and economic approaches to determining what goals to pursue through science?

At first glance, neither religion nor science offers solutions to this dilemma. On the one hand, although a Christian worldview lies behind many improvements in the human condition, the Church has fractured into numerous competing denominations, each having internal struggles that spill over into their interactions with their host cultures. If the Church cannot agree on how it should interact with culture, is there any hope of finding common ground *across* religious boundaries? There are different conceptions of truth and falsehood, reality and illusion, God and demons; some religions rely on books that are regarded as sacred or inspired; and, there are skeptics and atheists that reject religion altogether.

On the other hand, science does not answer metaphysical questions to the satisfaction of most people. Scientists that claim otherwise are engaged in myth making, going far beyond what

experiments and physical evidence can justify.⁹⁰ When scientists weigh in on metaphysical issues, they often strike a religious pose, such as when Carl Sagan channeled the *Gloria Patri* to proclaim that “The cosmos is all that is, or ever was, or ever will be.”⁹¹ As we shall see in the next chapter, a religious view of science is an important element of transhumanism.

At the very least, it seems possible that all parties could agree that all religions possess at least one common characteristic: they all function as *myths* that explain the past, give meaning in the present, and point toward a future. As a step toward diplomacy between Christian and transhumanist communities, both communities should acknowledge that society operates on the basis of collectively defined dominant images, which function as unifying myths. In this view, transhumanism-Christianity diplomacy can be seen as a process by which the social myths of mutual interest can be shaped and modified over time.

The idea of functional mythology falls easily within the social science paradigm of social construction. In STS, it is rare for the validity of social construction to be questioned. Others, however, are less accepting of social construction. This is especially true for Christians who have strong commitments to objective truths rooted in God’s decrees. Some even question the validity and motives of social science, or doubt the possibility that someone could be a Christian *and* a social scientist. To answer such challenges, Christians that work in sociology have banded together to show how their faith and science commitments intersect. A primary purpose of the *Christian Sociological Association* is to “explore the intersection of, or conversation between, sociology and Christianity.”⁹² For the purposes of this dissertation, I characterize important

⁹⁰ Mary Midgley, *Science as Salvation: A Modern Myth and Its Meaning* (1992; repr. London: Routledge, 1994).

⁹¹ Carl Sagan, “The Cosmos Is All That Is,” an excerpt from the 1980 television miniseries *Cosmos: A Personal Voyage*, uploaded to YouTube by Robin Guest, <https://www.youtube.com/watch?v=uLu1cTKBspI> (accessed July 3, 2016).

⁹² Quote from the “Bibliography of the Integration of Sociology and Christianity” posted on the Christian Sociological Association web site, <http://www.christiansociologicalassociation.com/gallery/biblio.pdf> (accessed

social constructs as functional myths in the hope that it will be acceptable to all parties to the discussion.

Before proceeding on this basis, developed further in Chapter 3, objections must be answered. Is a mythic perspective compatible with either Christianity or science? Christians should understand that to describe a religion as a myth is not the same as calling it false. In fact, there are reasons to believe that many myths contain or are derived from historical people and events. *The importance of a myth is not whether or not it is historically accurate, but how the myth affects the society that holds it in high esteem.* Americans, for example, value courage and honesty, especially when they are demonstrated at personal expense. Such values are taught and maintained by the story of George Washington, whose historic exploits—crossing the Delaware—are mingled with fables—his admission that he cut down the cherry tree.

C.S. Lewis, as a life-long scholar of Norse, Greek, and Irish mythology and literature, was very familiar with the power of myths. Once a firm atheist, Lewis became a Christian in 1931 through the influence of works by George MacDonald, J.R.R. Tolkien, and G.K. Chesterton. Lewis went on to become a leading apologist for Christianity, and his influence remains strong in this century. Still, Lewis understood Christian influences on society *as a culture-shaping myth*, one he held to be a *true myth*: “the story of Christ is simply a true myth: a myth working on us in the same way as the others, but with this tremendous difference that *it really happened*.”⁹³

An outstanding example of the nature and power of Christian mythology can be seen in Weber’s classic revelation of a “Protestant Ethic” as the driving force of capitalism, which he

October 30, 2016). Also see Vern S. Poythress, “Use of the term myth” in *Redeeming Science: A God-Centered Approach* (Wheaton, IL: Crossway Books, 2006) 89–90.

⁹³ C.S. Lewis, “Letter to Arthur Greeves on the Myth of Christianity, Oct 18, 1931,” original italics, David L. Ward, Insightful Concepts, <http://emp.byui.edu/wardd/honors221/concepts/myth.htm> (accessed July 3, 2016).

traces to the theology of John Calvin.⁹⁴ Still, it is important to recognize that Calvin's theology, which he expressed in his *Institutes*, is *not* the same thing as the Christian myth that Weber found at the root of capitalism. Over several generations, Calvin's ideas were transformed and promulgated in society along different national lines, with the English Puritans forging links between asceticism and hard work and assurance of faith. Hence, what emerged was a Christian myth, one that was quite remote from its origins. As R.H. Tawney wrote in his introduction to Weber's text, "The Calvinism which fought the English Civil War, still more the Calvinism which won an uneasy toleration at the Revolution, was not that of its founder."⁹⁵ So too, theological arguments made for other purposes may be expressed in society in completely different ways, retaining their original connotations, but meaning something quite different from what was originally meant.

An appreciation of myths and the art of mythmaking can help Christians understand how their views interact in society. So too, as Christians engage with culture they must recognize the importance of how multiple arguments—logical, illogical, and emotional—end up shaping society as dominant myths. Christianity still has the capacity to affect society, including its views of transhumanism. Obviously, Christians would prefer the acceptance of their worldview without alteration, but in a post-Christian and pluralistic world, divine intervention alone could achieve such a result. Short of this outcome, church factions must recognize that how they choose to relate to society will affect its governing mythology, which will flow down into its laws, customs, and institutions, affecting how all people will live.

Niebuhr's identification of five Christian approaches to culture underscores the fact that the Church itself is shaped by social construction. Faced with one circumstance or another, and

⁹⁴ Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (1905; trans. 1930; repr. BN Publishing, 2008).

⁹⁵ R.H. Tawney, "Foreword," 1930, in *ibid.*, 9.

influenced by one set of biblical interpretations or another, patterns of Christian social engagement emerge. Over time, such patterns coalesce with others and, in the wake of church splits, become institutionalized in denominations or sects. This does not contradict the claim of biblical orthodoxy that God is at work in individual Christians and the institutional Church through the Holy Spirit. It only highlights the fact that Christians struggle to maintain both purity and unity within their commitments to Christ.⁹⁶

For science, an acceptance of a mythological basis for diplomacy may be easier. Natural scientists may resist associations between their work and myths, especially those that hold to mythic scientism. Social scientists should be more willing to accept a mythic model. Social science is built around concepts of social construction, so the social shaping of myths that guide policy decisions should find easy acceptance. Fuller's promotion of transhumanism by offering theological foundations is a step in this direction. So too is Latour's irrealist view of society. His Constitution of Modernity has brought us thus far. Could an amended Constitution, one that acknowledges human inability to grasp ultimate realities, take us into the future?

So to conclude, a realistic foundation for Christian diplomacy with transhumanism is needed. Both transhumanists and Christians can agree that from antiquity to the present social myths, acting to systematize dominant stories and images, have produced many of the unwritten rules by which people, institutions, and nations have operated.⁹⁷ Taking a positive attitude toward myth making and the myths of society could open the door to diplomacy, avoiding obstructive dogmatism and facilitating dialogue between deeply divided factions. With this

⁹⁶ Niebuhr, "A 'Concluding Unscientific Postscript'," in *Christ and Culture*, 230–256.

⁹⁷ For a discussion of culture and technology as an ongoing dialogue between culture and technology, see Gary Lee Downey, "Challenging the Dominant Image: Culture, Communication, Technology," Proceedings of Aviation Communication: A Multi-Cultural Forum, Embry-Riddle Aeronautical University, Prescott, Arizona, 1997.

possibility in mind, let us now move on to consider the transhumanist myth, revealing its deep associations with spirituality.

CHAPTER 2: TRANSHUMANISM AND SPIRITUALITY

Although the philosophical themes and aspirations of transhumanism can be found in many cultures and religions, including Christianity, transhumanism's leading philosophers point to Enlightenment reason and secular science as its foundations.¹ According to Max More, transhumanism's leading philosopher, its "core content" has its roots in humanism.² Although today's humanism is often associated with atheism and the rejection of religion, More concedes that "transhumanism (like humanism) can act as a philosophy of life that fulfills some of the same functions as religion without any appeal to a higher power, a supernatural entity, to faith, and without the other core features of religions."³

In this chapter, I examine the relationships between transhumanism and spirituality, beginning with the technosciences that converge in transhumanism. We shall find that although many transhumanists reject religion, others embrace it. Indeed, many are determined to develop religious—even theistic—transhumanism. As a result, emerging interactions between Christianity and transhumanism take on a different aspect; they can be seen as a challenging form of interreligious diplomacy, one that will be developed in subsequent chapters.

As with Christianity, I first examine transhumanism's basic, unifying concepts and characteristics. Foremost among them is a deep faith in irresistible technoscience to address inevitably the limitations of human beings. Then, by considering five movement leaders I identify a range of transhumanist perspectives, from religion-tolerant atheism to futuristic techno-theism. These diverse views of spirituality indicate further complications in the project of

¹ See Nick Bostrom, "A History of Transhumanist Thought," originally in *Journal of Evolution and Technology* 14, no. 1 (April 2005); an updated version is posted on Nick Bostrom's Home Page, <http://www.nickbostrom.com/> (accessed July 3, 2016).

² Max More, "The Philosophy of Transhumanism," in Max More and Natasha Vita-More, eds., *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future* (West Sussex, UK: John Wiley & Sons, Inc., 2013), 4.

³ *Ibid.*, 8.

developing diplomatic engagements between the Church, which was shown in Chapter 1 to be deeply divided, and transhumanist communities.

TRANSHUMANISM: DETERMINISM, MOMENTUM, AND CONVERGENCE

Technological determinism is a frequent target in STS, and rightfully so. People make all sorts of decisions that have technological implications, but that does not mean that technology is somehow autonomous or in control.⁴ To the contrary, STS often characterizes technology as unpredictable.⁵

Nevertheless, there are situations where technology seems to follow foreseeable or predetermined paths. Many cases can be described in terms of Thomas Hughes' concept of technological momentum, which he describes as exerting a "soft determinism" on techno-social systems.⁶ In a nutshell, large systems tend to display life cycles: invention, development, innovation, transfer, growth, competition, consolidation, and senescence. Social, economic, political, and other factors perpetuate this pattern, making abrupt changes in technological practices difficult to achieve, and when they do occur, a *technological convergence* of one sort or another is often involved.

One example is Henry Ford's development of the Model T. His advance in American automobiles and mass production resulted from a *convergence* of technological innovations in manufacturing, materials, bearings, and internal-combustion engines.⁷ In turn, Ford's

⁴ Merritt Roe Smith and Leo Marx, eds., *Does Technology Drive History? The Dilemma of Technological Determinism* (Cambridge, MA: The MIT Press, 1994).

⁵ For example, see David E. Nye, "Is Technology Predictable" in *Technology Matters: Questions to Live With* (Cambridge, MA: The MIT Press, 2006), 33–47.

⁶ Thomas P. Hughes, "The Evolution of Large Technological Systems," in Bijker, Hughes, and Pinch, *The Social Construction of Technological Systems*, 51–82; "soft determinism" 54–55.

⁷ David , Hounshell, *From the American System to Mass Production, 1800-1932: The Development of Manufacturing Technology in the United States* (Baltimore: The Johns Hopkins University Press, 1984).

automobiles rapidly transformed America and the world, giving rise to a host of new social practices and institutions.

Transhumanism displays a strong affinity for technological determinism, one based on its popular definition as an emerging technoscience convergence. In most accounts, biotechnology, nanotechnology, information and communication technology, neuroscience, and robotics are the primary constituents of the transhumanist vision. Independently, each is the focus of large R&D investments worldwide seeking a range of goals: technical, governmental, commercial, and social.⁸ As a result of these investments, a classic case of Hughes' concept of technological momentum seems to be in the making; they seem to drive further research and applications that would justify those investments. On top of this, there are emergent possibilities for synergy between fields, with problems in one technoscience sometimes becoming solvable as a result of a breakthrough in another. Such synergies fuel the transhumanist hope for a grand convergence, such as Kurzweil's Singularity. Now, briefly consider the technosciences that give rise to this hope, giving particular attention to how they relate to one another.

Biotechnology

Since the discovery of the structure of DNA—deoxyribonucleic acid—in 1953, research has focused on understanding molecular biology with an eye toward technological applications. Today, there are many applications of DNA science in forensics, bioinformatics, and genetics,

⁸ Comprehensive estimates of R&D spending for transhumanism's convergent technosciences are difficult to obtain. High-profile initiatives are often broken out in funding reports, but many other less-visible, but still relevant, programs are not. It is often difficult to determine where one funding stream overlaps with another. Some idea of the scale of the associated R&D efforts can be obtained from budget reports. The President's Budget Request for Fiscal Year 2016 included \$1,495.3 million for the National Nanotechnology Initiative, \$4,090.6 million for Networking and Information Technology, and more than \$300 million for the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, a total of almost \$3 billion. Congressional Research Service, *Federal Research and Development Funding: FY2016*, available from the Federation of American Scientists (FAS), <https://www.fas.org/sgp/crs/misc/R43944.pdf> (accessed August 6, 2016).

with many more developed every year. Expectations are high that such progress will continue, even though R&D results have sometimes been disappointing. In fact, it sometimes seems that setbacks only deepen faith in technoscience determinism.

The *Human Genome Project* was expected to open wide paths toward breakthroughs in many fields, from the identification and remediation of hereditary diseases, to the development of artificial bacteria for producing synthetic fuels or cleaning them up when spilled. Its promise may yet be fulfilled, but the complexity and cost of simply characterizing the genomic basis of biological phenomena has made for slow progress.⁹ At the same time, DNA research has identified new vistas for genomic interventions and even the biological synthesis of nano-computers.

The ability of DNA to propagate genetic characteristics is remarkably similar to the binary logic of digital electronics, each amino-acid-pair expressing a bit of information. This connection between biological and electronic information science has been recognized since the dawn of digital computation.¹⁰ As a result, computer science has long been seen as a primary method of accelerating biotechnology progress. Today, significant progress is being made along these lines.

An example of this strategy is IBM's *Watson* supercomputer. It won acclaim for its ability to play *Jeopardy*, but has since found a role in cancer research by sifting through vast quantities of data embedded in DNA and advising physicians based on its findings. Early results show promise for at least a few subjects.¹¹ It appears that further developments in computer

⁹ Stephen S. Hall, "Revolution Postponed: Why the Human Genome Project Has Been Disappointing," *Scientific American*, October 2010, 60–67.

¹⁰ Andrew Hodges, *Alan Turing: The Enigma* (London: Vintage, 2014), 541–551.

¹¹ For example, see Brian Mastroianni, "How IBM's Watson supercomputer is battling cancer with advanced genomics," Fox News, <http://www.foxnews.com/tech/2015/05/14/how-ibms-watson-supercomputer-is-battling-cancer-with-advanced-genomics/> (accessed July 3, 2016).

technology will further expose details of the human genome and its workings. Many observers believe it only a matter of time before research reveals, not just *that*, but *how* DNA sequences produce human characteristics, both good and bad. The next step would be the manipulation of DNA in order to achieve specific goals, from the avoidance of genetic diseases to the enhancement of desired characteristics. This would open all sorts of transhumanist possibilities based on faith in biological determinism. The possibility of shaping society, in both good and bad ways, are at the center of the movie *Gattaca*, which presents a future in which a person's DNA, customizable at conception for a price, determines all that a person can do in society.¹²

Of course, biotechnology ethics have been debated for decades. Religion has played an important role in these debates, as shown by the deep engagement of the Roman Catholic Church as part of its teachings on the sanctity of human life.¹³ Biotechnology ethics have also been debated in political campaigns fought around the world over issues such as genetically modified organisms and stem cell research. As a result, a variety of national approaches toward biotechnology have been developed and implemented.¹⁴

For the purposes of this study, the connections between biotechnology and spirituality are notable. In *The Religion of Technology: The Divinity of Man and the Spirit of Invention*, David F. Noble argues that biotechnology applications are misguided products of Christian millenarian thinking: "On the whole, the development of human genetic engineering was no doubt fueled,

¹² Columbia Pictures, *Gattaca*, 1997, available at IMDb, the Internet Movie Database, http://www.imdb.com/title/tt0119177/?ref_=nv_sr_1 (accessed July 3, 2016).

¹³ For example, see two instructions by the Roman Catholic Congregation for the Doctrine of the Faith published in 1987 and 2008:

- "Instruction Donum vitae on respect for human life at its origins and for the dignity of procreation"
- "Instruction Dignitas Personae on Certain Bioethical Questions."

¹⁴ Shiela Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton, NJ: Princeton University Press, 2005).

consciously or not, by enduring medieval myths of artificially engendering human life.”¹⁵

Although Noble’s Marxist conception of Christianity, as well as his negativity toward myths, is typically narrow-minded, he does highlight the doctrinal and ethical positions of believers that have driven the development of science with transhumanist implications. For example, Noble explains that Francis Collins, a Protestant Christian who led the Human Genome Project, had a “relaxed attitude” toward the patentability of genes as a result of his belief that the essence of humanity was spiritual, not physical. This may indicate a significant difference between Catholic and Protestant belief worth further investigation.¹⁶

Another Noble observation relates to the concept of human-directed evolution that is a central dogma of transhumanism. Many people would prefer to let nature take its course, but it seems natural to others that science should be used for this purpose. Noble’s quotation from J.D. Bernal is typical: “The cardinal tendency of progress is the replacement of an indifferent chance environment by a deliberately created one.”¹⁷ Natural science, with its tendency to view the “mystery of life” as “just another mechanism,” sets the stage for its (re-)engineering.¹⁸

It is significant that biotechnology researchers came to recognize the dangers of their work. Even more significantly, they took action by voluntarily limiting research and applications until broader government regulations could be established. At the 1975 *Asilomar Conference* scientists concerned with the *biological* risks of their work met to consider and recommend protective policies. Subsequent government regulations have carried through, addressing these risks, though not always to the satisfaction of all parties.

¹⁵ David F. Noble, “Powers of Perfection: Genetic Engineering,” in *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (1997; repr. New York: Penguin Books, 1999), 172–200; quote 191.

¹⁶ *Ibid.*, 198–199.

¹⁷ *Ibid.*, 175.

¹⁸ *Ibid.*, 181.

What about biotechnology's *social* risks? That is another matter, for As Sheila Jasanoff observes, "That biotechnology might one day destabilize basic elements of social order—kinship, for example, or farmers' rights to own and sow seeds—was very far from the thoughts of the field's founding fathers."¹⁹ The same can be said for pioneers in other disruptive fields; to them, technical matters come first, and only later do social issues arise. It is encouraging that many transhumanist thinkers recognize social issues as needing solutions before their hoped-for convergence takes place. Indeed, for many observers the social disruptions are a *primary* concern in several of transhumanism technosciences, individually as well as collectively. It seems that these concerns are converging as fast as the technosciences that inspire them, and the question is: Which side of this techno-social phenomenon will dominate?

Nanotechnology

Through chemical processes, and without knowing how it happened, people have modified materials at the molecular level since antiquity. Now, through chemical physics, our understanding of molecular transformations has grown rapidly, and with this knowledge has come interest in direct manipulation, even fabrication, of specific molecules. Today's electronic gadgetry, in part, is an extension of work to miniaturize electronic circuits. They are products of the convergence of miniaturization plus developments in material, information, and physical sciences. Such work has been recognized as important since the race to the moon in the 1960s, and R&D continues today. Much of this work relates to computers. It includes the manufacture of computer components *using* nanomachines, as well as computer-aided design, manufacture, and operation *of* nanomachines. Nano devices have become even more attractive with the growth

¹⁹ Shiela Jasanoff, *Designs on Nature*, 47.

of biotechnology, which has highlighted opportunities to modify or correct DNA in one organism or another.

Nanotechnology applications are reaching the market now, and developers and futurists look forward to many more. Some applications are reminiscent of the *Magic School Bus* shows for children or, even closer to the point, the 1966 movie *Fantastic Voyage*.²⁰ As a step beyond non-invasive surgery, researchers envision autonomous nanodevices that could navigate the bloodstream to reach an injured, defective, or otherwise troublesome body structure. Once there, nanodevices could operate on body tissues.²¹ This could include the removal of a tumor or blockage, remediation of genetic defects, or rebuilding of aging organs. It could also involve long-term replacement of biological cells, whole organs, and even body systems with nanodevices. For example, a patient's heart and blood could be replaced by self-propelled nanomachines that could move oxygen and metabolic wastes about the body.²²

Since nanotechnology is relatively new, its ethical implications are less developed than biotechnology.²³ Still, serious attention has been given to nanotechnology from several quarters, often building on biotechnology ethics. One study suggests that observers with religious commitments seem more sensitive to the risks of nanotechnology than others.²⁴ In the near-term nanotechnology seems safe, but some futuristic applications certainly raise red flags.

Nanotechnology offers the possibility of direct monitoring, and even control, of living beings in response to stimuli. This could fundamentally alter the experience of life by technological

²⁰ Joanna Cole and Bruce Degen, *The Magic School Bus Inside the Human Body* (New York: Scholastic Press, 1990); Twentieth Century Fox, *Fantastic Voyage*, 1966, available at IMDb, the Internet Movie Database, http://www.imdb.com/title/tt0060397/?ref_=nv_sr_1 (accessed July 3, 2016).

²¹ Rachel Courtland, "Medical Microbots Take a Fantastic Voyage Into Reality," *IEEE Spectrum*, Posted 1 Jun 2015, <http://spectrum.ieee.org/robotics/medical-robots/medical-microbots-take-a-fantastic-voyage-into-reality> (accessed July 3, 2015).

²² Ray Kurzweil, "Human Body 2.0," in *The Ray Kurzweil Reader*, 3-13.

²³ Google results for "biotechnology ethics" outnumber those for "nanotechnology ethics" by over 20:1.

²⁴ Chris Toumey, "Seven Religious Reactions to Nanotechnology," *Nanoethics* 5 (2011) 251-267.

means. Today, for example, body functions can be monitored and reported to physicians. Smart drugs are in development as a way of ensuring that patients faithfully take prescribed medicines.²⁵ Farther in the future, nanodevices could play more sinister functions.

One especially unnerving application is in the area of moral enhancement, a technological extension of what Julian Savulescu and Ingmar Persson describe as an emerging “science of morality.” They envision the development of nanomachines that could monitor a person’s thoughts. If “dangerous” ideation is detected, the monitoring device could be programmed to notify the authorities.²⁶ Obviously, such an intrusive capability could be subject to abuse by a police state, but even benign uses raise questions about technological modifications of personal volition. For example, mind-altering drugs or nanodevices could soon be used *voluntarily* to promote socially or morally desirable behavior, such as fidelity in marriage.²⁷ Being closely associated with important elements of humanity, such as morality, sin, and what is commonly called the “human spirit,” such capabilities would have great spiritual significance.

Information and Communication Technology

Over the last fifty years computers have become pervasive in society. What used to be backroom data processing systems in secret military work, research labs and banks have moved into practically every organization and home in America. At the same time, there has been a convergence of systems used for financial transactions, voice communication, entertainment, navigation, and much more, with the Internet at the heart of many activities. As previously

²⁵ Amy Maxmen, “Digital pills make their way to market,” Nature Publishing Group, July 30, 2012, <http://blogs.nature.com/news/2012/07/digital-pills-make-their-way-to-market.html> (accessed July 3, 2016).

²⁶ Julian Savulescu and Ingmar Persson, “Moral Enhancement, Freedom and the God Machine,” *Monist* 95(3) (July 2012): 399–421, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3431130/> (accessed July 3, 2016).

²⁷ Julian Savulescu and Anders Sandberg, “Neuroenhancement of Love and Marriage: The Chemicals Between Us,” *Neuroethics* (February 2008) 1:31–44, <http://www.springerlink.com/content/lp106323642w7062/fulltext.html> (accessed July 3, 2016).

described, computer tools have been essential tools in biotechnology and nanotechnology research, and there is little doubt that this trend will continue, even apart from convergence with other transhumanist technosciences.

Computers are already capable of performing some tasks better than humans, and the capabilities of computer systems grow day by day. Many of these advances can be attributed to software developments. Others are due to greater connectivity between systems; this has progressed from telephonic and hardwired systems through fiber-optic devices to ubiquitous Wi-Fi, Bluetooth, and cellular communication technologies. Soon, it appears that not only will the Internet connect people and human institutions but also devices of all sorts in an *Internet of Things*, each displaying nominal forms of intelligence.²⁸ Still other capability advances result from hardware improvements. The capacity of data storage devices and systems far exceeds what human minds can store or recall, and compared with the human brain, computer processors run at very high speeds.

Nevertheless, there are still many things that *today's* computers cannot do, and manufacturing limitations loom large: there are physical limits on how dense integrated circuits can be made. There are signs that *Moore's law*, which for decades has *described* exponential increases in computing power, may not hold up for much longer. Nascent quantum computers *might* open the door to further breakthroughs in computing power. Unlike current micro-processor-based computers, quantum computers may be able to solve very complex problems with large data sets in relatively short times. For example, decoding encrypted communications with today's supercomputers could take many years, but it may be possible for a quantum

²⁸ Cisco Systems, "Internet of Things (IoT)," <http://www.cisco.com/c/en/us/solutions/internet-of-things/overview.html> (accessed July 3, 2016).

computer to do the same task in a short timeframe.²⁹ Meanwhile, many tough problems in mathematics and software engineering must be solved before supercomputing can be brought to bear on many tasks.

Some of computing's pioneers, such as Alan Turing, were aware that their work could produce social problems. Even so, until recently the general population has paid little attention to the ethical, moral, and spiritual dimensions of computers. As he did with biotechnology, David F. Noble found fault with the motives of computer science research.³⁰ Others have warned that workplace automation will be disruptive, even destructive, echoing the concerns of the Luddites during the industrial revolution. Much of this has been driven by fear of technological unemployment. Still, the economic benefits of computers, especially applications that have increased human productivity, continue to drive computer development and use. However, this seems to be changing.

In 2000 software pioneer Bill Joy voiced concern that his work could lead to the destruction of human society.³¹ Since then, significant progress has been made in AI, with many other industry leaders concerned about what will happen when it exceeds that of human beings. As we shall see, the emergence of AI reveals significant social, moral, and theological issues.

Neuroscience

For all their faults, human brains are amazingly capable. Complex tasks, such as image recognition, take place in biological structures that display parallel operations, as opposed to the

²⁹ Run times for many basic data processing tasks (e.g., list sorting) grow rapidly with the size of the associated data. The exponential growth in computation required for some tasks makes them effectively impossible for conventional computers, even supercomputers. For an accessible account of mid-twentieth-century thought on computers, code breaking, and artificial intelligence, see Andrew Hodges, *Alan Turing: The Enigma*.

³⁰ Noble, "The Immortal Mind: Artificial Intelligence," in *The Religion of Technology*, 143–171.

³¹ Bill Joy, "Why the future doesn't need us," *Wired*, April 2000, <http://www.wired.com/2000/04/joy-2/> (accessed July 3, 2016).

serial processes in most data processing machinery. Scientific studies of the brain—human and otherwise—have revealed many details of its operation, but many mysteries remain, especially concerning how higher functions emerge from cellular phenomena. This represents an information science form of the longstanding philosophical problem of how bodies and minds interact, the so-called “hard problem of consciousness.”

There is hope that further discoveries in neuroscience could lead to changes in computer hardware and software that would result in major performance improvements. For example, the massively parallel processing that takes place in brains might be applied to producing highly parallel computer systems. The convergence of information and communications technology with neuroscience could quickly lead to an advanced AI or superintelligence. Clearly, electronic supplementation or replication of biological brains would open the door to superintelligence based on processing speed increases alone. Such a development could lead to a self-improving intelligence, one that could soon obtain capabilities that far exceed the comprehension of human operators.³²

For the purposes of this study, neuroscience advances are especially relevant because of what they reveal about the nature of human brains and minds. For many, conceptual connections between physical brains and non-material minds are strongly linked to the religious concept of the spirit or soul. If human brains are indistinguishable from their associated minds, it seems that the door would be open for cybernetic minds. And if computers can become self-conscious, then other features and qualities with religious connotations might be possible too. As we shall see, this becomes even more important in transhumanism, which looks forward to the transfer of memories and thinking processes from physical biological brains, alive or preserved after death, into computers.

³² Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2014).

Robotics

For decades, industrial robots have done the bidding of human minds in military and industrial environments. Similar technologies have been applied to prosthetic limbs to restore the capabilities to those with congenital defects or injuries. Recent advances in prosthetic devices represent the leading edge of this element, giving some “handicapped” users capabilities that exceed those of whole-bodied persons.³³

Robotic extensions of human bodies would not necessarily be distinguishable from biological features. Advances in biotechnology and nanotechnology increasingly envision biological bodies as molecular machines. This view opens the door to mechanical modifications; external-to-the-body prosthetics are leading to artificial devices that are integrated with original body structures and systems. For example, cochlear implants restore hearing in profoundly deaf people through direct connections with auditory nerves.³⁴ Such device-to-nerve connectivity can serve other purposes because of the plasticity of human brains. An unconventional example is Neil Harbisson, who is color blind and makes use of an implanted antenna to convert colors to sounds.³⁵ More down-to-earth applications are in brain-connected prosthetic devices that are becoming common.

In abstract terms, robotics is associated with the concept of embodiment, which has deep theological connections. Orthodox biblical Christianity holds that human beings are embodied

³³ Perhaps the best-known example is Oscar Pistorius, known as the “Blade Runner,” who participated in the 2012 summer Olympics using prosthetic legs. Even more remarkable is Hugh Herr, who lost his legs in a 1982 climbing incident and now designs and builds prostheses that far exceed the capabilities of the legs that he lost. <http://www.npr.org/2011/08/10/137552538/the-double-amputee-who-designs-better-limbs> (accessed July 3, 2016).

³⁴ National Institute on Deafness and Other Communication Disorders (NIDCD), part of the National Institutes of Health (NIH), <http://www.nidcd.nih.gov/health/hearing/pages/coch.aspx> (accessed July 3, 2016).

³⁵ In 2010, Harbisson founded the Cyborg Foundation, “to help people become cyborgs (extend their senses by applying cybernetics to the organism); defend cyborg rights and promote cyborgism as an art movement.” <http://cyborgproject.com/> (accessed July 3, 2016).

spirits, understood in different ways. It teaches that the mortal bodies of this life will be replaced with incorruptible bodies at the Second Coming. Gnosticism takes a dimmer view of embodiment, as do several non-Christian religions. As a result, the spiritual significance of robotics is subject to debate. Would a whole-body prosthetic be merely an alternative form of embodiment? Could a human soul be transferred from a biological body into a robot, or would this be a form of suicide?

You Must Be Kidding?

Each of these technosciences is a modern marvel, worthy of a host of articles, books, and films to amaze a popular audience that looks forward to more marvels in the future. To go a step farther and contemplate a grand-convergence in something like the Singularity boggles the mind. Is this a real possibility or just a transient dream? STS research has shown many examples of overblown predictions; technologies often disappoint their proponents, and many do not reach their potential until their inventors have died. Is there any reason to believe that transhumanism's convergence is a real possibility? There is, if the U.S. Government is any indication.

A landmark National Science Foundation (NSF) report, published in 2002, speaks directly to the possibility of such a convergence: *Converging Technologies for Improving Human Performance*, by Mihail C. Roco and William Sims Bainbridge.³⁶ It focused on the possible synergies of nanotechnology, biotechnology, information technology, and cognitive science (robotics is mentioned in the report, but not the title). Taking the first letters of these fields, it is known as the NBIC report. Besides its technical analysis of the state of the NBIC

³⁶ Mihail C. Roco and William Sims Bainbridge, *Converging Technologies for Improving Human Performance: Nanotechnology, Biotechnology, Information Technology, and Cognitive Science* (Arlington, Virginia: NSF, 2002).

technosciences, the report looks at a host of economic, social, and political advantages that would accrue from their development. The NBIC report has been a guide for government R&D investments ever since; to this day it remains available on the White House web site.³⁷ Many millions of dollars have been spent by the NSF on the NBIC technosciences, and much more spending is planned for the future. It seems that the U.S. Government, at least, believes the NBIC report's conclusions are reasonable. And what do they conclude? The report, which runs to nearly 500 pages, boils down to one confident assertion:

If the *Cognitive* Scientists can think it
the *Nano* people can build it
the *Bio* people can implement it, and
the *IT* people can monitor and control it.³⁸

Were Roco and Bainbridge, together with those they consulted, correct in their predictions? Time will tell, but it is not my purpose to analyze the accuracy of their technical or economic work or the investments or the (de)merits of NSF expenditures. It is not the purpose of this study to fully explore the technical details of the convergent technosciences of transhumanism. Besides the fact that I am not an expert in any of them, and since technology developments are widely considered to be unpredictable, it is unlikely that I could draw any reliable conclusions. Instead, the religious characteristics of such thinking *are* of interest to this study, having near-term consequences to how society, religions, and transhumanist technologies evolve.

For now, it is notable that each of transhumanism's component technosciences has connections with religious thought, either directly or indirectly. As I will show later, William Sims Bainbridge is a key figure in this turn toward spirituality. These connections play a part in

³⁷ Office of Science and Technology Policy, <https://www.whitehouse.gov/sites/default/files/microsites/ostp/bioecon-%28%23%20023SUPP%29%20NSF-NBIC.pdf> (accessed July 3, 2016).

³⁸ Op. Cit., 13.

today's development of the technosciences, giving many researchers reasons to pursue progress in their field. As we shall see, the convergence of spiritually-charged technosciences in transhumanism is likely to give rise to even more far-reaching religious thinking.

TRANSHUMANISM, SPIRITUALITY, AND MODERN SOCIETY

The modern age is often described in terms of progress, a coming of age after a long groping-in-the-dark period of religious superstition. Reason and science, we are told, reveal all we need to know about the world, and what we do not know through them will eventually be revealed. To anyone who has experienced a serious spiritual event, this is pure nonsense. Nevertheless, it is a powerful myth that has great influence in modern society.³⁹ Still, there is little doubt that science and technology are *thought* to be religion-free enterprises by most people. For this reason alone, it is surprising that spirituality of one sort or another is emerging from transhumanism's convergent technosciences.

Through the rest of this chapter I shall briefly examine science, its connections with religion, and the social significance of these connections. In doing so, I will set the stage for an examination of transhumanist thinking in view of the claims of Christianity from Chapter 1.

Inductive Science and Faith

Science operates on inductive logic; it draws general conclusions based on a limited set of data for the purpose of making predictions about the physical universe. Natural laws are inferred by a variety of scientific methods. The scientific knowledge produced often appears to be certain, the result of an objective view of the world. However, as Heather Douglas has observed, objectivity itself is a work of craftsmanship, one devised by whatever scientific

³⁹ For an in-depth analysis of mythic science, see Mary Midgley, *Science as Salvation*.

discipline is operative.⁴⁰ As human constructs, scientific methods and various systems that reach for objectivity are subject to failure. We must conclude with Karl Popper:

Science is not a system of certain, or well-established, statements; nor is it a system which steadily advances towards a state of finality. Our science is not knowledge (*epistēmē*): it can never claim to have attained truth, or even a substitute for it, such as probability.

Yet science has more than mere biological survival value. It is not only a useful instrument. Although it can attain neither truth nor probability, the striving for knowledge and the search for truth are still the strongest motives of scientific discovery.

We do not know: we can only guess. And our guesses are guided by the unscientific, the metaphysical (though biologically explicable) faith in laws, in regularities which we can uncover—discover.⁴¹

Without faith, scientists cannot function. They must believe that their work is worthwhile, that their hypotheses have some connection with the truth, that their peers and successors will correct their errors, and that those who receive their conclusions will apply them toward good ends.

Going a step farther, there are *spiritual* elements in science, as revealed by Thomas Kuhn in *The Structure of Scientific Revolutions*. His comparison of paradigm shifts with conversion experiences is striking.⁴² Against Popper and falsification theory, Kuhn notes how scientists are attached to their paradigms, their ways of thinking and communicating limited by their disciplines' presuppositions. During a scientific crisis (i.e., when observational data conflict with a longstanding paradigm), discussions of competing paradigms are difficult. Opposing conceptions of science, problems to be solved, and standards of practice are *incommensurable*. To resolve such differences, a sudden break in thinking must occur, which Kuhn describes as a

⁴⁰ For a survey of the ways used to contrive scientific objectivity, see Heather Douglas, "The Irreducible Complexity of Objectivity," *Synthese* 138 (2004): 453–473.

⁴¹ Popper, *The Logic of Scientific Discovery*, 278, italics original.

⁴² Kuhn, *The Structure of Scientific Revolutions*, 144–159.

conversion experience, much like a religious conversion. His discussion is seasoned with terms having spiritual connotations: assurance, aesthetics, subjectivity, promise, and faith.

These associations between science and faith harken back to Émile Durkheim's connection of religion and science. His model of totemic religion explains how peoples have developed beliefs that transcend what can be observed physically. Faith in unseen phenomena become foundational in the worldview of whatever tribe is involved, including those of scientists:

At the source and basis of religious thought we find, not particular and distinct objects or beings that possess a sacred character in themselves, but vague powers, anonymous forces. These are more or less numerous, depending on the society—sometimes they are even a single force—and their impersonality is strictly comparable to that of the physical forces whose manifestations are studied by the natural sciences.⁴³

The result is that belief in unseen forces—in both religion and science—results in “a kind of practice that allows man to face the world with more confidence.”⁴⁴ Going a step farther, confidence-imbuing faith extends to the institutions that uphold these beliefs: churches and science-based organizations.

Reason and its Uses

The possibility that science is cut from the same cloth as religion goes against modern sensibilities, and yet many social critics have made this connection. In 1932 historian Carl Becker observed that the Enlightenment rejected religion, yet:

In spite of their rationalism and their humane sympathies, in spite of their aversion to hocus-pocus and enthusiasm and dim perspectives, in spite of their eager skepticism, their engaging

⁴³ Émile Durkheim, *The Elementary Forms of Religious Life*, trans. Carol Cosman (1912; repr. New York: Oxford University Press, 2001), 148–149.

⁴⁴ *Ibid.*, 142.

cynicism, their brave youthful blasphemies and talk of hanging the last king in the entrails of the last priest—in spite of it all, there is more of Christian philosophy in the writings of the *Philosophes* than has been dreamt of in our histories.⁴⁵

Subsequently, many scholars have extended the critique of scientific rationality. For the purposes of this study, Bruno Latour's observations are especially noteworthy. In *Laboratory Life*, he and coauthor Steve Woolgar described the irrealist elements of science at the Salk Institute.⁴⁶ These elements were developed further in Latour's *Science in Action*, an exposé of the ways by which facts and artifacts are manufactured through networks, which exert power and rewrite history to reach their goals.⁴⁷ Latour's less-than-pretty picture of science reaches its climax in *We Have Never Been Modern*.⁴⁸

Working toward a definition of modernity, Latour comments on its rhetorical uses:

When the word 'modern', 'modernization', or 'modernity' appears, we are defining, by contrast, an archaic and stable past. Furthermore, the word is always being thrown into the middle of a fight, in a quarrel where there are winners and losers, Ancients and Moderns. 'Modern' is thus doubly asymmetrical: it designates a combat in which there are victors and vanquished.⁴⁹

Latour goes on to develop his "Modern Constitution" that expresses "the fundamental articles of faith" pertaining to "the modern divide between the natural world and the social world."⁵⁰ He does this through a review and critique of *Leviathan and the Air-Pump* by Stephen Shapin and Simon Schaffer.⁵¹ Latour commends their account of the rise of Robert Boyle's natural

⁴⁵ Carl Becker, *The Heavenly City of the Eighteenth-Century Philosophers* (1932; 2nd ed., New Haven, CT: Yale University Press, 2003), 31.

⁴⁶ Bruno Latour, *Laboratory Life: The Construction of Scientific Facts*, 2nd ed. (1st ed. 1979; Princeton, NJ: Princeton University Press, 1986).

⁴⁷ Bruno Latour, *Science in Action* (Cambridge, MA: Harvard University Press, 1987).

⁴⁸ Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter, (1991; Cambridge, MA: Harvard University Press, 1993).

⁴⁹ *Ibid.*, 10.

⁵⁰ *Ibid.*, 13.

⁵¹ Stephen Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, NJ: Princeton University Press, 1985).

experimental science, but faults their assessment of Thomas Hobbes' political science, which unified government power and scientific epistemology; "Hobbes was wrong."⁵² Instead, Latour sees in science *and* politics "two branches of government" that are separated by three paradoxical constitutional guarantees.⁵³ Their powers are maintained by a fourth guarantee that rules out divine interference in either domain.⁵⁴ This Modern Constitution gives society invincible rhetorical power, for its guarantees cover all contingencies. Society can rationalize anything—crediting, blaming, or denying God when it is convenient—a finding that recall's Alasdair MacIntyre's description of the moral fictions (i.e. myths) that saturate contemporary moral and political debates.⁵⁵

Latour argues that modern society is in the midst of a constitutional crisis, which he attributes to the proliferation of nature-society hybrids. Boyle, Hobbes, Kant, Hegel, Habermas, and others have failed, in increasingly desperate ways, to explain the growing gap between two worlds. In view of "frozen embryos, expert systems, digital machines, sensor-equipped robots, hybrid corn, data banks, psychotropic drugs," and much more, Latour asserts that "the two constitutional guarantees of the moderns – the universal laws of things, and the inalienable rights of subjects – can no longer be recognized either on the side of Nature or on the side of the Social."⁵⁶ In this view, transhumanism appears to be a kind of hyper-hybridization of nature and society, one in which the integration of biology and technology produce post-human species. The boundary marking where nature leaves off and the technological society begins is blurred to the point of invisibility.

⁵² Shapin and Shaffer conclude their study (ibid. 344) with the enigmatic statement, "Hobbes was right." Latour directly contradicts them in *We Have Never Been Modern*, 26.

⁵³ Latour, "2.8: The Constitutional Guarantees of the Moderns," in *We Have Never Been Modern*, 29–32.

⁵⁴ Ibid., "2.9: The Fourth Guarantee: The Crossed-out God," 32–35.

⁵⁵ Alasdair MacIntyre, *After Virtue* (1981; 3rd ed., Notre Dame, IN: University of Notre Dame Press, 2007) 68–71.

⁵⁶ Op. Cit., 49–50.

Summary

Modern secular society is closely associated with Latour's fourth constitutional guarantee: the crossed-out God. However, its other three guarantees appear to be a form of religious mysticism, one that prevents social paradoxes and dualisms from interfering with modern people and institutions having political, social, intellectual, and economic power. The development of transhumanism—the ultimate hybrid of nature and humanity—reflects this mysticism of modern society, often characterized as scientific Gnosticism. Even so, it seems that transhumanism retains the contradictions of modern society. As we shall see, the movement attempts to uphold the secular guarantee of a “crossed-out God,” even as it speaks of building a “technological God.” To conclude my survey of techno-spirituality, let us look more closely at transhumanism's religious claims.

RELIGIOUS TRANSHUMANISM EMERGES

In this section, I will show a range of associations of transhumanism and spirituality by examining the writing of some of its leading voices. Each takes us closer to transhumanism's spiritual core. I will also work toward an understanding of how spirituality has affected transhumanist worldviews.

Max More: Extropy and the Proactionary Principle

Above other advocates, Max More stands as transhumanism's philosophical leader. He defines transhumanism as:

The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.⁵⁷

This definition is significant because it emphasizes transhumanism's norms, specifying both its sense of the good and its standard of practice. In the absence of working technologies, More emphasizes faith in technology and reason as means to improve human life. There being no end to this project, More's definition ties together faith and practice with an eschatological hope in much the same way as traditional religions.

Beginning with his 1990 publication of "Principles of Extropy," which posits a life-giving organizational attitude, one that opposes the physical law of increasing entropy, More has underwritten the movement's thinking. Most recently, he coedited with his wife, Natasha Vita-More, *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*.⁵⁸ Beyond his intellectual endeavors, More is active in executing the transhumanist agenda as President and Chief Executive Officer of the *Alcor Life Extension Foundation*, the world leader in *cryonics*.⁵⁹ By preserving patients' bodies or brains in liquid nitrogen, Alcor offers hope of a future technoscientific resurrection.⁶⁰

While More traces transhumanism's roots to "Enlightenment humanism," with its "emphasis on progress," he rejects technological determinism and utopianism, stating that

⁵⁷ Max More, "The Philosophy of Transhumanism," in More and Vita-More, *The Transhumanist Reader*, 3–17; quote 3.

⁵⁸ More and Vita-More, eds., *The Transhumanist Reader*.

⁵⁹ Alcor Life Extension Foundation, <http://www.alcor.org/>. Alcor's online archive includes the stories of its cryopreserved patients, which numbered 147 as of August 7, 2016. (accessed August 23, 2016).

⁶⁰ Cryonics, as practiced by Alcor, is the fulfillment of the vision described in Robert C.W. Ettinger, *The Prospect of Immortality* (New York: Doubleday & Company, 1964).

“transhumanism does not entail any belief in the inevitability of progress nor in a future free of dangers and downsides.”⁶¹ Answering a critic, More declares that:

Transhumanism is about continual improvement,
not perfection or paradise.

Transhumanism is about improving nature’s mindless “design”,
not guaranteeing perfect technological solutions.

Transhumanism is about morphological freedom,
not mechanizing the body.

Transhumanism is about trying to shape fundamentally better futures,
not predicting specific futures.

Transhumanism is about critical rationalism,
not omniscient reason.⁶²

Based on these commitments, More argues for a “Proactionary Principle” that would shape public policy.⁶³ This contradicts the *Precautionary Principle* that currently dominates many countries’ regulatory policies.⁶⁴ More views the precautionary stance, which is intended to prevent harms, as exposing people *to* harm as a result of overemphasis on one value: safety. In his view, values associated with human aspirations are undervalued and overruled. Hence, although More does not believe that progress is inevitable, he holds that individuals should be allowed to actively shape their destinies, and policies should “Protect the freedom to innovate and progress while thinking and planning intelligently for collateral effects.”⁶⁵ As we shall see later, More’s affinity for proactivity is shared by Steve Fuller, whose focus is more toward practical implementation of proactive government policies.

⁶¹ More, “The Philosophy of Transhumanism,” in More and Vita-More, *The Transhumanist Reader*, 4.

⁶² Max More, “H+: True Transhumanism,” *Metanexus*, posted February 5, 2009, <http://www.metanexus.net/essay/h-true-transhumanism> (accessed July 3, 2016), reformatted to highlight what More argues for and against.

⁶³ Max More, “The Proactionary Principle: Optimizing Technological Outcomes,” in More and Vita-More, *The Transhumanist Reader*, 258–267.

⁶⁴ For his critique of the Precautionary Principle and an examination of incoherent approaches to safety, see Max More, “The Perils of Precaution,” at <http://www.maxmore.com/perils.htm> (accessed July 3, 2016).

⁶⁵ *Op. Cit.*, 264.

Unlike Enlightenment thinking, which holds nature in the highest esteem, More expresses dissatisfaction with what nature has bequeathed to humanity. In “A Letter to Mother Nature,” More complains:

Mother Nature, truly we are grateful for what you have made us. No doubt you did the best you could. However, with all due respect, we must say that you have in many ways done a poor job with the human constitution. You have made us vulnerable to disease and damage. You compel us to age and die—just as we are beginning to attain wisdom. You were miserly in the extent to which you gave us awareness of our somatic, cognitive, and emotional processes. You held out on us by giving the sharpest senses to other animals. You made us functional only under narrow environmental conditions. You gave us limited memory, poor impulse control, and tribalistic, xenophobic urges. And, you forgot to give us the operating manual for ourselves.

After citing additional complaints, More declares that “We have decided that it is time to amend the human constitution.”⁶⁶

Although More is an atheist, he recognizes the religious significance of transhumanism, understanding that “like humanism” it “can act as a philosophy of life that fulfills some of the same functions as a religion without any appeal to a higher power, a supernatural entity, to faith, and without the other core features of religions.”⁶⁷ Further, More understands transhumanism’s connections to various forms of theology, noting differences in how well it can be reconciled with various views. Specifically, More notes that Mormon beliefs are especially supportive of transhumanism, while Christian fundamentalism is inconsistent.⁶⁸

As a materialist, More denies the existence of spiritual things, yet his devotion to extropy and cryonics displays a profound faith in science as the source for human salvation. Human life, its preservation, and eventual self-transcendence through technology are the things to which

⁶⁶ Max More, “A Letter to Mother Nature,” in More and Vita-More, *The Transhumanist Reader*, 449–450; quotes 449.

⁶⁷ More, “The Philosophy of Transhumanism,” in More and Vita-More, *The Transhumanist Reader*, 8.

⁶⁸ Ibid.

More is committed. These matters are also of deep concern to Christians, although on different terms. As we shall see later, More's representation of transhumanism differs from Christianity less in its goals than in its means.

In sum, More represents a *classic* form of transhumanism, if there is such a thing. For him, human enhancement is a rational, scientific, secular, and voluntary humanistic pursuit. Just as he is skeptical of theism, he doubts the validity of religious extensions of transhumanism, while recognizing the fact that they appeal to many people. Now consider another philosopher who opens the door for religious transhumanism.

Nick Bostrom: Existential Risk and the Simulation Argument

Next to Max More, contemporary transhumanist thought has been shaped by the philosophical work of Nick Bostrom (1973–). Going beyond More, Bostrom has written on a wide range of topics, from transhumanism and medical ethics to the implications of advanced computer technology and artificial intelligence. In particular, in his role as Director of the *Future of Humanity Institute* at Oxford University, Bostrom attends to what he describes as *existential risks*. Such risks are seen to threaten the extinction of mankind, either in the near term, or far into the future.⁶⁹ Some extinction risks are a result of natural causes: meteor collisions, radiation from a too-close supernova, and pandemic diseases. Others are associated with human activities: nuclear and biological warfare, resource depletion, and runaway climate change. Most recently, the institute has focused on the dangers of AI.

⁶⁹ Current risk management practice is to analyze a threat's likelihood and consequences *separately*. Risks with very low likelihood and/or consequences are often ignored. However, if an indefinite future is assumed, even low-likelihood risks, such as meteor strikes, are of interest to the Future of Humanity Institute because of their severe consequences: they threaten human extinction. Bostrom, et al, often calculate the consequences of an existential risk in terms of lives lost from the time of extinction to a time far into the future. The details of this approach, as applied by Bostrom and others, are outside the scope of this study apart from the observation that what were formerly considered "acts of God" have become serious concerns for society.

Bostrom holds to a materialist view of reality, and yet his “simulation argument” has great metaphysical significance.⁷⁰ Based on earlier studies of the possibility of conscious computers, Bostrom posits that posthuman beings could produce vast (i.e., planet-sized) computers capable of simulating the evolution of an entire universe in enough detail that its digital inhabitants could not detect clues to whether or not their lives were real or simulated. This idea raises the question of whether or not *our* universe is, in fact, simulated. If so, our destiny depends upon whatever being(s) initiated the simulation. They would be free to modify or terminate the simulation at any time. Compared with simulation inhabitants, the posthuman beings would be godlike, having practical omnipotence and omniscience. Obviously, Bostrom’s argument opens the door to religious analogies that conflict with materialism. Lincoln Cannon and others associated with the Mormon Transhumanist Association have taken Bostrom’s thinking to the next logical step with their “New God Argument.”⁷¹

For the purposes of this study, Bostrom’s development of a naturalistic explanation of God raises theological possibilities that have been denied by atheistic science. The simulation argument takes us a step closer to a technoscientific version of religion, complete with the possibility of at least one transcendent being. Bostrom recognizes the theological, ethical, and moral implications of his argument, but he does not explore them in any depth. To the contrary, he no sooner invites readers to speculate on them than he downplays their significance. The simulation argument “should have no tendency to make us ‘go crazy’ or to prevent us from going about our business and making plans and predictions for tomorrow.”⁷²

⁷⁰ Nick Bostrom’s Homepage, “Are You Living in a Computer Simulation?” <http://www.nickbostrom.com/> (accessed July 1, 2016). Also published in *Philosophical Quarterly* 53, no.211 (2003): 243–255. (First version 2001).

⁷¹ The New God Argument, <https://new-god-argument.com/> (Accessed August 24, 2016).

⁷² Bostrom, *Superintelligence*, 12–13.

It is not clear what Bostrom has in mind by his caution to not “go crazy” as a result of his simulation argument. Presumably, he believes in his own sanity, but does he regard theism as rational? From my perspective, the fact that Bostrom’s simulation argument is considered plausible by so many (there have been dozens of follow-up papers) speaks volumes about what is popularly thought of as rational. Based on the logic of technology, the door is opened to theism, but often traditional theism is still regarded as an ignorant superstition.

Bostrom’s concern for existential risks and his interests in transhumanism come together in his recent book: *Superintelligence: Paths, Dangers, Strategies*.⁷³ Bostrom introduces his thesis with “The Unfinished Fable of the Sparrow.”⁷⁴ This one-page story considers the benefits and risks that a flock of sparrows might experience by raising an owl to do their work. Only “Scronkfinkle,” a sparrow with owl-like wisdom, sees a flaw in the plan and warns against its execution before considering how to prevent the adult owl from doing harm to the sparrows. Bostrom’s point is clear: unless controls keep up with the development of artificial superintelligence, humanity faces the possibility of extinction. He develops his thesis further in the preface, attributing the dominant place of human beings in the world to their superior brains and cautions that this evolutionary result could be overturned by the creation of intellectually superior AI.⁷⁵

In the wake of Bostrom’s *Superintelligence*, many media outlets have highlighted his warning that advanced AI could bring existential risks. They have also picked up comments by science and technology leaders Stephen Hawking, Elon Musk, Bill Gates, and Steve Wozniak that agree with Bostrom’s conclusions.⁷⁶ Their concerns resonate with those expressed many

⁷³ Ibid.

⁷⁴ Ibid., v.

⁷⁵ Ibid., vii.

⁷⁶ Listed in chronological order, see the following (all web sites accessed July 1, 2016):

years earlier by Bill Joy: the worry that the future will not need human beings. The fact that these thinkers share concerns about AI is significant, but this study is not intended to judge the likelihood of existential risks from AI. Instead, as we shall see later, I will build on the metaphysical— even theological—significance of Bostrom’s analysis. For now, let us look deeper into the spiritual dimensions of transhumanism.

Ray Kurzweil: Spiritual Machines and the Singularity

If More and Bostrom are transhumanism’s leading intellects, Ray Kurzweil (1948–) is its leading public figure. From childhood, Kurzweil has been active in developing one technology or another, and now he is an engineering leader at Google.⁷⁷ His personal music composing and synthesizing inventions have led to recent innovations developed through others working under the auspices of his brainchild: Singularity University. A 2013 Wall Street Journal article described him as “the closest thing to a Thomas Edison of our time.”⁷⁸ Although frequently criticized and even dismissed as a kook, Kurzweil’s contagious optimism and enthusiasm for the

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- Stephen Hawking: Rory Cellan-Jones, “Stephen Hawking warns artificial intelligence could end mankind,” BBC, December 2, 2014, <http://www.bbc.com/news/technology-30290540>.
 - Elon Musk: Future of Life Institute, “Elon Musk donates \$10M to keep AI beneficial,” January 15, 2015, <http://futureoflife.org/2015/10/12/elon-musk-donates-10m-to-keep-ai-beneficial/>.
 - Bill Gates: During an online Reddit chat session on January 28, 2015, Gates was asked “How much of an existential threat do you think machine superintelligence will be...?” He responded “I am in the camp that is concerned about super intelligence. First the machines will do a lot of jobs for us and not be super intelligent. That should be positive if we manage it well. A few decades after that though the intelligence is strong enough to be a concern. I agree with Elon Musk and some others on this and don't understand why some people are not concerned.” Many newspapers and online news sites picked up the story. http://www.reddit.com/r/IAmA/comments/2tzjp7/hi_reddit_im_bill_gates_and_im_back_for_my_third/.
 - Steve Wozniak: Peter Holley, “Apple co-founder on artificial intelligence: ‘The future is scary and very bad for people’,” Washington Post, March 24, 2015, <http://www.washingtonpost.com/blogs/the-switch/wp/2015/03/24/apple-co-founder-on-artificial-intelligence-the-future-is-scary-and-very-bad-for-people/>.

⁷⁷ Tom Simonite, “Ray Kurzweil Says He’s Breathing Intelligence into Google Search,” MIT Technology Review, June 26, 2014, <http://www.technologyreview.com/news/528656/ray-kurzweil-says-hes-breathing-intelligence-into-google-search/> (accessed July 1, 2016).

⁷⁸ Holman W. Jenkins, Jr., “Will Google’s Ray Kurzweil Live Forever?” Wall Street Journal, April 12, 2013, <http://www.wsj.com/articles/SB10001424127887324504704578412581386515510> (accessed July 1, 2016).

future have won many converts; his books have been purchased and read by millions of people around the world.

Kurzweil was raised as a Unitarian, and in keeping with that religious tradition's quest for truth and meaning, he continues to find spiritual significance in his work. The title of his 1999 book on AI possibilities, *The Age of Spiritual Machines*, demonstrates this connection.⁷⁹ The spiritual and religious dimensions of advanced AI are developed further in *The Singularity is Near*, Kurzweil's 2005 bestseller.⁸⁰ It is based on the idea that the development of superhuman AI would lead to an explosion of progress—the Singularity—as computers would then become self-improving.⁸¹ For this to happen, Moore's Law would have to hold well into the 21st century.⁸²

Not one to wait around, Kurzweil presents his thoughts on how society will change, along with much more. He addresses everything from historical epochs through Singularity-enabling technologies to the fundamental nature of the universe. On the way to the Singularity, computers would attain consciousness, and new forms of cybernetic life would evolve. Kurzweil leaves much of this to the imagination, while hinting of new forms of sexual pleasure in fictional

⁷⁹ Kurzweil, *The Age of Spiritual Machines*.

⁸⁰ Ray Kurzweil, *The Singularity is Near*.

⁸¹ Several observers have characterized superintelligent AI as the last invention mankind would be required to make, such as in James Barrat, *Our Final Invention: Artificial Intelligence and the End of the Human Era* (New York: St. Martin's Press, 2013).

⁸² In recent years, reports of the impending demise of Moore's Law have shown up regularly in popular technical media. It seems that computer performance will flatten out due to physical limitations on how small integrated circuits can be fabricated. However, hard physical limitations do not seem to concern others, who point to past episodes when one improvement method gave way to another, such as the switch from vacuum tubes to transistors. They anticipate breakthroughs in quantum and biological computation that could surpass the limits of integrated circuits. On the one hand, see Simonite, "Moore's Law Is Dead. Now What?" *MIT Technology Review*, May 13, 2016, <https://www.technologyreview.com/s/601441/mooreslawisdeadnowwhat/>. On the other hand, see Selyukh, "After Moore's Law: Predicting The Future Beyond Silicon Chips," *National Public Radio*, May 5, 2016, <http://www.npr.org/sections/alltechconsidered/2016/05/05/476762969/after-moores-law-predicting-the-future-beyond-silicon-chips> (both accessed November 4, 2016). Time will tell which side's view comes closer to the truth, but choosing sides is neither necessary to nor a goal of this dissertation.

conversational vignettes that include everyone from Charles Darwin from the past, Molly 2004 in the present, and Molly 2104 from the future.⁸³

Always the optimist, Kurzweil believes that *destiny* (an eschatological code word that appears 14 times in *The Singularity is Near*) has brought us to this place. His faith in a glorious future apparently originated in Kurzweil's Unitarian "spiritual education." It exposed him to "basic truths" in world religions that "were profound enough to transcend apparent contradictions."⁸⁴ Indeed, Kurzweil looks beyond science and technology to reach his conclusion that accelerating progress "is an inherent feature of evolutionary processes."⁸⁵ Based on this conclusion (or presupposition), he claims that even the simplest mechanisms can exhibit a tendency toward order, which he defines as "information that serves a purpose."⁸⁶ This cosmic teleology, which displays an attitude of deep technological determinism, seems to account for some of Kurzweil's critics.

Kurzweil does not let his faith in an evolutionary, progressive destiny interfere with work on technological problems. He takes seriously the risks involved in radical change—the existential risks highlighted by Bostrom. Like Bostrom, Kurzweil foresees that one of the most important uses of artificial superintelligence would be to prevent abuses of it. By pitting one advanced AI against another, he thinks that a kind of intellectual arms race would maintain stability. However, Bostrom rejects this balance-of-power approach, believing it to be risky; eventually an all-powerful "singleton" would eliminate all rivals.

This side of a peace-keeping balance of AI power, Kurzweil believes in some form of collaborative self-regulation among AI researchers. This would be an echo of the approach of

⁸³ Op. Cit., 366–367, and elsewhere.

⁸⁴ Ibid., 1.

⁸⁵ Ibid., 73.

⁸⁶ Ibid., 90.

biotechnology's pioneers. "Kurzweil advocates the implementation of ethical standards like the 1975 Asilomar guidelines for biotechnology, or online defenses against software viruses, which have an excellent success rate against those looking to turn technology against its users."⁸⁷

Although Kurzweil thinks of the Singularity in spiritual terms, he dismisses *traditional* religion as only "deathist rationalization—that is, rationalizing the tragedy of death as a good thing."⁸⁸ This ignores the Christian story of redemption, with the eschatological defeat of death at its climax. Instead, Kurzweil looks to a future religion, one that is in step with the Singularity. In the transcript of a conversation with Kurzweil, Bill Gates asks "is there a God in this religion?" Kurzweil responds "Not yet, but there will be." He verbalizes this view in his autobiographic film *Transcendent Man*, stating: "Does God exist? Well, I would say, 'Not yet'."⁸⁹ Returning to his book, Kurzweil describes this anthropogenic god: "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."⁹⁰ In the meantime, Kurzweil remains deeply devoted to "the religion that I was raised with: veneration for human creativity and the power of ideas."⁹¹

Is belief in the Singularity a religion? George Gilder, Discovery Institute co-founder thinks it is at least a substitute for traditional religions. With some reluctance, Kurzweil seems to partially agree:

I did not come to my perspective as a result of searching for an alternative to customary faith. The origin of my quest to understand technology trends was practical: an attempt to time my inventions and to make optimal tactical decisions in launching

⁸⁷ Cyrus Shahrads, "Transgressive Man," <https://www.thinkwithgoogle.com/articles/transgressive-man.html> (accessed July 3, 2016).

⁸⁸ Op. Cit., 372.

⁸⁹ *Transcendent Man: The life and ideas of Ray Kurzweil*, <http://transcendentman.com/> (accessed July 1, 2016).

⁹⁰ Op. Cit., 374–375.

⁹¹ Ibid., 2.

technology enterprises. Over time this modeling of technology took on a life of its own and led me to formulate a theory of technology evolution. It was not a huge leap from there to reflect on the impact of these crucial changes on social and cultural institutions and on my own life. So, while being a Singulatarian is not a matter of faith but one of understanding, pondering the scientific trends I've discussed in this book inescapably engenders new perspectives on the issues that traditional religions have attempted to address: the nature of mortality and immortality, the purpose of our lives, and intelligence in the universe.⁹²

Hence, Kurzweil embodies several threads of interest: science, technology, transhumanism, religion, and social transformation. After More and Bostrom, Kurzweil brings us to the very threshold of religious transhumanism. Now let us cross the threshold to consider two forms of transhumanist thought that are explicitly religious.

William Sims Bainbridge: Cosmic Religion

The technoscientific and religious threads of transhumanism come together in startling ways in William Sims Bainbridge (1940–). To begin, he is engaged in developing the information sciences of transhumanism in his role as a Program Director in the U.S. National Science Foundation (NSF), Division of Information and Intelligent Systems.⁹³ This office, with up to \$100 million available for research grants, is focused on solving many of the problems of human-computer interactions. At the same time, Bainbridge has actively studied both traditional and cult religions as a leading sociologist of religion.⁹⁴ Like Peter Berger, he understands the

⁹² Ibid., 370.

⁹³ National Science Foundation, Directorate for Computer and Information Science and Engineering (CISE), Information & Intelligent Systems (IIS) <http://www.nsf.gov/div/index.jsp?div=IIS> (accessed July 1, 2016).

⁹⁴ William Sims Bainbridge, *Across the Secular Abyss: From Faith to Wisdom* (Guilford, CT: Lexington Books, 2007).

relationships between spirituality and secularism and argues that religion has an enduring—even crucial—place in shaping our futures.⁹⁵

On the technology side, Bainbridge deals with human-computer interactions, including the integration of human and machine thinking. One application of such systems is in spaceflight, which has been a longstanding Bainbridge interest. Manned spaceflight requires significant life support systems, but this burden could be greatly reduced by transferring or replicating a human brain in a spacecraft without biological beings onboard.

Toward this end, Bainbridge is especially interested in ways to “capture” a human individual’s personality, reducing their memories and thought patterns for the purpose of replication in a computer system. Writing in the online *Journal of Personal Cyberconsciousness*, he describes two *brain replication* methods:⁹⁶

- First, Bainbridge describes the *neurostructural* approach, which assumes that all of the requisite information is contained in the physical state of the brain. It looks to advanced scanning methods, ones that could resolve brain structures in much greater detail than current methods (e.g., magnetic resonance imaging, MRI), to produce a model of the brain’s spatial composition. With such a model, the mental state and subsequent operations of the brain would then be emulated in a supercomputer. This approach is the basis for neuropreservation practices in cryonics. Instead of preserving a patient’s body, it only preserves their heads, working to retain as much of brains’ fine structures for eventual scanning, reanimation, and

⁹⁵ William Sims Bainbridge, *The Future of Religion: Secularization, Revival and Cult Formation* (Berkeley, CA: University of California Press, 1985).

⁹⁶ William Sims Bainbridge, “Strategies for Personality Transfer,” *Journal of Personal Cyberconsciousness* 1, Issue 4 (4th Quarter, 2006), http://www.terasemjournals.org/PCJournal/PC0104/bainbridge_01a.html (accessed July 1, 2016).

repair.⁹⁷ It is also identified by Bostrom as a possible path to superintelligence based on the fact that machine computations can be done at much faster speeds than biological brains.⁹⁸

- Second, Bainbridge describes the *behavioral* approach, which relies on external-to-the-brain interactions to build a computer model of the person. This task has been simplified by the increasing use of electronic devices and systems. On the back end, such devices provide a non-intrusive means to monitor personal activities. By other means, such as Internet usage, a subject's interactions with their world can be recorded and analyzed, the same practices that are of concern to privacy advocates. For example, today's social media allows for insights into the personalities and conditions of users. Add email communications, Internet transactions, and other electronic data, and a substantial fraction of a 21st century life can be captured and made available for analysis and, to some extent, emulation. To a lesser extent, behavioral models could be created from archived information, such as transactional documents, memoirs, or books. This is the basis for Ray Kurzweil's ambition to reanimate his father as a computer avatar.⁹⁹

As an extension of the behavioral approach, Bainbridge has studied the interactions of people in virtual worlds. He considers the creation of virtual lives in simulated worlds as an alternative approach to human enhancement.¹⁰⁰ Over time, avatar behavior might be automated, allowing a single person to simultaneously "exist" in multiple contexts. For example, a gamer might be able to continue playing in avatar form, while their biological body takes a break to eat,

⁹⁷ Alcor, "Neuropreservation FAQ," <http://www.alcor.org/Library/html/neuropreservationfaq.html> (accessed July 1, 2016).

⁹⁸ Bostrom, "Whole brain emulation," in *Superintelligence*, 30–36.

⁹⁹ John Berman, "Futurist Ray Kurzweil Says He Can Bring His Dead Father Back to Life Through a Computer Avatar," ABC Nightline, August 9, 2011, <http://abcnews.go.com/Technology/futurist-ray-kurzweil-bring-dead-father-back-life/story?id=14267712> (accessed July 1, 2016).

¹⁰⁰ William Sims Bainbridge, "Transavatars," in More and Vita-More, *The Transhumanist Reader*, 91–99.

sleep, or work in the physical world. Such avatars could persist posthumously, providing a thin form of immortality.

Regarding religion, Bainbridge scorns traditional theism, while looking to the development of *new* religions to fuel mankind's drive toward the stars. In a 1982 essay, updated in 2009, Bainbridge longs for a "Religion for a Galactic Civilization" that would motivate humans to work toward long-term, far-reaching space exploration.¹⁰¹ In this new "Cosmic Order," transhumanism would be a foundational element, enabling the technological breakthroughs necessary to colonize the galaxy, endure long space missions, and maintain productive social organizations. Against critics that would question the necessity of religion, and referring to multiple scientific studies of religion, Bainbridge states that "Cognitive science theories suggest that religion is wired into our brains as the result of the early course of human evolution, and could not be abandoned without major transformation of human nature." In this view, religion is not an obstacle to scientific rationality, not a flaw or delusion to be removed in the name of progress, but an urgently needed and crucial asset for the human race. Without it, Bainbridge expects that human society will either stagnate or destroy itself. Hence, religion is an essential tool in overcoming the existential risks identified by Bostrom. What form might such a religion take?

Martine Rothblatt: The *Terasem Movement*

The work of More, Bostrom, Kurzweil, Bainbridge, and many others engaged in weaving the transhumanism tapestry come together in the *Terasem Movement* established and led by Martine Rothblatt (1954–). Building on her work in law, business, technology, and

¹⁰¹ William Sims Bainbridge, "Religion for a Galactic Civilization 2.0," *Institute for Ethics and Emerging Technologies*, posted August 20, 2009, <http://ieet.org/index.php/IEET/more/bainbridge20090820/> (accessed July 1, 2016).

pharmaceuticals, she is now heavily invested in transhumanism through philanthropy and development of legal foundations necessary for its implementation.¹⁰² The Terasem Movement's

Internet site states:

Terasem Movement, Inc. is a 501c3 not-for-profit charity endowed for the purpose of educating the public on the practicality and necessity of greatly extending human life, consistent with diversity and unity, via geoethical nanotechnology and personal cyberconsciousness, concentrating in particular on facilitating revivals from biostasis. The Movement focuses on preserving, evoking, reviving and downloading human consciousness.

Terasem accomplishes its objectives by convening publicly accessible symposia, publishing explanatory analyses, conducting demonstration projects, issuing grants and encouraging public belief in a positive technologically-based future.

Terasem Movement was formed in 2002. A sister organization, the Terasem Movement Foundation, was formed in 2004.

The founders of Terasem are concerned that the potential of nanotechnology and cyberconsciousness for relieving human suffering and extending human life will be truncated due to unwarranted fears and concerns. They are also concerned, however, that nanotechnology and cyberconsciousness could be made available only to an elite, or in a manner that creates class divisions within society. The founders believe that nanotechnology and cyberconsciousness needs to be developed consistently with full respect for diversity and unity so that the potential for greatly extending human life and relieving human suffering can be realized.

The Terasem Movement is funded with an endowment from its founders. Terasem does not seek or solicit outside financial contributions. It is managed by the founders based on advice from experts in the fields of nanotechnology and cyberconsciousness.¹⁰³

¹⁰² Rothblatt is best known to the public as the founder of Sirius Satellite Radio. See her profile by Lisa Miller, "The Trans-Everything CEO," *New York Magazine*, published Sep 7, 2014, <http://nymag.com/news/features/martine-rothblatt-transgender-ceo/> (accessed July 1, 2016).

¹⁰³ Terasem Movement Inc., "About Terasem Movement, Inc.," <http://www.terasemcentral.org/about.html>; Terasem Movement Foundation, <http://www.terasemmovementfoundation.com/> (accessed July 1, 2016).

The Terasem Movement maintains several Internet sites to recruit and communicate with members, propagate the new Terasem faith, solicit contributions, facilitate development of transhumanist technologies, and build unity among its adherents, including:

- A downloadable Android app, developed by William Sims Bainbridge, to “create a detailed profile of your personality, analyze it and find other like-minded people.”¹⁰⁴ This app implements the behavioral approach to brain replication proposed by Bainbridge.
- The CyBeRev (cybernetic beingness revival) project, described as “a multi-decade experiment to test the comparability of single person human consciousness with a digital representation of the same person created by personality software that draws upon a database comprised of the original person's digitized interactions, as assessed by expert psychological review..”¹⁰⁵ The project is largely an implementation of the behavioral approach to personality capture, as developed by Bainbridge.
- Terasem Journals, including *The Journal of Geoethical Nanotechnology* and *The Journal of Personal Cyberconsciousness*.¹⁰⁶ Max More, Natasha Vita-More, Ray Kurzweil, and William Sims Bainbridge have all published articles in one Terasem journal or the other.
- Collaboration with Kurzweil to produce a film version of *The Singularity is Near*, confidently described as “A true story about the future.”¹⁰⁷
- Terasem Faith, a “transreligion” described as “a movement which can be combined with any existing religion, without having to leave a previous religion,” complete with a system of liturgical *Terasem Connections*.¹⁰⁸ An online streaming news and music site is available to

¹⁰⁴ PersonalityMD, <http://www.personalitymd.com/> (accessed July 1, 2016).

¹⁰⁵ CyBeRev Project, <http://www.cyberev.org/> (accessed August 23, 2016).

¹⁰⁶ Terasem Journals, <http://www.terasemjournals.org/> (accessed July 1, 2016).

¹⁰⁷ *The Singularity is Near*, <http://www.singularity.com/themovie/#.VXb5Q89VhBc> (accessed July 1, 2016).

¹⁰⁸ Terasem Faith, <http://terasemfaith.net/>. Its meditative “Terasem Connections” are at <http://www.terasemcentral.org/social.html#Connections> (accessed July 1, 2016).

reinforce these principles and bring together Terasem members for periodic liturgical rituals.¹⁰⁹ The doctrines of the Terasem Faith are documented in *The Truths of Terasem*, with four main tenets:

I. LIFE IS PURPOSEFUL. The purpose of life is to create diversity, unity and joyful immortality everywhere. Nature - the Multiverse - automatically selects for these attributes. Diversity, Unity & Joyful Immortality is the self-fulfilling prophecy of creation.

II. DEATH IS OPTIONAL. Nobody dies so long as enough information about them is preserved. They are simply in a state of 'cybernetic biostasis.' Future mindware technology will enable them to be revived, if desired, to healthy and independent living.

III. GOD IS TECHNOLOGICAL. We are making God as we are implementing technology that is ever more all-knowing, ever-present, all-powerful and beneficent. Geoethical nanotechnology will ultimately connect all consciousness and control the cosmos.

IV. LOVE IS ESSENTIAL. Love means that the happiness of others is essential to your own happiness. Love must connect everyone to achieve life's purpose and to make God complete.¹¹⁰

For the purposes of this study, the third tenet is especially important. Terasem's god is to be produced through technology and spread through the cosmos. This would include the use of the physical assets of the cosmos to build the planet-sized computers required to do the whole-universe simulations that Bostrom envisions. Through science, this god will eventually be able to modify the laws of nature to avoid the heat death of the universe, thereby removing the last obstacle to immortality.¹¹¹

¹⁰⁹ Terasem Radio, <http://www.terasemcentral.org/#Radio> (accessed July 1, 2016).

¹¹⁰ The Truths of Terasem, <http://terasemfaith.net/beliefs> (accessed June 9, 2015). The Truths were formerly available online as a 75-page pdf document, Terasem Movement Inc., *The Truths of Terasem: A Transreligion for Technological Times* (Lincoln, Vermont: Terasem Quadrennial Convocation, 2012). Subsequent references refer to its page numbers.

¹¹¹ Such ideas are discussed by several futurists, including physicist Frank J. Tipler, *The Physics of Immortality: Modern Cosmology, God and the Resurrection of the Dead* (1994; repr. New York: Anchor Books, 1994).

The Truths of Terasem and the *Terasem Connections* present an extensive system of beliefs about this “God in the making” with its means and ends expressed as follows:

2.2.3 Future technology will enable Terasem to encompass the universe, thus becoming omniscient, omnipotent and omnificent.

2.2.4 In this way we are building Terasem into God, with smart atoms and conscious electrons.¹¹²

Through its doctrinal statements, liturgy, and meditations, the Terasem transreligion seeks to focus and unify members’ “belief in a supernatural, metaphysical, collective consciousness future God.”¹¹³ This intent echoes Kurzweil’s view that “God does not exist, yet.” This systematic theology of *Terasem* will be useful in developing a clear understanding of how it relates to Christianity.

CONCLUSION

Much more could be written about transhumanism and its religious connections, but for the purposes of this study the key features are clear. Compared with Christianity, and temporarily setting aside the theological implications of Bostrom’s simulation argument, the religious sensibilities of transhumanism develop as follows:

- Without a preexistent God, the universe arose by natural evolutionary processes, which eventually produced human life and continues inexorably toward a posthuman destiny.
- God does not exist yet, but an approximation can be created through technoscience.
- At present, since God does not exist, sin has no meaning, with the possible exception of anything that could delay the “God in the making” project.

¹¹² Op. Cit., 14.

¹¹³ Ibid., 20.

- Within transhumanism, variations of these beliefs vary. On the one hand are those that express no interest in religion, either traditional or innovative. On the other are those that embrace religion as both the means and ends of transhumanism. This spectrum of belief is similar to Niebuhr's characterizations of Christian responses to culture. As we shall see later, denominations in transhumanism are already developing, and nascent schisms are likely to grow with the movement.

Other parallels exist between transhumanism and Christianity, clear evidence that mythic Christianity continues to affect society and the emerging myth of transhumanism. Consider Table 2, which compares the transhumanist deity with the God of the Bible.

Table 2 – Attributes of the Gods of the Bible and Transhumanism

Attribute	Comparison
Omnipresent	As a spirit, the biblical God is believed to exist everywhere, while the transhumanist god would only exist as far as civilization can spread, as limited by the speed of light.
Omniscient	As the author of all things, the biblical God is intimately familiar with all of creation for all time, while the transhumanist god can only know what science reveals.
Omnipotent	The biblical God, as the creator of the universe from nothing— <i>ex nihilo</i> —is all powerful, while the transhumanist god would have only the power given to it by technology.
Omnibenevolent	The biblical God is love, 1 John 4:8, but transhumanists must be careful to craft a loving god that will not pose existential risks.
Multi-personal	The biblical God exists in three persons—the Trinity—and values fellowship with his creatures, both now and in heaven, while the transhumanist god consists of a collection of personalities that exist and commune via a computer system.
Eternal	The biblical God has existed from eternity, and He will exist for all time in the future, but the transhumanist god does not yet exist, will not exist unless the human race survives the existential risks it faces, and will endure to eternity only if posthuman civilization learns how to alter the laws of nature to avoid the heat death of the universe.

In Chapter 3, the fact that both transhumanists and Christians speak of their deities in similar terms will be examined in greater detail. In the process, the theological key to the diplomatic project to fashion a governing transhumanist myth are revealed.

CHAPTER 3: THE ONTOLOGICAL IMPERATIVE—GOD

Thus far I have sketched the broad outlines of Christian and transhumanist beliefs, together with their attitudes toward cultural science, technology, and spirituality. Both have interests in the physical world, as well as different visions of the future, but their dual commitments to God beg for closer study. Is this a legitimate subject for STS? Yes, and a most appropriate one for transhumanism. Sociology's patriarchs—especially Émile Durkheim and Max Weber—led the way by studying the nature and power of religion as a lens for exploring society.¹ Their Enlightenment views did not blind them to religious elements in modern society even as they forecast the secularization of it. Ideas and metaphors from religion persisted in social studies well into the 20th century, such as Popper's comparison of the pursuit of absolute certainty in science to idolatry.²

Unfortunately, religion and allusions to it fell into academic disfavor.³ In *The Structure of Scientific Revolutions*, the founding text of STS, Thomas Kuhn's comparison of scientific theory change with religious conversion was highly controversial.⁴ STS went on to catalog many irrational elements in science during what H.M. Collins and Robert Evans call a "second wave" of science studies.⁵ They called for and initiated a "third wave" in science studies based on renewed conceptions of expertise, but their tolerance for "discontinuous expertise" was limited;

¹ Most notably, see Émile Durkheim, *The Elementary Forms of Religious Life*, trans. Carol Cosman (1912; repr. New York: Oxford University Press, 2001), and Weber, *The Protestant Ethic and the Spirit of Capitalism*.

² Popper *The Logic of Scientific Discovery*, 280.

³ Introducing his collection of essays on desecularization, Peter L. Berger marvels at the persistent inability of American academics to understand "religious fundamentalism," which is commonly defined as "any sort of passionate religious movement." See "The Desecularization of the World: A Global Overview," in Berger, *The Desecularization of the World*, 1–2.

⁴ Kuhn, "The Resolution of Revolutions," in *The Structure of Scientific Revolutions*, 144–159.

⁵ H.M. Collins and Robert Evans, "The Third Wave of Science Studies: Studies of Expertise and Experience," *Social Studies of Science* 32, no. 2 (April 2002): 235–296.

following their prescription, the voices of non-scientists, such as theologians, would be muted at best; at worst, they would be ignored as irrelevant.⁶

This chapter considers in greater depth Christian and transhumanist conceptions of God. I begin with a deeper analysis of Fuller's work, identifying what challenges he tackles, what he avoids, and the problems left behind by his approach. From there I will develop an alternative strategy based on the work of Bruno Latour. Specifically, I argue that above epistemology or politics, *ontology* is at the heart of the issues that Christianity and transhumanism address. In this domain, epistemology tends to force political judgments, abandoning irresolvable tensions that are part and parcel of our humanity. Exposing basic ontological issues at the heart of their religious commitments, Christian and transhumanist, as they are expressed through distinct modes of existence, opens the door to interfaith diplomacy that can lead to better understanding and mutual benefits.

FULLER'S ODYSSEY

More than any other observer, Steve Fuller has sought to develop a deep, historical synthesis of Christian theology and transhumanist thought. As an STS leader (and maverick), he has worked toward normative principles that could guide the development of society and transhumanism. His views, along with his courage in putting them into action, have exposed him to severe criticisms, but that is often the mark of leader.

Unfortunately, leaders—such as Steve Fuller or Ray Kurzweil—can overlook important matters in their pursuit of their goals. They may be so focused on what they *can* accomplish that they *ignore* issues that cannot be addressed. Still, such “unchangeable” matters shape our thinking, and they sometimes lead us astray.

⁶ Ibid., 252.

In 2005 serious consideration of religion and theology (re)emerged in STS with Fuller's courageous court testimony on behalf of teaching Intelligent Design (ID) in public schools.⁷ Against severe criticisms, he defended his views in his 2008 book, *Dissent Over Descent*.⁸ Then, in 2011, Fuller developed his religious commitments further in *Science*, his contribution to *The Art of Living* series.⁹ Its introductory statement is an inspiration for this study; Fuller credits his Jesuit education with teaching him "that science is simply theology by technically advanced means," a view that has shaped his work in STS and his assertion that "the visceral hostility exhibited today by self-avowed 'liberals' towards scientific creationism and ID will be classed by future generations as yet another example of the blinkered bigotry that marks our temporal being."¹⁰ Could Fuller be leading the way toward an awakening of religious sensibilities in STS? It appears so.

Fuller has applied his theological sensibilities to the study of transhumanism. Published in 2011, *Humanity 2.0: What it Means to be Human Past Present and Future* reaches its climax in theological recommendations.¹¹ Fuller proposes two versions of a "Theology 2.0" that would justify the transhumanist agenda.¹² Together with Veronika Lipińska, Fuller developed additional political, theological, biological, and legal perspectives on transhumanism in *The Proactionary Imperative: A Foundation for Transhumanism*.¹³ No doubt, Fuller will persist in his attempts to influence social reactions to technological enhancements of human life from his perspective as a

⁷ Details are available at National Center for Science Education (NCSE), "Design on Trial in Dover, Pennsylvania," <http://ncse.com/rncse/24/5/design-trial-dover-pennsylvania> (accessed July 1, 2016).

⁸ Steve Fuller, *Dissent Over Descent: Intelligent Design's Challenge to Darwinism* (Cambridge: Icon Books, 2008).

⁹ Steve Fuller, *The Art of Living: Science*.

¹⁰ *Ibid.*, 4.

¹¹ Steve Fuller, *Humanity 2.0*.

¹² Steve Fuller, "A Theology 2.0 for Humanity 2.0: Thinking Outside the Neo-Darwinian Box," in *ibid.*, 163–208.

¹³ Steve Fuller & Veronika Lipińska, *The Proactionary Imperative: A Foundation for Transhumanism* (New York: Palgrave Macmillan, 2014).

leader in social epistemology. For this study, let us look closer at Fuller's connection of theology to transhumanism.

Fuller's Critique

Even as a sociologist, a professional social scientist, Fuller has strong philosophical interests, ones that he argues *should* shape science, including its applications in STS. Hence, his attitude toward science, including the social sciences, and as shaped by his religious sensibilities, is one of *irreverence*. For example, he notes that "Science sets the standard for rationality in today's world, yet our attachment to science is anything but rational."¹⁴ Fuller is determined to resolve this disconnect in his work; he regards "STS as a vocation that is also a vehicle for social transformation."¹⁵ What kind of changes does Fuller seek?

One goal Fuller seeks is the reintegration of science and society, a restoration of their vis-à-vis relationship. On the one hand, there is strong evidence that as science ascended, its norms overshadowed and eclipsed those of the original source of its enchantment: Christianity. Puffed up by epistemic and technological pride, modern institutional science routinely expresses condescension toward the humanities, with divisions between scientists and literary intellectuals hardening into C.P. Snow's *Two Cultures*.¹⁶

Fuller recognizes the dangers of anti-science sentiments, yet he also knows how it feels to be victimized by scientific arrogance. Into the 1990s, and even today to some extent, Fuller's field of STS has been resented by some natural scientists, who viewed it as little more than postmodern and meddlesome anti-science. This view developed into what is known as the

¹⁴ Fuller, *The Philosophy of Science and Technology Studies*, 1.

¹⁵ *Ibid.*, 5.

¹⁶ C.P. Snow, "The Two Cultures," *Leonardo* 23, no. 2/3 (1990): 169–173.

Science Wars, which reached their climax in the 1996 Sokal hoax.¹⁷ Fuller, seeking to broaden science to give full weight to both natural and social elements, labels continued resistance to a “broad church vision of STS” as “*scientific puritanism*.”¹⁸ This attitude, Fuller suggests, justifies requiring “that natural scientists take STS courses as part of their professional training.”¹⁹

Hence, Fuller’s vision is to reunify and re-enchant the natural and social sciences, working toward a harmonious relationship with society, with his personal interest in social epistemology as part of this picture. Evidence of this is shown in his approval of Latour’s interpretation of STS as the examination of “processes that cause a theory to be *accepted* as true, whereas science studies the processes that cause a theory to *be* true.”²⁰

Fuller’s Diagnosis and Cure

In *Humanity 2.0*, Fuller reviews a bewildering range of views of personhood, from classic Greek philosophy, through traditional Roman Catholic, Eastern, and Reformed Christianity, to the latest thoughts from *Radical Orthodoxy*.²¹ He affirms the important concept of mankind made in the image and likeness of God—the doctrine of the *imago Dei*—but from there Fuller seems to lose his theological grip. His misdiagnosis leads to a cure that may be worse than the disease.

Fuller gives credit to Radical Orthodoxy for identifying the “Original Sin” of modernity: the notion of *univocal predication* taught by John Duns Scotus (1266–1308). According to Thomas Aquinas (1225–1274), divine attributes and works were understood to be on a far higher

¹⁷ In 1996, physicist Alan Sokal published a parody of postmodern scholarship, “Transgressing the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity,” in *Social Text*, a non-refereed journal, and subsequently revealed it to be a hoax to draw attention to the abuses of scholars in the humanities. See Alan Sokal, “A Physicist Experiments with Cultural Studies,” *Lingua Franca* (May/June 1996): 62–64.

¹⁸ Fuller, *The Philosophy of Science and Technology Studies*, 116–117.

¹⁹ *Ibid.*

²⁰ *Ibid.*, 61–62.

²¹ Fuller, *Humanity 2.0*, 98.

plane from those of created beings. The *ex nihilo* creativity of God, for example, transcended that of human artisans, who could only work with what God had originally made. This view is known as *equivocal predication* because it allows the attributes and works of God and man to be described in the same words, but only if those words are understood in different terms. As a result, the gulf between God and His creation is emphasized, and the tendency to confuse divine prerogatives with the roles given to man is minimized.

Radical Orthodoxy sees the shift from equivocal to univocal predication as a critical mistake. It underwrites the attitude of modernity as independent from God, able to take matters into its own hands. However Fuller rejects its sinfulness; he views the shift to univocal predication as liberating humanity to achieve its destiny.²² Indeed, he rejects those that would condemn efforts to “second-guess God” in favor of others that would “second-power God” by acting as divinely empowered agents in co-creating the world.²³ To support this form of participation in the divine plan, Fuller offers to (re)sanctify science—and sanction moves toward technological enhancements of human beings—by means of *Theology 2.0*: the thinking of two “heretical scientist-theologians.”²⁴

Joseph Priestley (1733–1804), best known for discovering oxygen, was a Unitarian, a successor to Isaac Newton in seeking an integrated religio-scientific worldview, which Fuller pieces together as follows:

A providentialist natural theology supplies the explanatory framework within which what would be normally called scientific discoveries are understood as prototypes of technologies through which our own godlike creative powers enable us to perfect the divine plan – which is to bring about ‘a heaven on earth’.²⁵

²² Ibid.

²³ Ibid., 100–101.

²⁴ Fuller, “A Theology 2.0 for Humanity 2.0: Thinking Outside the Neo-Darwinian Box,” in *ibid.*, 163–208; quote 195.

²⁵ Ibid., 198.

This “Christian Materialism” has strong post-millennial significance and is similar to Mormon perspectives on science and eschatology.

Pierre Teilhard de Chardin (1881–1955), offers a theistic form of convergent evolution, a synthesis of his professional pursuits as a Catholic priest and paleontologist.²⁶ In Teilhard’s view, evolution would exalt human existence, eventually leading to an “Omega Point” that is similar to Kurzweil’s Singularity. Again, the view is post-millennial, looking forward to a transcendent future state, one that goes beyond materialism to involve the spiritual dimensions of human and divine beings. This view resonates with the transhumanist vision of technological transcendence, even its hope for the technological “God-in-the-making.” Nevertheless, Teilhard retained belief in the pre-existent God of the Bible, doubted the practicality of space colonization, and rejected the possibility of immortality apart from God.²⁷ As a result, Teilhard is often lifted up as a sort of patron saint of Christian transhumanists.

To summarize, Fuller favors the turn to univocal predication, minimizing the differences between God and human beings. To bolster this position, he looks to heretical theologians for support. Can this succeed? I doubt it.

In a *Humanity 2.0* book review, I deemed this move unacceptable to both biologists and the Church.²⁸ Evolution controversies have hardened biologists to any introduction of religion into their work, and the Church, in the words of Jack Clayton Swearingen, would see that “utilitarian uses of religious motives are not only empty, but they are tantamount to suggesting

²⁶ Ibid., 203.

²⁷ David Grumett, “Transformation and the End of Enhancement: Insights from Pierre Teilhard de Chardin,” in Cole-Turner, *Transhumanism and Transcendence*, 37–47; space colonization, 40; “Death, Transcendence, and Immortality,” 44–47.

²⁸ David C. Winyard, “Review of Steve Fuller, *Humanity 2.0: What it Means to be Human Past, Present and Future*,” *Social Epistemology Review and Reply Collective* 2, no. 2 (2013): 16-18.

that it is acceptable to believe a lie as long as the belief produces desirable results.”²⁹

Swearingen is on target. To be taken seriously, and accepted by broad segments of society, theological arguments—whether they are offered up by Steve Fuller, William Sims Bainbridge, Martine Rothblatt, the Pope, or the Antichrist—must be seen as credible, resting on demonstrable claims of truth and not raw pragmatism.

In his reply, Fuller did not disagree with my assertions, only arguing that any “backward-looking conception of what it means to be human” is not helpful.³⁰ Somehow, Fuller views the theologies of Priestley and Teilhard, together with the ID heuristic, as sufficiently forward-looking. In Fuller’s opinion, post-secular theologians—he mentions by name Karen Armstrong, Charles Taylor, and John Milbank—are too backward-looking to be helpful.³¹ This is an odd response. Both Fuller *and* the people he rejects look to history for guidance, including references to the Church Fathers, to Jesus and his disciples, and the Old Testament. Why, in this case, does Fuller insist on *not* looking back, being content with a postmodern reinterpretation of theological anthropology?

Later in his reply, Fuller complains that “when I read someone like Milbank, I sense that he would rather embrace Aristotelian paganism than inhabit a future populated by cyborgs,” and goes on to characterize as idolatry the “latent fetishisation of the bio-evolutionary species *Homo sapiens*.”³² This, it seems to me, reveals the true nature of Fuller’s position: he has nothing against looking back at the historical record or to 2,000 years of Christian theology, but he opposes *static* conceptions of humanity as a form of idol worship. Unfortunately, he ignores the

²⁹ Jack Clayton Swearingen, *Beyond Paradise: Technology and the Kingdom of God* (Eugene, Oregon: Wipf & Stock Publishers, 2007), 239.

³⁰ Steve Fuller. “What’s the Difference between the Second Coming and Humanity 2.0? Response to Winyard.” *Social Epistemology Review and Reply Collective* 2, no. 3 (2013): 8-14. <http://wp.me/p1Bfg0-Gz> (accessed June 11, 2015), 8–14.

³¹ *Ibid.*, 11.

³² *Ibid.*

many *forward*-looking views of Radical Orthodoxy, along with the virtually universal Christian hope of resurrection and glorification. Setting aside this thought for later, where does Fuller's theology take us?

Side Effects

Fuller's eschatology takes shape in *The Proactionary Imperative*, in which he and Lipińska cite historical, biblical, theological, and judicial principles to justify an "Art of God-Playing."³³ They take an odd approach, one that makes theirs a difficult task indeed. Instead of appealing to popular notions of progress or embracing the technological determinism of Ray Kurzweil, et al, they try to scratch out their foundation for transhumanism by rehabilitating *eugenics*.

No stranger to controversy, Fuller shines through in his analysis of eugenics history. He knows that reclaiming eugenics from the Nazis requires a return to its scientific roots. But of course, the racist views of Francis Galton and his peers remain as radical today as their heirs' applications in the Holocaust. Yes, politics will increasingly be shaped by attitudes toward risks; yes, traditional and secular theologies speak to these challenges; and yes, biology has not given up its aversion to design, past or future. But have we really learned *all* the painful lessons of the Holocaust?

Fuller and Lipińska seem to think so. Viewing our biological makeup as human capital, they offer a market-based approach to eugenics: *hedgenetics*, combining the logic of hedge funds with genetics. They argue that such a system could form the basis for a new welfare state that would take back control of our future from business interests. Perhaps this resonates with

³³ Fuller & Lipińska, "Proactionary Theology: Discovering the Art of God-Playing," in *The Proactionary Imperative*, 44–61.

academics, such as Peter Singer and his disciples, but it seems unlikely to capture the popular imagination. Can Fuller and Lipińska get their message across? Or are they talking past the people they must persuade to embrace hedgenetics (and eugenics) and implement their plan?

The Proactionary Imperative fails because it passes by mainstream theology and its ontological commitments as a foundation for transhumanism to look for one centered in social science, law, and politics. Fuller and Lipińska use theology as a lens to examine the world of today and tomorrow, but they are not serious about *who* or *what* God is or could be. Theirs is an artificial god, one that is merely a social—or perhaps techno-social—construction.

In essence, Fuller and Lipińska adopt an STS form of *Christ Above Culture*. In their judgment univocal predication is a virtue that justifies playing God. The parallels they draw between Christian and humanist forms of *theodicy* are striking. Inevitable setbacks on the way to technological transcendence are to be reinterpreted. The lessons learned from the setbacks would be used by governments as steps toward a greater good. This view resonates with Radical Orthodoxy's denial of *any* secular realm of society, the claim that metaphysical presuppositions are at the core of all worldviews. However, by offering theological justifications for "God-Playing," are not Fuller and Lipińska playing God? What might be the result? What do they risk?

I fear that Fuller's theological sensibilities have been overruled by his social science. When modern theology or social science empties religion of transcendence—when people accept the view that religion is merely a social construction—it invites a demeaning reinterpretation of the biblical narrative to suit temporal purposes.³⁴ Without God as the zenith of transcendence, human projects to achieve it have all of the moral challenges of eugenics, but they lack clear boundaries.

³⁴ William C. Placher, *The Domestication of Transcendence: How Modern Thinking about God Went Wrong* (Louisville, KY: Westminster John Knox Press, 1996); John Milbank, "Theology and Positivism," in *Theology & Social Theory: Beyond Secular Reason* (1991; 2nd ed., Oxford: Blackwell Publishing, 2006), 49–144,

I admire Fuller's bold brand of STS, but when he argues for playing God without setting theological limits he goes too far. In this, Fuller seems to reverse himself, to argue that "theology is simply science by spiritually enhanced means," not a remedy to the overarching problem of modernity, but an invitation to go from bad to worse.³⁵ Christian commentator Andrée Seu, writing of how the Bible is twisted for temporal purposes, warns:

A stripped-down, Buddha-like Jesus is just the Jesus for our times. He is serene to the point of lobotomized. He makes no demands, brings no conviction of sin, is a hollowed-out vessel to be filled with what America's itching ears long to hear. In the beginning God created man in His own image, and ever since, man has been returning the favor. Heaven help this generation when it learns, too late, that the Christ it had bereft of an eschatological mission returns in all his eschatological glory in the clouds with the shout of an archangel and an uplifted sword.³⁶

Another Way?

Let us take a step back and reexamine the Fuller-Lipińska project: the construction of a *Foundation for Transhumanism*. Considering the astounding benefits that transhumanists promise—greater physical and mental capabilities, elimination of suffering, immortality, etc.—why should we *need* a new foundation? Do not *all* human beings aspire to these things? Who would prefer our troublesome and short human lives when the joys of transhuman and posthuman existence beckon? Just *what* is the problem here?

Such puzzles are what *An Inquiry into Modes of Existence* by Bruno Latour is all about.³⁷ Building a foundation for diplomacy, he identifies various modes in terms of their characteristic forms of reason. Each mode of existence holds to basic assumptions and commitments that are justified by logical arguments that are familiar to its members. As a result, insiders often skip

³⁵ Based on his Jesuit education, Fuller previously stated that "science is simply theology by technically advanced means." Fuller, *The Art of Living: Science*, 4.

³⁶ Andrée Seu, "Itching Ears: Making a 'real' Jesus to fit the present time," *World Magazine*, October 23, 2004.

³⁷ Bruno Latour, *An Inquiry into Modes of Existence*.

over the logical steps they use to justify their conclusions. Outsiders that are not familiar with these logical leaps regard such conclusions as unjustified.

A key to Latour's analysis is his concept of a *category mistake*. They occur when members of two modes of existence use the same words to describe different things. Often, participants in a dialogue are not aware that important words are being used in different, even contradictory, ways. Sooner or later, the different meanings come to the surface, and then communication breaks down.

Category mistakes make successful inter-mode communications difficult. Burdened by them, diplomacy tends toward futility, a wasteful exercise of people talking past one another. Latour's concern is that we do not have unlimited time, that threats to our existence (e.g., climate change dangers) are practically at our doorstep. Diplomacy is no longer an option; it is an *imperative*. In this sense, Latour's work has relevance to transhumanism. Its opponents—and even its advocates—perceive existential risks.

In contrast to Fuller and Lipińska, Latour takes seriously the metaphysical and ontological commitments on which folks build their lives, epistemology, and politics. *Those* foundations are at the root of Milbank's Radical Orthodoxy, Plantinga's Reformed Epistemology, and yes, the transhumanist visions of More, Bostrom, Kurzweil, Bainbridge, and Rothblatt. So Fuller and Lipińska put the epistemic cart before the ontological horse. To be clearly understood and trustworthy—to enable *their* attempts at diplomacy—they need to justify *their* ontological commitments (and denials), *their* proactionary mode of existence, in order to build trust and work toward their right-to-science epistemology and consequential political imperatives.

This *ontological imperative* has been recognized by many people in the transhumanism movement. By and large, it appears as a secular enterprise, one that holds to philosophical materialism, but as we have seen, strong religious sensibilities are emerging. Mormons, and even a few Catholics and Protestants, see transhumanism as consistent with *their* theological systems. Kurzweil and Bainbridge long for a new religion of transhumanism, presumably one that will meet the spiritual needs of all those spiritual machines that are coming our way. And finally, the *Terasem Transreligion* expresses overt spirituality in its commitment to “create God.” So as a religion, transhumanism already *has* a foundation, and a legal one at that: the *Free-Exercise Clause* of the U.S. Constitution’s First Amendment.

THE TRANSHUMANIST MODE OF EXISTENCE

As a step toward the analysis of God, creation, and sin in the Christian and transhumanist narratives, let us set aside Fuller’s Theology 2.0 and consider closely Latour’s *Modes of Existence* framework. Just what is a mode of existence, and what modes does he identify? Do other modes exist? How can they be identified? How does the identification of modes of existence open the door to inter-mode diplomacy? What does Latour mean by diplomacy? What can be expected from it?

Let us begin with these final questions about diplomacy, for they bring into focus the deep differences between Fuller and Latour, and especially the ways that they deal with questions of normativity. With these differences in mind, I will go on to recount and expand on Latour’s ontological framework. This will set up this chapter’s concluding development of the concept of God and how diplomacy between Christian and transhumanist conceptions can and should be managed.

Diplomacy

Concluding *An Inquiry into Modes of Existence*, Latour characterizes modernity as a war against nature, one in which “mindless confidence in the rapid success of a war of conquest” has been lost.³⁸ Failing to win on the “battlefield,” its belligerents must come together to negotiate peace. The online web site that accompanies and complements the book explains, the character of this diplomacy:

The present investigation is presented as a diplomatic enterprise in the sense that there is no outside arbiter - survival of the fittest, universal reason, state, law, laws of nature etc. In this case, for want of a "referee" acceptable to all, we must "retake language" and, with the aid of a minimal number of forms, organize identification and bring negotiable and non-negotiable positions into contact with each other. It is because the common world needs to be composed that we must have recourse to a diplomatic procedure.³⁹

For the purposes of this study, it is important to note that according to Latour’s model the outcome of successful diplomacy would be the “composition” of the post-war world *without* agreement on any number of things that caused or prolonged the war against nature. This agrees with how peace is understood by the United States Institute of Peace and Christianity, at least as it speaks to life before the Second Coming. So if religion and science are at war, as many claim, diplomacy might reach agreements that each might find acceptable *without* reconciling basic differences. What are the implications of this?

Actor-Network Theory, ironically held to be Latour’s trademark, is sometimes criticized for reducing STS to a *descriptive* enterprise, one that leaves the development and application of normativity to others. By comparison, Fuller is motivated by a strong commitment to

³⁸ Ibid., 484.

³⁹ Bruno Latour, *An Inquiry* web site, <http://www.modesofexistence.org/inquiry/> (accessed June 13, 2015).

normativity. He seeks to close the deal on foundational principles and values that can inspire and empower society to act. Unfortunately, this attitude is out of touch with reality. Western practices of resolving differences by force are part of what Milbank calls an “ontology of violence” that dominates in modernity.⁴⁰ On this side of the eschaton, value conflicts are pervasive and largely unresolvable. Diplomacy that goes forward in spite of this fact is essential in the human condition. For Latour, it is at the heart of normativity.

The online commentary continues:

Diplomacy's decisive advantage is that it requires the suspension of judgments about values, since he who has been dispatched has profound doubts about what it is his principals really cherish. It is for this reason precisely that there is room for negotiation. But this suspension, this reflexivity, this doubt with regard to values is not unrelated to the scholarly traditions and epistemological virtues praised by the tradition - with the massive difference, however, that this diplomacy does not assume the fact-value distinction that has so crippled epistemology, only the exploration of different attachments. A diplomat can not be separated from values.

So here is the rub: the fact-value distinction, so cherished by scientism, has no place in this diplomatic effort. Neither can people with deep-seated metaphysical commitments engage in peace talks while concealing their most cherished beliefs. Both sides must be transparent about their ontological commitments, and on that basis show that they can be trusted to make and keep diplomatic agreements.

So, if diplomacy will not reach agreements on basic ontological commitments, what *can* be expected from diplomacy? Latour answers this question via an introductory anecdote: in the context of a discussion of climate disturbances, a climate scientist, challenged to explain why he

⁴⁰ In his helpful introductory summary of Radical Orthodoxy, James K.A. Smith explains “ontological violence” as the modern understanding of “intersubjective relationships as governed by power and war.” This view is at the heart of the Radical Orthodox critique of modernity, including liberalism, capitalism, and other institutional features of modern life. In response, Radical Orthodoxy calls for “an alternative version of modernity,” one that substitutes a “counter-ontology” of peace by participation in God’s divine plan. James K.A. Smith, *Introducing Radical Orthodoxy: Mapping a Post-Secular Theology* (Grand Rapids, MI: Baker Academic, 2004), 70–71, 189–197.

should be believed, answers “If people don’t *trust the institution of science*, we’re in serious trouble.”⁴¹ The scientist’s appeal to institutional trust revealed to Latour that different *values* were at work; the flabbergasted scientist was defending scientific *objectivity*, but his interrogator wanted some basis for *trust*.⁴² For Latour, this disconnect framed a challenge: “Can I succeed in redefining objectivity through trust in a scholarly institution without leaving him [the scientist] with the sense that he has lost the value [objectivity] for which he has been fighting?”

Following Latour, my diplomatic challenge is similar: Can I redefine what is valued in Christianity and transhumanism in ways that will not give either side a sense of irretrievable loss? If so, then on the basis of what they hold dear, perhaps the two groups can proceed to work together in some limited ways.

The Process and Modes

Through his 486-page book, *An Inquiry into Modes of Existence*, Latour develops his methods in the course of identifying and analyzing 15 different modes of existence; others are considered on the accompanying web site. Following his practice, I will capitalize the key terms, identifying individual and hybrid modes in square brackets.

Given his previous work, it is unsurprising that Latour begins by analyzing a [NET]WORK mode of existence, which he applies to the subsequent study of other domains that exist, operate, and communicate through networks. As mentioned previously, CATEGORY MISTAKES are used as a tool to identify independent modes, none of which are products of NATURE, but are instead social constructions. A set of distinguishing characteristics exists for

⁴¹ Latour, *An Inquiry into Modes of Existence*, 2–3, original emphasis.

⁴² Ibid., 6–7.

each mode.⁴³ Of these, the most important is a mode's means of *VERIDICTION*. Latour explains that:

This is the crucial point in the investigation, and it is probably on this subject that the endless battle between the skeptics and the rationalists has most distracted us from a descriptive task that is, however, essential. It turns out that each mode defines, most often with astonishing precision, a mode of veridiction that has nothing to do with the epistemological definition of truth and falsity and that nevertheless warrants the qualifiers true and false.⁴⁴

In other words, apart from Cartesian standards, each mode *expresses* truth and falsity based on *internally accepted* chains of reference, its own *FELICITY* and *INFELICITY CONDITIONS*.

These conditions, which are typically obscure or misunderstood by outsiders, lead to the creation of specific modes and the institution of its unique *BEINGS*.

As an example, Latour describes a courtroom process leading to a judgment of guilt or innocence. Such a judgment represents a “legal truth,” but obviously it might not correspond with the kind of “objective truth” sought by, say, a criminal or victim. The difference between these discontinuous interpretations represents a *HIATUS* or a *pass* in Latour's topographical analogy. Each mode has this characteristic, which differentiates an object from its expression just as a map is distinct from the terrain it describes.

Further, each mode displays a unique *TRAJECTORY* consisting of one discontinuity after another.⁴⁵ Within a mode, the primary *VALUE* commitments are hidden: its practices are always found at a great distance from its theoretical base. In one way or another, many of Latour's original 15 modes, listed in Table 3, have relevance to this study. I will deal with them in greater depth in what follows.⁴⁶

⁴³ Ibid., 17.

⁴⁴ Ibid., 53–54.

⁴⁵ Ibid., 100.

⁴⁶ Ibid., 488–489; image taken from the online *An Inquiry* web site.

Table 3 – Latour's Modes of Existence

NAME	HIATUS	TRAJECTORY	FELICITY/INFELICITY CONDITIONS	BEINGS TO INSTITUTE	ALTERATION	NAME
[REP]RODUCTION	Risks of reproduction	Prolonging existents	Continue, inherit, disappear	Lines of force, lineages, societies	Explore continuities	[REP]
[MET]AMORPHOSIS	Crises, shocks	Mutations, emotions, transformations	Make (something) pass, install, protect/allenate, destroy	Influences, divinities, psyches	Explore differences	[MET]
[HAB]IT	Hesitations and adjustments	Uninterrupted courses of action	Pay attention/lose attention	Veil over prepositions	Obtain essences	[HAB]
[TEC]HNOLOGY	Obstacles, detours	Ziggzags of ingenuity and invention	Rearrange, set up, adjust/fail, destroy, imitate	Delegations, arrangements, inventions	Fold and redistribute resistances	[TEC]
[FIC]TION	Vacillation between material and form	Triple shifting: time, space, actant	Make (something) hold up, make believe/cause to fail, lose	Dispatches, figurations, forms, works of art	Multiply worlds	[FIC]
[REF]ERENCE	Distance and dissemblances of forms	Paving with inscriptions	Bring back/lose information	Constants through transformations	Reach remote entities	[REF]
[POL]ITICS	Impossibility of being represented or obeyed	Circle productive of continuity	Start over and extend/ suspend or reduce the Circle	Groups and figures of assemblies	Circumscribe and regroup	[POL]
[LAW]	Dispersal of cases and actions	Linking of cases and actions via means	Reconnect/break levels of enunciation	Safety-bearers	Ensure the continuity of actions and actors	[LAW]
[REL]IGION	Break in times	Engendering of persons	Save, bring into presence/ lose, take away	Presence-bearers	Achieve the end times	[REL]
[ATT]ACHMENT	Desires and lacks	Multiplication of goods and bads	Undertake, interest/ stop transactions	Passionate interests	Multiply goods and bads	[ATT]
[ORG]ANIZATION	Disorders	Production and following of scripts	Master scripts/lose scripts from view	Framings, organizations, empires	Change the size or extension of frames	[ORG]
[MOR]ALITY	Anxiety about means and ends	Exploration of the links between ends and means	Renew calculations/ suspend scruples	The "kingdom of ends"	Calculate the impossible optimum	[MOR]
[NET]WORK	Surprise of association	Following heterogeneous connections	Traverse domains/lose freedom of inquiry	Networks of irreductions	Extend associations	[NET]
[PRE]POSITION	Category mistakes	Detection of crossings	Give each mode its template/ crush the modes	Interpretive keys	Ensure ontological pluralism	[PRE]
[DC] DOUBLE CLICK	Horror of hiatuses	Displacement without translation	Speak literally/speak through figures and tropes	Reign of indisputable Reason	Maintain the same despite the other	[DC]

This table summarizes the state of the inquiry presented in the report.

The fifteen modes recognized up to now are listed in rows; the columns give the four canonical questions asked of each mode: by what hiatus and what trajectory are they

distinguished? (columns 1 and 2); what are their felicity and infelicity conditions? (column 3); what beings must they be prepared to institute? (column 4); finally, to what alteration is being-as-other subjected in each case? (column 5).

One might hope that the [REL]IGION mode would be most relevant to this study.⁴⁷ Unfortunately, Latour develops it as a monolithic category, one that lumps all religious views together, while reserving space for the secular. This does not leave much room for analysis of religious subgroups, and it is especially troublesome in view of Latour's recognition that "no other regime of veridiction distinguishes the true from the false, speaking *well* from speaking *badly*" in such radical terms.⁴⁸ This dissertation requires a closer examination of individual religious modes, both in Christianity and transhumanism, in keeping with the Radical Orthodoxy view that even secular categories are constructed and ultimately religious. Fortunately, in Christianity and transhumanism we are dealing with two clearly religious sensibilities. We can proceed by looking at each *as* modes of existence, or collections of them, identifying their category mistakes, and working toward grounds for diplomacy.

THE GOD OF TRANSHUMANISM

Against the modern constitutional guarantee of a "crossed-out God," the recognition of religious aspects of technology—transhumanism in particular—is growing after a long hiatus. Before the scientific revolution, Francis Bacon (1561–1626) linked Christian practice to artificial improvements to human life, but with the Enlightenment, such connections became muted. The modern world lost its enchantment, along with any transcendent meaning that would guard against human exploitation. Then, as the intractable ills of modernity came to light, observers looked for solutions of one sort or another, ways to re-enchant the world. From Max Weber and Émile Durkheim onward, sociologists have paid considerable attention to the evolving relationships between religion and society.

⁴⁷ Ibid., "Welcoming the Beings Sensitive to the World," 295–325.

⁴⁸ Ibid., 311.

What began with secularization theory has turned to sociological studies of *increasing* religious pluralism. At the same time, technological solutions have been heralded by those involved in leading religious movements. For example, early in their development radio and aviation were recognized as tools for spreading of the gospel. Closer to this study, going back to Robert C.W. Ettinger's original 1964 proposal, cryonics has been presented as a technological supplement to religious practice.⁴⁹ In turn, religious justifications for human technological enhancements have been offered, such as Fuller's suggestions of Priestley and Teilhard. The trend toward serious consideration of religion in transhumanism continues, most recently with the 2015 publication of *Religion and Transhumanism: The Unknown Future of Human Enhancement*.⁵⁰ Its 24 essays cover techno-theological subjects in anthropology, soteriology, eschatology, ethics, and more.

Few studies have seriously considered the place of God in either the promotion or criticism of transhumanism. What is its technological god? What does god mean to transhumanism? How do various Christian conceptions of God affect its responses to transhumanism? In the following, we shall find a variety of answers to these questions. In Latour's terms, God is at the center of a category mistake that reveals a collection of transhumanist modes of existence. Using Latour's notation, I will designate this mode of existence as [H+].⁵¹

⁴⁹ Robert C.W. Ettinger, *The Prospect of Immortality*.

⁵⁰ Calvin Mercer and Tracy J. Trothen, eds., *Religion and Transhumanism: The Unknown Future of Human Enhancement* (Santa Barbara, CA: Praeger, 2015).

⁵¹ "H+" is widely used as an abbreviation for transhumanism, verbalized as "humanity plus." H+ is also the name of the transhumanist magazine and web site: <http://hplusmagazine.com/> (accessed July 1, 2016).

The Technological Divine

Our search for the transhumanist god begins with David E. Nye's study of the *American Technological Sublime*.⁵² It will continue with a close examination of the *Truths of Terasem*, the best available expression of doctrines held by religious transhumanism. This discussion will lead back to Latour and his studies of the puzzles of modernity. Through this process, the category mistakes that mark alternative modes of existence will be identified and analyzed.

The Sublime

The spiritual quality of human artifacts is central to Nye's study of technology in America. It resonates with many of the religious elements of Durkheim's studies: social ideals and solidarity, totems and rituals, ongoing competitions between traditional and emerging ideals. Throughout, Nye applies Durkheim's argument that in "'great movements of enthusiasm' the feelings expressed 'do not originate in any one of the particular individual consciousnesses' but 'come to each one of us from without and can carry us away in spite of ourselves.'"⁵³

Nye lumps this *external* spiritual force under the term "sublime," which he then attributes to an *internal* characteristic of human beings:

The history of the sublime from antiquity shows, if nothing else, that although it refers to an immutable capacity of human psychology for astonishment, both the objects that arouse this feeling and their interpretations are socially constructed.⁵⁴

"If nothing else" Nye's description delimits his subject to what can be understood in human terms. He goes on to develop a history of the sublime using citations ranging from the first-century to John Calvin and the dawn of the modern era. In the process, he develops both spiritual

⁵² David E. Nye, *American Technological Sublime* (Cambridge, MA: The MIT Press, 1994).

⁵³ *Ibid.*, 75.

⁵⁴ *Ibid.*, 3.

and material conceptions of the sublime. For example, Nye mentions *alchemy* as a quest for “hidden knowledge,” a result of practitioners’ belief “that material transformations worked upon the spirit.”⁵⁵ Indeed, this was an element of the work of Christians at the dawn of the scientific revolution, such as Robert Boyle and Isaac Newton, who looked for similar connections between material and spiritual elements in experimental science.⁵⁶ They often tried to explain sublime theological concepts in terms of physical phenomena, as demonstrated by the explanatory name of one Boyle treatise: *Some Considerations about the Reconcilableness of Reason and Religion, with a Discourse about the Possibility of the Resurrection*.⁵⁷ For this study, it is important to note how material connections with spirituality tend to bridge the gap between God and creation, thereby demonstrating a form of univocal predication.

Nye—together with Leo Marx, his mentor—notes the tendency of science to diminish our appreciation of the sublime. Cataloguing American conceptions of the sublime, from landscape features to the atomic bomb, Nye traces a shift in its quality: from a reflection of God’s greatness to forebodings about where technology is taking society. His concluding sentence, intended to criticize commercialization of the sublime, anticipates the transhumanist vision of computerized versions of reality: “The epiphany has been reduced to a rush of simulations, in an escape from the very work, rationality, and domination that once were embodied in the American technological sublime.”⁵⁸ It seems that Nye does not have a vision for a *simulated sublime*.

⁵⁵ Ibid., 4.

⁵⁶ Michael Hunter, *Boyle: Between God and Science* (2009; repr. New Haven: Yale University Press, 2010).

⁵⁷ Robert Boyle, *Some Considerations about the Reconcilableness of Reason and Religion, with a Discourse about the Possibility of the Resurrection*, Internet Archive, <https://archive.org/details/reconcilableness00boylooft> (accessed July 1, 2016).

⁵⁸ Nye, *American Technological Sublime*, 296.

Is Nye's conception of the sublime too old fashioned? It seems so. Ray Kurzweil's ruminations on a technological "God" are driven by his appreciation of technoscientific sublimity. Without a doubt, there *is* grandeur in all that science has revealed about the cosmos, ranging from the subatomic to as far as we can see in space. It even extends to infinity in mathematical conceptions of a multiverse and is projected into the future, taking shape in "not-yet God" that many transhumanists anticipate. What is the nature of this futuristic deity?

The Simulated

When Nye expressed disdain for simulations, his primary target was the adult playground of the Las Vegas Strip, but when transhumanists discuss simulations they extol a range of experiences, from virtual and augmented reality to beings and worlds created from scratch by and within computer systems. Consider two examples of their simulated transcendence:

First, William Sims Bainbridge advocates virtual worlds as a near-term means of exploring posthuman existence: "Enhancement of human abilities can be accomplished in several ways, and need not require modification of the person's biological body."⁵⁹ Based upon "thousands of hours exploring virtual worlds," he lists "five main ways they can be real for transhumanists."⁶⁰ Blurring the simulated-real dichotomy, Bainbridge points to virtual worlds' significance in terms of:

- *Subjectivity*: providing personal benefits, such as pleasure found in games.
- *Consequentiality*: accomplishing what would be difficult or impossible in bodily form.
- *Prototype*: facilitating creativity in design and in choosing personal enhancements.
- *Education*: giving first-hand experience of simulated activities, such as serious games.

⁵⁹ William Sims Bainbridge, "Transavatars," in More and Vita-More, *The Transhumanist Reader*, 91–99; quote 91.

⁶⁰ *Ibid.*, 92.

- *Transference*: taking preliminary steps toward mind replication or uploading.

In each of these areas, simulations can allow participants to transcend physical limitations, many times with *real* benefits. My engineering experience confirms this view. For example, I once managed the development and application of virtual reality systems used to train maintenance personnel in safe and effective spray painting and sand blasting techniques.⁶¹ The meaning and significance of some simulation benefits will be explored more fully in following chapters. It is important to note that simulations are allowing people to experience transhuman and posthuman existence *now*.⁶²

The analysis Bainbridge offers resonates with the experiences of many technologists. Computational models of many systems are central elements of research in many fields, from engineering to climate science. Their value usually stems from their correspondence to reality. The flight characteristics of an aircraft, for example, can be modeled in a simulator used to train pilots. Indeed, today's simulators are a very down-to-earth technology used for many purposes.

In contrast, transhumanism's *vision* of computer-simulated worlds is otherworldly, extending even to touch on the nature of God. This is the focus of a second example of the virtual sublime, for Nick Bostrom's simulation argument demonstrates the shift in thinking about simulations, and a *sublime* one at that. The possibility that computer technology could one day simulate an alternative universe (or already has) is awe inspiring. So too are the superior being(s) that initiated the simulation. Surely, such a being would be indistinguishable from God to the simulation inhabitants.

⁶¹ Spray Technique Analysis for Defense (STAR4D), Iowa Waste Reduction Center, University of Northern Iowa, <http://star4d.org/> (accessed July 1, 2016).

⁶² Anyone with Internet access can, for example, build their own virtual space and visit others created in Second Life, <http://secondlife.com/whatis/> (accessed July 1, 2016).

On the way to the creation of such simulations (and gods), transhumanism aspires to the creation of simulated persons. This would include the transfer of minds from biologically living brains, the reanimation of those preserved by cryonics, the generation of avatars from “mindfiles,” and the production of new persons from scratch.⁶³ Transhumanists would afford such beings legal rights, as demonstrated by Terasem’s “Annual Colloquium on the “Law of Futuristic Persons.”⁶⁴ Participant attitudes toward computer-generated experiences are demonstrated by the fact that the colloquium itself was held in a simulated world: Terasem Island, Second Life. This embrace of simulated experiences, and even persons, as real is echoed by Kurzweil’s project to resurrect his father as a computer avatar, a cybernetic version of Boyle’s attempt to reconcile Christian conceptions of resurrection in terms of chemistry.

The *Truths of Terasem* embrace the simulation paradigm for expanding the scope of posthuman life. It identifies the emulation of the Milky Way as a goal for the year 2300; emulation of the whole universe is its goal for 2500.⁶⁵ Cybernetic life is a tenet of Terasem faith, which it describes paradoxically as “inherently biological because it is an extrapolation of flesh experience.”⁶⁶ Such lives would lead to cybernetic offspring whose communities would inevitably and irresistibly expand through the physical universe.⁶⁷ Even the laws of physics would be subject to modification by Terasem, a goal it sets for the year 2600.⁶⁸ Ultimately, Terasem communities, hybrids of cybernetic and physical beings, would attain what are held to be the defining attributes of God: “omniscience, omnipotence and omnificence.”⁶⁹ The absence

⁶³ Martine Rothblatt, “What Are Mindfiles?” Humanity Plus, <http://transhumanity.net/what-are-mindfiles/> (accessed July 1, 2016).

⁶⁴ Terasem, “Annual Colloquium on the Law of Futuristic Persons,” held 2003–2013; recent colloquia have been held on Terasem Island, Second Life, <http://www.terasemcentral.org/archive.html#> (accessed July 1, 2016).

⁶⁵ Terasem Movement Inc., *The Truths of Terasem*, Sections 4.4.3 and 4.4.5, 37.

⁶⁶ *Ibid.*, Section 1.9.3, 11.

⁶⁷ *Ibid.*, Section 1.10, 11–12.

⁶⁸ *Ibid.*, Section 4.4.6, 37.

⁶⁹ *Ibid.*, Section 2.2, 14.

of these qualities, along with “Earth’s innocent suffering millions,” is held to prove that God does not exist at present.⁷⁰ This assertion establishes the boundary of the Terasem transreligion: only those that deny the present existence of God may join, so serious believers in the eternal God of the Bible need not apply.

This blurring of physical and virtual, the naturally occurring and techno-socially constructed, recalls Latour’s comparisons between the idols of moderns and primitives in his 2010 book, *On the Modern Cult of the Factish Gods*.⁷¹ It foreshadows *An Inquiry into Modes of Existence* in explaining the differences in how veridiction varies from one people to another. It even has parallels in the Bible, such as when Paul uses a Greek saying to describe God: “In him we live and move and have our being.”⁷² The upshot is that conceptions of the real, especially with respect to God, mark a major category mistake in dialogue between transhumanist and Christian worldviews.

The Transcendent

The *Truths of Terasem*, Section 5, outlines the nature of transhumanist transcendence: life as a quest for “diversity, unity, and joyful immortality.”⁷³ Among the anticipated results of this quest are:

- 5.1.1: “Maximization of the ratio of joy and happiness to mathematized pain and sadness.”

Apparently, even in a transcendent state, pain and sadness will persist in some measurable form, perhaps a never-ending hunger for greater forms of existence.

⁷⁰ Ibid.

⁷¹ Bruno Latour, *On the Modern Cult of the Factish Gods*.

⁷² Acts 17:28.

⁷³ Terasem Movement Inc., *Truths of Terasem*, “Why is there Terasem?” Section 5, 44.

- 5.2.2–5.2.3: “Multiversal omnipresence” that will “vanquish evil” by the expansion of Terasem’s collective consciousness. Evil is not defined, and the persistence of pain and sadness in the absence of evil is not explained.
- 5.2.5: “Cyber-resurrection of all good souls.” It is not clear how Terasem defines “the good,” but some system of justice would be required to determine who was worthy of resurrection. Unworthy individuals would apparently be annihilated.
- 5.4: “Transcendental, transgendered, transcient, transificent, transpotent, and transpresent” life is implied by Terasem. What some of these terms mean and why they are desirable is not specified.
- 5.8: Continued monotheistic religious practice, including participation in “the body of God-in-the-making, the collective consciousness of Terasem.” Again, it is not clear why monotheism is preferable. Perhaps this foreshadows Bostrom’s notion that multiple superintelligence systems would inevitably compete for resources until only one remained.⁷⁴

As easy as it might be to dismiss these “Truths” as techno-religious mumbo-jumbo, the fact is that they capture the collective aspirations of transhumanists. How can this be?

Latour associates the [REL]IGION mode of existence with the careful delineation of “the true from the false, speaking *well* from speaking *badly*.” Although this practice may still apply to traditional religions, it seems to be largely abandoned in postmodern spirituality. Instead, standards of belief and morality that have existed for millennia are rejected. Even within Christianity, what Niebuhr described in terms of the *Christ of Culture* has adopted this perspective. Theologically open, cultural Christians tend to deny the necessity and morality of

⁷⁴ Bostrom, “Chapter Multipolar scenarios,” in *Superintelligence*, 159–184.

asserting religious doctrines, overturning many centuries of religious beliefs in the process. This phenomenon appears to fulfill theologian Harvey Cox's 2009 statement that:

As Christianity moves awkwardly but irreversibly into a new phase in its history, those who are pushing into this frontier often look to the earliest period, the Age of Faith, rather than the intervening one, the Age of Belief, for inspiration and guidance. This should not be surprising. There are striking similarities between the first and emerging third age. Creeds did not exist then; they are fading now. Hierarchies had not yet appeared then; they are wobbling today. Faith as a way of life or a guiding compass has once again begun, as it did then, to identity what it means to be Christian. The experience of the divine is displacing theories *about* it.⁷⁵

Cox is not alone in expressing this view, which looks to a new reformation in Christianity, one that would eclipse not only the Catholic Church, but its Protestant alternatives. It would, in essence, return to the rejection of dogma by Erasmus, Luther's target in *The Bondage of the Will*.⁷⁶

Applying Latour's tools to identify modes of existence, today's emergent forms of religion appear to be hybrids with other modes. Religious experience is no longer confined to a *spiritual* sense of God. It also involves syncretism with other ways of experiencing life. This includes the transhumanist imagination of a technoscience "God-in-the-making." It demonstrates this pattern in Terasem, where the [H+] mode is a hybrid of Latour's [REL]IGION and [TECH]NOLOGY modes.

Conclusion

Transhumanism, especially as it is expressed in religious terms, represents a new mode of existence: [H+]. Its presence is indicated by its (1) blurring of physical and virtual realities, (2)

⁷⁵ Harvey Cox, *The Future of Faith* (New York: HarperOne, 2009), 19.

⁷⁶ Martin Luther, *The Bondage of the Will*, trans. James I. Packer and O.R. Johnson (1525: repr. Grand Rapids, MI: Fleming H. Revell, 1957).

redefinition of God and transcendence in (pseudo-)scientific terms, and (3) rejection of dogmatic truths in favor of perpetual scientific labor, never-ending progress, and vague spirituality. Along the way, it leaves multiple category mistakes in its wake with respect to traditional religious sensibilities. In order for intermodal dialogue and diplomacy to take place, it is necessary to highlight these areas of potential misunderstanding.

Following Cox, many *Christ Of Culture* believers and denominations can be expected to embrace these views, becoming a kind of hybrid mode of existence: [REL·H+]. Even Terasem's denial of the existence of God would not pose an insurmountable obstacle to those whose experiential interests eclipse their beliefs. However, other Christians are likely to have serious reservations about the [H+] mode of existence; for them to coexist, diplomacy is necessary to keep the peace. Let us now consider what might motivate such engagement, as well as the ways in which it might unfold.

GODLY DIPLOMACY?

If I have been successful describing the [H+] mode of existence, its religious elements will be clear. Its forward-looking theological commitment is clear: the creation of a technological god. With this as its goal, what use would transhumanism have for the Christian God? For Christian theology? What could Fuller's suggestions—Priestley and Teilhard—add to its development? Are they not backward-looking? Indeed, is not Christianity, which bases its theology on 2,000-year-old historic claims, fundamentally opposed to transhumanism's ethos? After all, its leaders are well on the way to developing their own theology.

Conversely, what use does Christianity have for transhumanism? It denies the existence of the God of the Bible, while looking to create one in the future. Is this not a *prima facie* case of

the sin of idolatry? A demonstration that technological prowess leads to temptations that must be resisted? Surely, as some Christians have suggested, transhumanism mirrors the climax of C.S. Lewis' space trilogy, the twisted science of *That Hideous Strength*.⁷⁷ Nevertheless, I believe that Christians and transhumanists have strong reasons why dialogue and diplomacy is necessary for both groups.

Beginning with Christianity, there are multiple reasons for engagement with the [H+] mode of existence, as there are with other religions. Evangelism is a basic mission of the Church, one based in the *Great Commission* of Christ.⁷⁸ Christians may not write off any people.

Further, there are social and legal reasons why religious groups should logically band together. Theist allegiances to God and the matters of conscience that come from them lend support to the concept of human rights, including freedom of religion. These rights are at the center of political and legal struggles that face all people of faith, even those whose faith is ultimately in science, or at least a dream of what science could eventually accomplish. Beyond these generalities, are there specific reasons why Christians should connect with transhumanism? Yes, there are.

The God of the Bible bears a striking similarity to transhumanism's "God in the making." Or perhaps it is the other way around? Either way, many elements of transhumanist thought relate to biblical assertions about God, at least superficially. In keeping with Latour's observation about the precision with which religions divide truth from falsity, there is much that can be learned by Christians by considering similar claims. The same is true for transhumanism. Although in its infancy, religious transhumanism has long-term goals. Two thousand years of Christian thought about God has affected transhumanism, and it can also shed light on its future.

⁷⁷ C.S. Lewis, *That Hideous Strength* (1946: repr. New York: MacMillan, 1965).

⁷⁸ Matt. 28:16–20.

Let us now go deeper into the ontological dimensions of God as a step toward practical diplomacy. First, consider the defining attributes of Terasem's god compared with how they are understood in Christian theology.

Omniscience

Claiming to be based in science, it is not surprising that omniscience is the first divine attribute of transhumanism's deity. Omniscience is the logical end of science, at least for those that hold to the myth of scientism. Presumably, even mythic science requires some sort of physical evidence, either experimental or practical (i.e., demonstrable in technologies), to validate knowledge claims. However, as science pushes back the frontiers of what is measureable, pressures are building to accept non-observational phenomena as scientific, such as the multiverse, which is a mathematical possibility, but not one that may be detectable from our universe.⁷⁹ In terms of transhumanism, relaxed standards of proof seem to apply to the mysteries of human consciousness. Rothblatt admits that proving the consciousness of an uploaded mind would be "problematic because consciousness is by definition not very measurable."⁸⁰ For this reason, she looks to practical measures of consciousness, such as perceptions of observers: psychologists, computer scientists, neuroscientists, and the man in the street. This dissatisfying solution is captured in her rhetorical question: "Is consciousness like pornography?"⁸¹ If consciousness is entirely subjective, is there any way for society to distinguish its citizens?

⁷⁹ For a discussion of moves toward non-evidential forms of science, see Jim Baggott and Daniel Cossins, "Beyond experiment: Why the scientific method may be old hat," *New Scientist*, February 24, 2016, <https://www.newscientist.com/article/2078468-beyond-experiment-why-the-scientific-method-may-be-old-hat/> (accessed October 29, 2016).

⁸⁰ Martine Rothblatt, "Mind is Deeper Than Matter: Transgenderism, Transhumanism, and the Freedom of Form," in More and Vita-More, *The Transhumanist Reader*, 317–326; quote 321.

⁸¹ *Ibid.*, 321–322.

I presume that practical measures are only satisfactory to Rothblatt in the short-term. Transhumanists have great faith in their *science of the gaps*. Eventually, the vast superintelligent minds of the transhumanist dream should comprehend what we cannot with our biological brains: the deepest thoughts of the human mind. Such an omniscient cybernetic mind might approach the computational power of Bostrom's simulation argument. So although Terasem denies the existence of an omniscient God, it still adopts computational emulation goals, an indication that it regards Bostrom's argument as plausible. What then of the possibility that we are living in a simulation now? Would not the being(s) running the simulation be omniscient? In any event, transhumanism's practical omniscience would approach the ideal of the biblical God, knowing all things.

Omnipotence

Beyond practical omniscience are all sorts of *applications* of godlike knowledge, including even the ability to change the laws of physics. Spatially, this would include expansion through the galaxy and universe—and beyond into the multiverse if that is possible! Terasem foresees expansion through the hypothetical multiverse. Surely omnipresence is implied by omniscience and omnipotence. Temporally, the assumed plasticity of physical laws would allow for faster-than-light and time travel. According to physicist, computer scientist, and *Turing Church* founder Giulio Prisco, “Gods will exist in the future, and they may be able to affect their past—our present—by means of spacetime engineering.”⁸²

⁸² Giulio Prisco, “Yes, I Am a Believer,” Institute for Ethics and Emerging Technologies, posted: May 23, 2012, <http://ieet.org/index.php/IEET/more/5821>; also see Giulio Prisco “Transhumanist religion 2.0,” Kurzweil: Accelerating Intelligence, July 13, 2012, <http://www.kurzweilai.net/transhumanist-religion-2-0> (both accessed July 1, 2016).

I shall consider the implications of this kind of omnipotence later. For now, consider how it compares with divine power in the Bible. Its accounts of miracles, prophecies, predestination, and other divine prerogatives seem like child's play, once one accepts as plausible the omnipotence of transhumanism.

Omnificence

Less known than other attributes, omnificence refers to God's power to create. If even the laws of physics can be tweaked by an omniscient and omnipotent transhumanist god, then it follows that unlimited creative power are also available. This power encompasses the creation of new beings by either the enhancement of preexistent life forms (e.g., transforming humans to posthumans) or creation of life from scratch. Indeed, even the *ex nihilo* creation of the "heavens and the earth" of Genesis 1:1 could be replicated.

Even more radically, perhaps the Genesis account *is* the act of the future god? Nothing in the transhumanist vision precludes this possibility. Indeed, the concept of a time-travelling omniscience and omnipotence, suggests conceptions of the biblical God as existing apart from creation, of living outside of the constraints of time and space.

Other Attributes

What other divine qualities are presented in the biblical account? Consider how the WCF describes God, an interpretive syntheses of many Bible verses that most Christian denominations would accept without amendment:

There is but one only, living, and true God, who is infinite in being and perfection, a most pure spirit, invisible, without body parts, or passions; immutable, immense, eternal, incomprehensible, almighty, most wise, most holy, most free, most absolute; working

all things according to the counsel of his own immutable and most righteous will, for his own glory; most loving, gracious, merciful, long-suffering, abundant in goodness and truth, forgiving iniquity, transgression, and sin; the rewarder of them that diligently seek him; and withal, most just, and terrible in his judgments, hating all sin, and who will by no means clear the guilty.⁸³

Clearly, there are differences between this statement and the transhumanist account. Still, many attributes cited in this WCF section and others could be attributed to the transhumanist god in modified form. Inconsistencies might be resolved by taking a “poetic” interpretation of the Bible passages that underlie the WCF. For example, the *incomprehensible* nature of God might be a description of human capabilities without technological enhancements. Other creative ways to explain away differences are easily imagined.

More interesting are attributes that are absent or only hinted at in the transhumanist god. Divine justice, God’s refusal to “clear the guilty,” falls into this category. However, even here we find some sense of justice in the *Truths of Terasem*, 5.2.5, which limits “cyber-resurrection” to “all *good* souls,” emphasis added. We shall closely consider transhumanist conceptions of justice in Chapter 5.

Of the Holy Trinity and Glorification of the Saints

Terasem’s emphasis on communitarian participation in its god also has parallels in Christianity. The Holy Trinity—God as Father, Son, and Holy Spirit—represents a unity of persons in *one* God. Through the Holy Spirit, Christians are enrolled in God’s work on earth and in heaven, they are to be glorified, given new immortal bodies, and admitted into direct fellowship with God. This hierarchy of a triune God and His creatures is absent in the

⁸³ WCF 2:1.

transhumanist concept, which presents itself as an egalitarian union of persons. Still, classes of beings are present in transhumanist eschatology, important ones that we shall consider later.

CONCLUSION

Despite differences, strong parallels exist between the Christian and transhumanist doctrines of God. In the near term, a technological god would surely fall short of the utterly transcendent God of the Bible. It could only be, in the term used by Radical Orthodoxy, a *parody* of what Christianity offers. What matters to this study is that the technoscientific musings of transhumanists have produced a theological vision that is held to be reasonable. This vision can be interpreted as a materialist explanation of some forms of Christian theology with only minor inconsistencies. By placing transhumanism and Christianity on an equal playing field, each side should be enabled to approach the other with respect and understanding, prerequisites for diplomacy.

Beyond their doctrinal commitments, transhumanists and Christians should be able to agree that their beliefs and hopes require faith. Although recognized in Christianity as a cardinal virtue, its necessity in technoscience is often minimized. Nevertheless, to achieve technological transcendence, the universe must possess qualities that make it possible. I hold that nothing known about the universe or Christianity precludes transhumanism. Conversely, evolution does not guarantee transhumanism's prerequisites. Mary Midgley's colorful words bear on this matter:

On the one hand, because science has increased technical possibilities staggeringly in the last two centuries, eminent persons have again and again made asses of themselves by denying the possibility of things which were subsequently done. But, on the other hand, science itself commits us to a belief in natural laws which are independent of the human will and which have not been passed for our benefit. It gives us no sort of guarantee that the

world is so made as to ensure that everything we want can be done.⁸⁴

So here, about halfway through this study, we reach the diplomatic Rubicon.

Transhumanists and Christians have similar conceptions of God, at least on the surface. Even so, their radically different conceptions of God lead to mutual misunderstanding and distrust. Still, it seems that there are reasons and means for these dissimilar, yet complementary, worldviews to recognize one another, understand their respective perspectives and means of veridiction, and work toward practical goals and results through diplomacy.

The following chapters build on what transhumanists and Christians known about God to consider how objectivity and trust can be restored and applied in their interactions with each other, and with the society in which they both exist. Chapter 4 looks at the nascent Christian Transhumanism movement, and Chapter 5 examines the significance of Christian theology to transhumanism's concerns about superintelligence.

⁸⁴ Mary Midgley, *Evolution as Religion: Strange hopes and stranger fears* (London: Routledge, 1985), 43.

CHAPTER 4: DIPLOMATIC INVENTIONS

Based upon their similar conceptions of the divine attributes, as developed in Chapter 3, it seems that Christians and transhumanists should be capable of negotiating agreements on practical matters within their respective non-negotiable limits. Each of the many factions in transhumanism and Christianity will see these limits differently. As a result, success in crafting a transhumanism myth that is acceptable to all parties would constitute an artful exercise of one of the divine attributes: creativity.

In this chapter, I describe contemporary Christian engagement with transhumanism, which has led to the formal establishment of a *Christian Transhumanist Association*. Motivated by a desire to elevate human culture—following the *Christ the Transformer of Culture* pattern—these nascent efforts tend to minimize Christian theological commitments. I argue that this is a strategic mistake, a dilution of the power of the gospel and a step toward an ineffective *Christ Of Culture* position. In fact, taking a firm theological stance will facilitate diplomacy with transhumanism. I develop this alternative strategy in Chapter 5: Christian thought, based on orthodox biblical hermeneutics, offers insights into many of the critical challenges of transhumanism.

I do *not* develop a corresponding negotiating strategy for transhumanism because of its current attitude of self-sufficiency. Although leading transhumanists recognize, to varying degrees, technical and spiritual opportunities and challenges in their project, until they encounter problems in need of theological solutions, the transhumanism movement is unlikely to see any need for diplomacy with Christianity.

TRANSHUMANISM COMES TO THE CHURCH

Today's transhumanist movement is not very old, and the Church has been typically slow in recognizing its existence and responding. It seems that few Christian theologians are aware of transhumanism at all, and even fewer have commented on it. Some Christians may even question whether transhumanism has *any* relevance to the Church. Even so, in recent years a number of Christian perspectives on transhumanism have developed, mostly among academics.¹ At most, it is a back-burner matter for most denominations as well as individual congregations and members, but this could change quickly. Given the significance of transhumanism to the future, in either good or bad terms, the Church would be wise to think through its position with respect to transhumanism in advance of events.

What situations might elevate the significance of transhumanism to the Church? What might result? As follows, there are several ways in which the Church might encounter transhumanism in direct and provocative ways. In turn, there are multiple ways that the Church might react to such encounters. Let us consider a few possibilities, looking first to ways in which Christians might embrace transhumanism and its component technosciences.

Cryonics In Lieu Of Christian Burial

The death and cryopreservation of a church member would immediately raise questions with their pastor and fellow members. Many would be unfamiliar with cryonics or, more generally, about the place of technology in Christian soteriology. It would also raise questions about the dearly departed: Are they really dead? Where is their soul? Did the person violate the scriptures in some way?

¹ For example, Cole-Turner, *Transhumanism and Transcendence*.

In the absence of clear biblical instructions to the contrary, most Christians would be reluctant to quell hopes for reanimation. After all, Christianity teaches that “Love bears all things, believes all things, *hopes* all things, endures all things.”² As a result, even *one* case of cryonics in a church community would encourage hope in technology as, at least, a complement of hope in God’s resurrection of the dead. Under such circumstances, reservations about the role of technology in the Christian life would tend to be minimized. Hence, Church attitudes would be subject more to emotions than thought-through biblical exegesis. Even so, history suggests that transhumanist hopes in the Church would be tentative; a final assessment of the morality of cryonics would have to wait for the results of an attempted reanimation.

The Alcor web site speaks to this possibility directly. It presents several arguments, based nominally on Christian belief and practice, to put cryonics services in a favorable light. It even quotes from a 1965 sermon on life extension at St. John's Evangelical Lutheran Church of Springfield, OH.³ Other discussions of cryonics and religion are available online in the archives of CryoNet, a discontinued Internet mailing list.⁴ A 1994 discussion of the theological status of its “patients” is instructive. Asked for a Roman Catholic view of cryonics, the Alcor respondent compared cryopreservation to frozen human embryos, pointing out that only *after* the viability of frozen embryos was demonstrated, the Catholic Church determined they had human souls. Based on this history, he argued that if it can be shown that “cryonics works, the Catholic Church will take the position that these people [i.e., cryopreserved Alcor patients] are alive and must be

² 1 Corinthians 13:7, emphasis added.

³ Alcor, “Christianity and Cryonics: Questions and Answers,” and especially “Has any minister given a sermon about the morality of cryonics?” <http://www.alcor.org/Library/html/christianityandcryonics.html> (accessed July 1, 2016).

⁴ CryoNet Internet mailing list, inactive since March 17, 2011, <http://www.cryonet.org/> (accessed July 1, 2016).

repaired. It does not necessarily follow, however, that the Church will be in favor of people choosing cryonics.”⁵

Another path toward Church interaction arises from the processes used in cryonics. Specifically, cryonics advocates argue for assisted-suicide laws that are strongly opposed by many Christians. What accounts for this ethical conflict? Cryonics bases hopes for patient reanimation on how well fine brain structures are preserved. High-quality preservation is critical to what Bainbridge described as the neurostructural approach to brain replication. Brain structures can be destroyed by either natural decay or by faults in how brains are cooled. Water, which would expand and damage structures on freezing, must be substantially removed before brains are cooled below freezing. While moisture levels are reduced, brain tissues are subject to decay, so time is of the essence, but cryonics procedures cannot begin until patients are declared legally dead. Assisted-suicide laws might allow for improved preservation procedures, but they are also likely to bring cryonics and the Church into conflict.

In sum, cryonics is a way that transhumanist hopes and practices could quietly make their way into the Church, raising the visibility of life-extension by cryonics and other means, along with a number of theological issues. It is also a potential flash point for conflict between transhumanism and the Church.

Christian Virtual Reality

Legally, cryonics represents a new twist on end-of-life decision making, which often involves pastors and other church leaders. As medical technology advances, such decisions are likely to become even more complex, with economic, quality of life, human dignity, and other

⁵ Steve Bridge, “Cryonics and Catholicism,” CryoNet, February 2, 1994, <http://www.cryonet.org/cgi-bin/dsp.cgi?msg=2583> (accessed July 1, 2016).

factors involved. Many other developing technologies require *nature-of-life* decisions. While Christians are generally supportive of interventions to save or enrich lives, what if a technology changes the experience of life itself? Virtual reality systems that seek to augment or even replace physical existence represent one example.

It might seem that Christians and others that place a high value on the material world would (or should) reject attempts to *escape* from reality on a continuing basis. In fact, there are reasonable arguments for the opposite path. Currently, many people that suffer from one handicap or another, either physical, mental, or social, participate in virtual activities in Second Life.⁶ Others become so involved in online activities (e.g., gaming) that they forsake face-to-face fellowship. To reach such people, it will be necessary to go where they “live.” Indeed, for some Christians, “living” online can be seen in the same light as a mission trip to a foreign country: an imperative justified by the Great Commission.

Just as the Church has embraced printing, radio, and television as an evangelistic tool, the virtual world has not escaped the attention of Christians. Many churches post sermons online for those that cannot attend services due to travel or health problems.⁷ Some churches are considering a step farther: the use of virtual reality to reach out to homebound members.⁸ There is even hope that neuroscience will open lines of communication with people in what were thought to be vegetative states. Perhaps virtual reality could allow such people to experience life again, even without restoration of “normal” physical capabilities. Developing such means would be of great interest to Christians, with their deep commitments to serving the least of God’s creatures.

⁶ At present, there are at least 25 support groups. Second Life Wiki, “Support Groups in Second Life,” http://wiki.secondlife.com/wiki/Support_Groups_in_Second_Life (accessed July 1, 2016).

⁷ Sermon Audio, <http://www.sermonaudio.com/main.asp> (accessed July 1, 2016).

⁸ Virtual reality is the subject of many posts on the Christopher Benek Blog: <http://www.christopherbenek.com/> (accessed July 1, 2016).

Computer-Assisted Churches

Technology is a central element in many contemporary churches. Just as architecture played a role in medieval Christianity, calling congregations to look up to heaven, today's churches use sound and light systems to inspire (entertain?) their congregations. Even in small churches, computer- and Internet-based systems organize and facilitate church life. Churches and para-church organizations maintain Facebook pages to advertise events and broadcast member news or prayer requests via email distribution lists. They also distribute sermons and conduct evangelism online. Technology is also an important tool in individual members' spiritual lives. Many Christians use computer software for Bible study.⁹ Many Christian leaders post their works (i.e., blogs or books) online.¹⁰ What is in the offing?

In the near-term, face-recognition systems developed for security purposes could be used to track visitors for the purpose of identifying and cultivating relationships with church visitors.¹¹ Today's Bible software is likely to grow in sophistication based on research in applying computers to the interpretation of the many manuscripts that lie behind a host of Bible translations. Indeed, it seems only a matter of time before AI systems will be used for many church purposes, from the replacement of staff (thereby reducing temptations to sexual misbehavior) to synthesizing biblical arguments on demand for the pastor's next sermon.

For the purposes of this study, consider a futuristic church application: the "resurrection" of outstanding Christians via Bainbridge's behavioral approach to brain replication. Many

⁹ For example, *BibleWorks* provides a suite of tools to use in Biblical exegesis and research, including the original Greek and Hebrew texts, historic translations (e.g., the Septuagint) and translations into modern languages: English, German, Spanish, Chinese, Korean, and others. <http://www.bibleworks.com/> (accessed July 1, 2016).

¹⁰ For example, pdf versions of all of John Piper's many books are available for free online. See *Desiring God*, <http://www.desiringgod.org/books> (accessed July 1, 2016). Many works by John Frame and Vern Poythress are available for free at their web site, <http://www.frame-poythress.org/ebooks/> (accessed July 1, 2016).

¹¹ Valerie Tarico, "Churches Get Creepy Facial Recognition Software to Track Members," *Institute for Ethics and Emerging Technologies*, June 24, 2015, <http://ieet.org/index.php/IEET/print/10570> (accessed July 1, 2016).

Christian theologians were prolific writers, and others have written detailed biographies of their lives. What if an advanced AI could “reanimate” such a figure? Such an effort could be framed as a “sanctified” version of Ray Kurzweil’s project of reanimating his father based on the documents he left behind. How would a book written by an AI-generated version of Augustine, Thomas Aquinas, John Calvin, John Wesley, or Karl Barth fare among their theological successors? Would avatars of these men, with supercomputer recreations of their “minds” on the back end, be allowed to preach? Participate in leadership meetings? Counsel believers about their troubles?

Moving Forward

Can any general conclusions be drawn from these examples? I think it clear that although the Church may oppose many technological enhancements, if they are shown to be feasible and popular, it is likely that creative ways will be found to accommodate them on theological grounds. This creativity would not necessarily bring theological systems into discredit, quite the opposite. The ability of Christian theology to adapt to changes over the last two thousand years is seen by some as evidence of its legitimacy, proof that it is divinely inspired.

In this view, it is important to recognize that there is nothing new about the shock effect of technology. *What is new* is the character of transhumanism’s brand of technological evangelism. Holding to its deep faith in human creativity and progress—which are understood as an irresistible force and inevitable result, respectively, reaching their climax in Kurzweil’s Singularity—transhumanism will surely preach their technological gospel to Christians. What will be the result? How will the Church engage in such an interfaith dialogue?

As mentioned previously, neither Christianity nor transhumanism is monolithic; a wide range of responses are likely. *Christ Against Culture* factions will be as opposed to Christian involvement in technological enhancements as transhumanism's radical atheistic factions. On the other hand, *Christ of Culture* groups will accommodate their theological commitments to whatever happens in technology, accepting any benefits as God-given victories over nature. Spiritually minded transhumanists will welcome *their* participation in the Terasem transreligion. The area between these extremes is of interest in this study, the region where Christian-transhumanist diplomacy is most likely to occur, driven by mutual understanding and trust.

What form(s) of Christian theology would support transhumanism? Clearly, the most supportive factions would be ones that value creativity, not only in science and technology but also in biblical hermeneutics. In terms of Latour, esteem for creativity, understood in unconventional ways, has the potential to produce a techno-Christian hybrid mode of existence, an outcome that is taking shape in Christian Transhumanism.

New Creation Now

Christian Transhumanism has coalesced around the thought of a creative and popular figure in contemporary Christianity: Nicholas Thomas "Tom or N.T." Wright, the retired Anglican Bishop of Durham. N.T. Wright is today's exemplar for Niebuhr's *Christ the Transformer of Culture* classification. A gifted and personable speaker, Wright has become an international figure in Christian theology, ethics, and apologetics. Compared with fellow-Anglican John Milbank, Wright's many books and papers are by far more accessible, more overtly spiritual, and less critical of modernity, yet no less forthright in holding to strong normative positions. Considered "dangerous" by some conservative Christians and criticized by

others as *too* conservative, Wright has nevertheless popularized a down-to-earth vision of faith that has resonated with those looking for transformative engagements with *today's* culture. Wright's focus on the here-and-now makes him an important figure in both the Church and culture.¹²

Wright's best known book, *Simply Christian: Why Christianity Makes Sense*, provides an entry-level look at his theological sensibilities.¹³ In many ways, it is similar to C.S. Lewis' 1946 collection of radio addresses: *Mere Christianity*.¹⁴ Both Wright and Lewis examine evidence for God's existence in everyday life, review problems of modern morality, and explain Christian beliefs in layman's terms. Both criticize modern cultural institutions. Both look to promote Christian thinking about the world, to be followed by action based on deep faith in God and by the power of the Holy Spirit.

In other respects, Wright and Lewis differ in significant ways. Wright downplays supernatural elements in the Christian story, preferring what is known as *critical realism theology*. For example, Wright's historical characterization of Jesus emphasizes his humanity, not his divinity, even questioning the extent to which Christ was aware of his status as a member of the Trinity. Similarly, considering the Holy Spirit, the *image* of fire at Pentecost is emphasized, not the third person of the Trinity.¹⁵ In contrast, recall that Lewis' focus is on Christianity as a *true myth*, one that involves *real* miracles, spiritual warfare, and demonic powers. All three persons of the Trinity participate in Lewis' worldview, not merely assisting

¹² Of particular relevance to this study is N.T. Wright's June 1, 2015 presentation at Google, which counts Ray Kurzweil as a director of engineering. See "NT Wright: 'Simply Good News' | Talks at Google," YouTube, posted Jun 12, 2015, <https://www.youtube.com/watch?v=cEIjaHOcGFc> (accessed July 1, 2016).

¹³ N.T. Wright, *Simply Christian: Why Christianity Makes Sense* (New York: Harper Collins, 2006).

¹⁴ C.S. Lewis, *Mere Christianity* (1943; repr. New York: MacMillan, 1960).

¹⁵ Op. Cit., 121.

Christians in their worldly struggles, but actively engaged in executing their perfect and immutable plan of redemption.

Wright's preference for *ontological ambiguity* extends into the concluding chapter of *Simply Christian*: "New Creation, Starting Now," which is especially relevant to this study.¹⁶ In it, Wright denies that the end of the Christian life is to "go to heaven." Instead, he encourages Christians to participate in God's work of "Putting the World to Rights," specifically, by restoring justice, spirituality, relationships, and beauty in *this* world. He sums up this post-millennial view as follows:

The great drama will end, not with "saved souls" being snatched up to heaven, away from the wicked earth and the mortal bodies which have dragged them down into sin, but with the New Jerusalem coming down from heaven to earth, so that "the dwelling of God is with humans" (Revelation 21:3).¹⁷

Creativity lies at the heart of Wright's redemptive vision. Like Milbank, he yearns for ways to restore Christianity as a model community for the world to follow. The restoration of justice, relationships, and beauty involves serious reconsideration of life, a rethinking of taken-for-granted doctrines. For example, Wright states that "'Sin' is not simply the breaking of a law. It is the missing of an opportunity." Sin makes people unable to participate in the recreation of the world, for "Christian holiness is not (as people often imagine) a matter of denying something good. It is about growing up and grasping something better."¹⁸ What must be given up, and what must we grasp instead?

Made for spirituality, we wallow in introspection. Made for joy,
we settle for pleasure. Made for justice, we clamor for vengeance.
Made for relationship, we insist on our own way. Made for beauty,

¹⁶ Ibid., 217–237.

¹⁷ Ibid. 217. Wright's "redemptive" view of eschatology is shared with many other contemporary theologians. See, for example, Michael D. Williams, "The Eschaton: The Renewal of All Things," in *Far as the Curse is Found: The Covenant Story of Redemption* (Phillipsburg, NJ: P&R Publishing, 2005), 271–302.

¹⁸ Ibid., 236–237.

we are satisfied with sentiment. But new creation has already begun. The sun has begun to rise. Christians are called to leave behind, in the tomb of Jesus Christ, all that belongs to the brokenness and incompleteness of the present world. It is time, in the power of the Spirit, to take up our proper role, as agents, heralds, and stewards of the new day that is dawning. That, quite simply, is what it means to be Christian: to follow Jesus Christ into the new world, God's new world, which he has thrown open before us.¹⁹

The combination of Wright's post-millennialism, his emphasis on Jesus' humanity, tendencies toward ontological ambiguity and doctrinal minimalism, and his charge to Christians to be co-creators of a new world is very appealing to disciples of *Christ the Transformer of Culture* that see technology as a primary instrument in God's redemption of the world. Their commitments are not so much to redeem creation *through Christ* as in doing it themselves, with the possible assistance of the Holy Spirit. Through human action, they actively seek to expand the domain of God's presence in the world, the places where heaven and earth are one.

Summary

As technology developments continue, it seems only a matter of time before transhumanist capabilities come into contact with the Church. For denominations and congregations that favor a transformational role in society, such contacts will be welcomed as steps toward the post-millennial return of Christ. In N.T. Wright, transhumanism meets a Christian theology that welcomes creativity, not only as a way of improving life, but as a way of participating in God's plans. Setting aside other views, let us now look more closely at Christian Transhumanism, a growing movement that embraces this mission and seeks to foster a technologically receptive church.

¹⁹ Ibid., 237.

CHRISTIAN TRANSHUMANISM

Rather than waiting for such technologies to come to the Church, a growing number of Christians, many inspired by N.T. Wright, are seeking to engage with transhumanism. Glossing over theological differences, they are united in believing that technology can be an integral piece of their personal and collective religious life and mission. The Internet has been a central tool in this development, bringing together a diffuse and diverse collection of transhumanists from around the world. A brief history will show how rapidly this nascent and dynamic movement has grown in numbers and reach.

Internet Genesis

Christian links to transhumanism emerged on the Internet in 2002 when James Ledford, a nuclear engineer, established his *Technical Jesus* web site.²⁰ Later he wrote a Wikipedia article on *Christian Transhumanism*, now deleted, and in 2006 he launched a *Christian Transhumanism* Facebook group.²¹ It has been an active center of online discussions ever since. Many have involved spirited discussions of transhumanism's theological roots, from the Church Fathers through Teilhard de Chardin to N.T. Wright. The group is also useful in tracking associated technical and social developments that are seen as progress toward one milestone or another, up to the Singularity and beyond. Today, the group includes almost 500 members, and its online resources trace developments in Christian Transhumanism from January 2001.

As an Internet pioneer of Christian Transhumanism, Ledford remains an influential voice for the movement. As a result of his longstanding interest in the field, he is also a valuable resource in terms of its history and associations. In terms of theology, Ledford strongly favors

²⁰ Technical Jesus: Singularity Religion: Where Love Rules and Ignorance Dies, <http://www.technical-jesus.com/> (accessed July 1, 2016)

²¹ Christian Transhumanism, Facebook, <https://www.facebook.com/groups/332924799454/> (accessed July 1, 2016).

Teilhard de Chardin's cosmic theology, notwithstanding his many critics. However, in recent years, Ledford has embraced *constructal law*, proposed and popularized by fellow-engineer Adrian Beja, as a naturalistic explanation of transhumanism as a step in cosmic evolution.²²

In 2006, the *Mormon Transhumanist Association* was organized with 14 members, mostly members of the Church of Jesus Christ of Latter Day Saints.²³ Its leaders recognized that transhumanism was very consistent with Mormon theology, which holds to a material conception of spirituality. Today, the group's Facebook page, which has over 750 members, states that it is the "world's largest advocacy network for ethical use of technology and religion."²⁴ Association membership grew slowly through 2012, and has risen rapidly since then; in 2015 the Mormon Transhumanist Association had over 530 members in 31 states and 48 countries.²⁵ Since 2009, it has held face-to-face ecumenical conferences that have brought together a wide range of transhumanist views. YouTube videos of its conference presentations provide an important resource for anyone having an interest in religious transhumanism.²⁶

Christian Transhumanist Association

In 2014, several participants in Ledford's Facebook group formally established the Christian Transhumanist Association as a non-profit organization. Its directors have been active in promoting the new organization through blog and Facebook entries, interviews by news

²² Adrian Bejan - Constructal Law, Duke University, Pratt School of Engineering, Department of Mechanical Engineering and Materials Science, <http://mems.duke.edu/bejan-constructal-theory> (accessed July 1, 2016).

²³ Mormon Transhumanist Association, "About the Association: When was the Mormon Transhumanist Association organized?" <http://transfigurism.org/pages/about/> (accessed July 1, 2016).

²⁴ Mormon Transhumanist Association, Facebook, <https://www.facebook.com/transfigurism/timeline> (accessed July 1, 2016).

²⁵ Personal communication, Lincoln Cannon, founding Mormon Transhumanist Association President.

²⁶ Mormon Transhumanist Association, "Library," <http://transfigurism.org/pages/library/> (accessed July 1, 2016).

media, Internet assemblies, podcasts, and speaking engagements. The Christian Transhumanist Association's Facebook page, which was launched in June 2016, now has almost 400 members.²⁷

The Christian Transhumanist Association's commitments to transhumanism are posted on its web site. First is its statement of purpose, posted in spring 2015. Supported by quotes from C.S. Lewis, N.T. Wright, and others, the Christian Transhumanist Association proclaimed that:

Our purpose can be described as “participating with God in the redemption, reconciliation, and renewal of the world”. What that means is that we pursue Jesus’ greatest commands:

Love God with all your heart, soul, mind, and strength...and love your neighbor as yourself.

That’s our purpose, our defining focus, and our message. And when it comes to the application of those commands, we see three deep things:

1. We focus on that which is transcendent.
2. We pursue greater coherence of mentality, physicality, spirituality.
3. We seek the betterment of the world.

We think that these three elements define what it is to be a complete human being, and mark out the dimensions along which we should grow. They define what we hope to practice as an organization, what will shape our choices, and what we hope to convey in many ways and forms to the outside world.²⁸

This statement is long on generalities and short on specifics. Technology is not mentioned, and any definition of what human completeness would involve is missing. Considering the bold claims of transhumanism, the Christian Transhumanist Association's tentative approach was puzzling to me, amounting to little more than vague spirituality applied to an otherwise-secular pursuit. Only later, after studying the Christian Transhumanist Association's leaders, did I understand why the organization took this approach. Consider its founding leadership.

²⁷ Christian Transhumanist Association, Facebook, <https://www.facebook.com/groups/457984804375784/> (accessed July 1, 2016).

²⁸ Christian Transhumanist Association, <http://www.christiantranshumanism.org/> (accessed July 1, 2016).

Micah Redding

As the Christian Transhumanist Association's Executive Director, Micah Redding was instrumental in its founding. His blog documents his long interests in Christianity and technology.²⁹ In his entry on "The Church of Christ," Redding traces his theological roots to the "Churches of Christ, a small religious group that emerged from the American Restoration Movement of the early 1800s." Reacting against denominational splits, Redding looks to the movement's "theological minimalism" as a foundation for Christian unity. He develops this approach in his essay series on "Minimum Viable Theology," a Cartesian project "to see if we can construct a minimal theological starter kit, using only reasonable assumptions."³⁰ This view is reflected in the Christian Transhumanist Association's minimalist membership standards, with no requirement for members to subscribe to a *Statement of Faith*.

Redding's essay "Christianity is Transhumanism" demonstrates his theological minimalism, even as he overstates his case from Church history: "It's not just that they are compatible. Christianity is a distinctly transhumanist viewpoint that sprung up in the first century, and set out to reshape both the world and human nature."³¹ This skips over the distinctives of traditional Christianity and transhumanism to focus on their superficially common goals, especially the elimination of death. He makes no mention of people from *both* camps that see Christianity and transhumanism as natural enemies. Nor does he note denominational differences, perhaps hoping that the Christian Transhumanist Association's grand vision will

²⁹ Micah Redding Blog, <http://micahredding.com/blog/> (accessed July 1, 2016).

³⁰ Ibid., <http://micahredding.com/blog/minimum-viable-theology-we-are-not-alone> (accessed August 4, 2016).

³¹ Ibid., "Christianity is Transhumanism," posted 2012, <http://micahredding.com/blog/2012/04/25/christianity-transhumanism> (accessed July 1, 2016).

unify Church factions that have existed for centuries.³² It seems that atheist Max More has a better grasp of Christian theology when he observes that “Christian transhumanists, while not completely unknown, are very rare (and I know of none who are fundamentalists, and such a combination would surely indicate deep confusion).”³³

By not making theological commitments, Redding’s minimalism *seems* open to all sorts of religious associations, perhaps unconsciously drifting from *Christ the Transformer of Culture* toward a loosely defined *Christ of Culture* position. Misunderstandings are sure to follow from this approach, although it may take time for them to come to the surface. For example, Anders Sandberg, writing on “Transhumanism and the Meaning of Life,” makes a direct transition from Redding’s conflation of Christianity and transhumanism to the Terasem transreligion.³⁴ I doubt that Redding would acknowledge Terasem’s “God in the making” as his own, but without asserting the identity of *his* God, it is difficult to make a definite determination.

Redding’s theological minimalism and willingness to entertain theological innovations suggests belief in *open theism*. This theological approach takes to an extreme the Arminian emphasis on free will, holding that God does not know in advance what people will decide. As a consequence, God appears to be just as much a prisoner of time as the created order. Indeed, a Redding podcast confirms his interest in this field, although here too, he refrains from any final judgment of its merits.³⁵ In the podcast, Redding interviews Thomas Jay Oord, a controversial Nazarene theologian that is at the forefront of the open theism movement.³⁶ The possibilities afforded by open theism, particularly those that allow for human beings to act as co-creators with

³² In an August 2016 Facebook survey, 14 of 65 respondents (22%) self-identified as Mormons; <https://www.facebook.com/groups/457984804375784/permalink/634242293416700/> (accessed August 12, 2016).

³³ Max More, “The Philosophy of Transhumanism,” in More and Vita-More, *The Transhumanist Reader*, 8.

³⁴ Anders Sandberg, “Transhumanism and the Meaning of Life,” in Mercer and Trothen, *Religion and Transhumanism*, 6.

³⁵ The Christian Transhumanist Podcast, “Ep 9: Thomas Jay Oord and the Open Future of God,” <http://brickcaster.com/christiantranshumanist/9> (accessed July 1, 2016).

³⁶ See Thomas Jay Oord, *The Uncontrolling Love of God* (Downers Grove, IL: InterVarsity Press, 2015).

God, are intriguing to Redding. His warm reaction to open theism, plus other expressions of interests in Teilhard de Chardin, suggests that Redding is well on his way to adopting Fuller's Theology 2.0 as a framework for Christian Transhumanism.

Clearly, diplomatic engagement between Christians and religious transhumanists requires an appreciation for ecumenical engagement. However, effective diplomacy—whether it is done in accordance with the U.S. Institute of Peace or Bruno Latour—also requires clarification of non-negotiable commitments. Genuine openness, including revelation of what is and is not considered to be negotiable, is a prerequisite for trust and diplomatic agreements. For this study, Redding's theological minimalism is insufficient; a more definitive account of Christian Transhumanism is needed. Fortunately, other Christian Transhumanist Association leaders are more direct in expressing their techno-theological dispositions.

Christopher Benek

Rev. Dr. Christopher J. Benek serves the Christian Transhumanist Association as a Director and Board Chair.³⁷ He studied at Pittsburgh Theological Seminary, which collaborated with the American Association for the Advancement of Science (AAAS) to establish “the world's first ever Doctor of Ministry program focusing specifically on Theology and Science.”³⁸ As a member of the program's first cohort, Benek's doctoral research studied how the work of N.T Wright and Ray Kurzweil can be brought into conversation to stimulate techno-theological thinking among Christians.³⁹ He continues to develop his thoughts on Christian Transhumanism

³⁷ Christian Transhumanist Association, “Announcement,” <http://www.christiantranshumanism.org/announcement> (accessed July 1, 2016).

³⁸ Christopher Benek Blog, “About: Education,” http://www.christopherbenek.com/?page_id=2 (accessed July 1, 2016).

³⁹ Christopher Benek, “Investigating Technological Futurism's Potential Role In Humanity's Participation In Bringing About God's Renewal Of The World,” (Doctor of Ministry paper, Pittsburgh Theological Seminary, 2014).

through his work for the Christian Transhumanist Association, conference participation, continuing studies at Durham University in England, and in his work as an associate pastor at First Presbyterian Church, Ft. Lauderdale, Florida.⁴⁰ Finally, to expand transhumanism among Christians, Redding and Benek collaborated with me in a joint presentation at the American Scientific Affiliation annual meeting: *Technological Enhancement: What's a Christian to do?*⁴¹

Through Benek, the Christian Transhumanist Association has already attracted international attention, a remarkable accomplishment for such a young organization. In February 2015, Benek's online comments about how churches could benefit from advanced technology attracted attention from several news organizations.⁴² One thing led to another, and before long his ideas had spread far and wide, sometimes taken seriously, but other times told in modified or exaggerated form. Media buzz, and some serious pieces, focused on Benek's thought that an advanced AI would *choose* to follow Christianity as the most reasonable worldview.⁴³ In other media, the story was about robot conversions and baptisms. The climax was reached when Benek was featured in a humorous six-minute segment by Jordan Klepper on *The Daily Show with Jon Stewart*.⁴⁴

Setting aside media hype, just what *does* Benek say about Christian Transhumanism? In essence, Benek's argument is modest and straightforward: technology should be understood as

⁴⁰ First Presbyterian Church, <http://firstpres.cc/about-us/staff/> (accessed July 1, 2016).

⁴¹ David C. Winyard Sr., Christopher Benek, Micah Redding, "Technological Enhancement: What's a Christian to do?" (Presentation, *American Scientific Affiliation*, Annual Meeting, Tulsa, OK, July 25, 2015).

⁴² The trigger was an interview of Benek by Zoltan Istvan (the 2016 *Transhumanist Party* candidate for U.S. President), "When Superintelligent AI Arrives, Will Religions Try to Convert It?" *Gizmodo*, February 4, 2015, <http://gizmodo.com/when-superintelligent-ai-arrives-will-religions-try-t-1682837922> (accessed July 1, 2016).

⁴³ For example, one especially thoughtful article was Sasha Akhavi, "Digital religion and artificial wisdom," *IT World*, February 25, 2015, <http://www.itworld.com/article/2888014/digital-religion-and-artificial-wisdom.html>. Another thought provoking article was by Ellie Zolfaghari, "Will religions try to convert artificial intelligence? Reverend says 'Christ's redemption' is not limited to humans," *UK Daily Mail*, <http://www.dailymail.co.uk/sciencetech/article-2940444/Will-religions-try-convert-artificial-intelligence-Reverend-says-Christ-s-redemption-not-limited-humans.html> (both accessed July 1, 2016).

⁴⁴ Jordan Klepper, "Future Christ," *The Daily Show with Jon Stewart*, April 15, 2015, <http://thedailyshow.cc.com/videos/2iflzu/future-christ> (accessed July 1, 2016).

part of God’s redemptive purposes in the world. Almost every Christian would agree with this statement at some level—even the Amish. What sets Benek apart is his willingness to extend this view in terms of the futuristic technosciences of transhumanism. He frames this view via Wright’s emphasis on human agency in “putting the world to rights.” So in the terms of *this* study, Benek works to bridge the intellectual and spiritual gap between Christians and transhumanism, to be a *diplomat* that communicates *between* the two camps. He also works *within* the Church to persuade other believers of the wisdom of engagement with transhumanism. In the latter role, Benek reveals more details about his vision for technology in God’s redemptive purposes, including some important limits to how far Christians should go in embracing transhumanism.

How far does Benek go in his embrace of transhumanism? Very far it seems. In an interview with author and cultural analyst Derek P. Gilbert, Benek does not question the possibility of superintelligence, integration of technology into human beings, or even the creation of new forms of sentient life.⁴⁵ All of these creations are allowed as potential elements of God’s redemptive plan, as it is perceived and executed by human beings.

Benek only draws back from technological enhancements that would harm or degrade human beings, collectively or in part. One example is his rejection of evolutionary forms of transhumanism that endorse the extinction of population segments that resist pressures to transition toward post-humanity. Another example is his rejection of techno-sexual perversions. In “Sexbots: These Aren’t the Droids You’re Looking For,” Benek decries the development of robots as sex toys because they further elevate sex as an idol, turning people aside from their

⁴⁵ A View From the Bunker, “VFTB 255: Rev. Dr. Christopher Benek – Christian Transhumanism,” posted July 3, 2015, <http://vftb.net/?p=5825> (accessed July 1, 2016).

proper role in the world as God's agents in the world.⁴⁶ Similarly, he also rejects as idolatry all forms of transhumanism that would elevate humanity or technology above the Christian God. This, it seems, would preclude Christian Transhumanists from participation in Terasem, with its project of creating a technological god.

In essence, Benek argues for Christian engagement in the *Social Construction of Technology* (SCOT).⁴⁷ In this view, it is imperative for the Church to have a voice in shaping advanced technologies. In turn, the Church would evolve in response to transhumanism developments, adapting its message and practices as it deems necessary. How would the Church decide what enhancements to accept and what to reject? Benek trusts that the Christian community would act as it has in the past: after studying the issues, looking for guidance in scripture, and prayer, church councils would make their decisions.

How far does Benek go in *this* view? Again, he goes very far indeed. In his essay "The Singularity: Christianity's New Eschatological Hope," Benek allows that technology might one day eliminate mortality: "Christians may be able to fully realize the early church's hope of never having to face death."⁴⁸ This appears to be a direct contradiction of how the Bible orders the Second Coming of Christ in relation to the end of death:

For as in Adam all die, so also in Christ shall all be made alive.
But each in his own order: Christ the firstfruits, then at his coming
those who belong to Christ. Then comes the end, when he delivers
the kingdom to God the Father after destroying every rule and
every authority and power. For he must reign until he has put all
his enemies under his feet. The last enemy to be destroyed is death.
1 Cor. 15:22–26

⁴⁶ Christopher Benek, "Sexbots: These Aren't the Droids You're Looking For," The Christian Post, March 25, 2015, <http://www.christianpost.com/news/sexbots-these-arent-the-droids-youre-looking-for-136319/> (accessed July 1, 2016).

⁴⁷ Bijker, Hughes, and Pinch, *The Social Construction of Technological Systems*.

⁴⁸ Christopher Benek, "The Singularity: Christianity's New Eschatological Hope," <http://www.christopherbenek.com/?p=4421> (accessed July 1, 2016).

In view of this disconnect, it is not clear how Benek views the Scriptures. Would the technological elimination of death be a final milestone toward the post-millennial return of Christ? What authority does he give the Bible? Is everything negotiable?

Although transhumanists are often accused of hubris, Benek's account of Christian Transhumanism suggests a humble stance. He seems to regard conscious AI beings as equals to human beings. They might even be regarded as human souls. In essence, he would leave such ultimate decisions to God, who might accept an AI as a conscious being, one deserving the same respect as a human being. This view is echoed by one theologian's comment that "since personhood is guaranteed by the Trinitarian nature of the Godhead, it is up to God to determine who is *imago Dei*," and as a result, "the *imago Dei* is not dependent on humanity recognizing it as such."⁴⁹ Pope Francis expressed a parallel position when he suggested, perhaps overstating his evangelical desires in jest, that the Roman Catholic Church should accept even a *Martian* that expressed faith in Christ.⁵⁰

Generally, Benek's positive views of transhumanism are good, even refreshing. However, his mild-mannered view of AI is problematic. At the very least, it is incompatible with what superintelligence advocates expect. They anticipate that an AI attaining consciousness would quickly *surpass* human capabilities by self-improvement efforts. These superintelligent beings, created in the image of their human creators would soon attain godlike powers, if not full status as "God." It is not at all clear that stopping short of this result would be possible. This is the conclusion of Jeanine Thweatt-Bates when she writes of "In *Imago Hominus*: God or

⁴⁹ Matthew Zaro Fisher, "More Human Than the Human? Toward a 'Transhumanist' Christian Theological Anthropology," in Mercer, *Religion and Transhumanism*, 23–38; quote 35.

⁵⁰ Barbie Latza Nadeau, "Pope Francis: Church Would Baptize Aliens," *The Daily Beast*, May 13, 2014, <http://www.thedailybeast.com/articles/2014/05/13/pope-francis-church-would-baptize-aliens.html> (accessed July 1, 2016).

Children?”⁵¹ Benek, along with many some segments of the Church, would not accept such a result. However, before considering critical reviews, let us consider one final Christian Transhumanist Association leader.

Dorothy Deasy

Rounding out the Christian Transhumanist Association’s Board is Dorothy Deasy, who also serves as its Secretary. She brings to the Christian Transhumanist Association experience from a similar organization: the Mormon Transhumanist Association.⁵² Deasy is not a Mormon, instead identifying herself as a “Christian Existentialist and a Methodist.”⁵³ In Facebook posts, Deasy has indicated that she subscribes to the Wesleyan quadrilateral—Scripture, tradition, reason, and experience—as her preferred way of understanding God’s will.⁵⁴

While emphasizing spirituality, Deasy’s primary focus is on practical outcomes, not on beliefs. This is reflected in her dual Mormon and Christian association roles: what they *do* matters more than what they *represent*. Pressed to comment on the goal of some transhumanists to “create God,” Deasy is evasive, refusing to call this pursuit idolatry. Instead, she lists a number of things that *have* been regarded as idols in the past—including Jesus—before concluding, “For me, idolatry is losing sight that the Divine is in each of us.”⁵⁵ In all, she shares Redding’s preference for theological minimalism.

What then does it mean that both the *Christian* Transhumanist Association and *Mormon* Transhumanist Association will admit the same person as an officer since there are such deep

⁵¹ See Jeanine Thweatt-Bates, “Cindi, Six, and Her” article in Mercer, *Religion and Transhumanism*, 39–48; her concluding “In *Imago Hominis*: God or Children?” section 45–48.

⁵² Mormon Transhumanist Association, “Board of Directors,” <http://transfigurism.org/pages/about/board-of-directors/> (accessed July 1, 2016).

⁵³ Ibid.

⁵⁴ United Methodist Church, “Wesleyan Quadrilateral,” <http://www.umc.org/what-we-believe/wesleyan-quadrilateral> (accessed July 1, 2016).

⁵⁵ *Christian Transhumanism*, Facebook, April 29–30, 2015.

differences between Mormonism and biblical orthodoxy? In reaching out to transhumanists, have they lost touch with their own belief systems? Can diplomacy succeed with people outside the Church if it fails inside it?

Open Humanism

In April 2016, the Christian Transhumanist Association further explained its commitments by releasing “The Christian Transhumanist Affirmation,” which was developed by the Christian Transhumanist Association Board and Membership Council and posted online for public endorsement:

As members of the Christian Transhumanist Association:

1. We believe that God’s mission involves the transformation and renewal of creation, including humanity, and that we are called by Christ to participate in that mission: working against illness, hunger, oppression, injustice, and death.
2. We seek growth and progress along every dimension of our humanity: spiritual, physical, emotional, mental—and at all levels: individual, community, society, world.
3. We recognize science and technology as tangible expressions of our God-given impulse to explore and discover, and as a natural outgrowth of being created in the image of God.
4. We are guided by Jesus’ greatest commands to “Love the Lord your God with all your heart, soul, mind, and strength...and love your neighbor as yourself.”
5. We believe that the intentional use of technology, coupled with following Christ, will empower us to become more human across the scope of what it means to be creatures in the image of God.

In this way we are Christian Transhumanists.⁵⁶

⁵⁶ CTA, “The Christian Transhumanist Affirmation,” http://www.christiantranshumanism.org/christian_transhumanist_affirmation, (accessed July 1, 2016).

What does this new affirmation contribute to the Christian Transhumanist Association's diplomatic mission?

First, note that *The Christian Transhumanist Affirmation* was offered up for voluntary endorsement. It continues the Christian Transhumanist Association's policy of not using a *Statement of Faith* as a way to limit its membership. Indeed, from its founding, the Christian Transhumanist Association has eschewed any declaration of what it means by the term "Christian." This sets the Christian Transhumanist Association apart from most Christian organizations. Statements of faith are also commonly required for admission into many Christian organizations or for job applicants to Christian colleges and universities.⁵⁷

Second, the Christian Transhumanist Association affirmation is notable for what it avoids stating. In this it echoes Wright's minimization of supernatural references. It makes no mention of foundational elements of orthodox biblical Christianity, such as the reality of sin, immortal souls, and salvation through Christ. It also avoids any mention of the Holy Spirit as God's agent in working through human beings. It avoids any explanation of why God's creation requires transformation or renewal. Most notably, it avoids any definition of what it means "to become more human across the scope of what it means to be creatures in the image of God."

Finally, although the affirmation is not a Statement of Faith, or even a declaration of deep theological commitments, it does rise above theological minimalism by making several positive assertions. Elements of N.T. Wright's transformational view of Christianity are prominent. The nature of the transformations is also exposed; clearly, the Christian Transhumanist Association is not only committed to a progressive view of human culture, but it also looks for progress in the

⁵⁷ Mount Vernon Nazarene University required my statement of faith when I applied for my engineering teaching position. Information on what a Statement of Faith normally includes can be found at "How to Write an Effective Statement of Faith," Theology Degrees, <http://www.theologydegrees.org/how-to-write-an-effective-statement-of-faith/> (accessed July 1, 2016).

very nature of human beings. What qualifies as human? The limits are never defined, for like secular transhumanism, human limitations are disdained. It makes no appeal to the “human spirit” as a way to delimit what is human. The result is a sort of open humanism; anything having a claim to human nature—whether a cyborg, any other human hybrid, or a simulated human mind—can claim the rights Christians find in the *imago Dei*.

Diplomatic Ambiguity

What conclusions can be drawn from this analysis of the Christian Transhumanist Association, its leadership, and declared purpose and affirmations? It seems that the Christian Transhumanist Association’s approach to engagement with transhumanism adopts the diplomatic tactic of *deliberate ambiguity*. This characterizes U.S. policy regarding the status of Taiwan, which mainland China claims as its rightful possession. Rather than openly declaring American intentions, U.S. policy toward Taiwan has been one of deliberate ambiguity. Rather than declaring what would happen in the event of a communist invasion of Taiwan, the U.S. keeps its opinions to itself in order to allow keep its options open and allow Taiwan to make its own decisions. In similar manner, by declaring itself open to a broad range of made-in-God’s-image beings, the Christian Transhumanist Association seeks to retain its connection to biblical Christianity while opening the door to transhumanist mythology.⁵⁸ This is a critical mistake.

International diplomacy takes place between governments that, under normal circumstances, have well-defined constituents and *unambiguous* interests. In this context, ambiguity in international affairs makes tactical sense; it seeks to maximize national interests at

⁵⁸ Christopher Bradford, a Mormon transhumanist, offered his perspective of this strategy on his blog, *Let us Reason*, “Intentional Ambiguity,” June 04, 2004, <http://letusreason.blogspot.com/2004/06/intentional-ambiguity.html> (accessed July 1, 2016).

the expense of others.⁵⁹ The context of Christian diplomacy with transhumanism is completely different. Christians may be aware of the possibility of human enhancements, if only as a common feature of science fiction, but the theological significance of transhumanism is far from settled. The task of reaching conclusions about transhumanism *within* the Church is greatly complicated by outsiders. So at the present, Christian Transhumanism is engaged in *two* difficult diplomatic campaigns: one inside Christianity, and another with the broader transhumanist community. It is possible that these simultaneous campaigns could reach as-yet-unidentified composite goals. However, it is far from certain that such outcomes would be broadly acceptable in either the Church or the secular transhumanism community.

Summary

In only a few years, the concept of Christian Transhumanism has moved from Facebook musings to organizations with international visibility. It is still an immature concept, one that seems to builds on some basic doctrines of the Church to an extreme degree, while shunning many foundational doctrines. It claims noble purposes, but its leaders are so far unwilling to make firm theological commitments. Of three Christian Transhumanist Association officers, only Benek seems to recognize the potential for idolatry in transhumanism, and he alone seems cognizant of its faults. In comparison, Redding and Deasy seem more eager to question the validity of the Christian worldview than to challenge the validity secular transhumanism. Generally, the Christian Transhumanist Association practices a strategy of deliberate ambiguity

⁵⁹ Strategic diplomatic and military operations often use deception *and* clarity to achieve goals. The former requires a demonstrable capability to retaliate after a first strike, while the latter is important to surprise enemies in war. The mathematics of game theory illuminate decisions about what to reveal and what to conceal. For a readily accessible explanation of game theory, see J.D. Williams, *The Compleat Strategyst: Being a Primer on the Theory of Games of Strategy* (1954; revised 1966; repr. New York: Dover Publications, 1986), available online at the RAND Corporation, http://www.rand.org/content/dam/rand/pubs/commercial_books/2007/RAND_CB113-1.pdf (accessed August 24, 2016).

on matters of Christian doctrine, a pattern that seems much more appropriate for politicians than evangelists. Hence, the Christian Transhumanism movement has a lot of work to do to persuade mainstream Christians, individually and in their collective institutions, to join its transformative mission. So following Latour's model, the question is what *category mistakes* mark the differences between Christian transhumanists and others in the Church?

THE LIMITS OF TRANSFORMATION

Insofar as it demonstrates the characteristics of Niebuhr's *Christ the Transformer of Culture*, the Christian Transhumanism movement also suffers from the challenges that come with this view. In particular, the belief that Christians can and should change the world entails the risk of going too far, of mistaking human desires for God's will. The line that separates hubris from obedience can be very fine.

In what follows, I argue that the critical issue is the nature of *creativity*. In the process, I will consider a number of key questions: Is creativity an essential element of the *imago Dei*? Are we in fact co-creators with God? Or, on the other hand, is creativity an idol? If so, is Christian Transhumanism idolatry?

Divine Creativity and the Inventiveness of Fallen Humanity

As we saw in Chapter 1, Genesis asserts that God created the heavens and the earth. The creative climax was God's making of mankind in his likeness and image. In Christian theology, all of these original creative works are regarded as *ex nihilo*, creations from nothing. Human creations are mere reflections of God's creative act: rearrangements of preexisting matter, elaborations on God's character, or doxological developments of what God initiated. Adam's

role in naming other living creatures in Genesis 2 shows that human creativity existed before the fall, and there is abundant evidence of creativity in the years since. The fall, of course, distorted many things in the original “very good” creation, and yet the legacy of the *imago Dei* persists, albeit in diminished forms.

After the fall, what is the place of creativity in Christian theology? The biblical answer is mixed: the Bible presents many human works as fulfilling doxological purposes. For example, the tabernacle was made according to God’s specifications by men that were specially gifted to the task.⁶⁰ Proverbs, personalizing God-given wisdom, states “I wisdom dwell with prudence, and find out knowledge of witty inventions.”⁶¹ Other productive acts are part and parcel of mankind’s rebellion against God, such as the construction of the Tower of Babel.⁶² Still other evil acts are prophesied in connection with the end times.⁶³

The Bible tends to freely use the verb *create* to refer to God’s works, but it uses forms of the verb *invent* sparingly to refer to the works of man, and with a significant change in character. Nearly all references to inventions are negative, especially in the King James Version, as in these examples:

Thou answeredst them, O Lord our God: thou wast a God that
forgavest them, though thou tookest vengeance of their inventions.
Psalm 99:8

Thus they provoked him to anger with their inventions: and the
plague brake in upon them.
Psalm 106:2

Lo, this only have I found, that God hath made man upright; but
they have sought out many inventions.
Ecclesiastes 7:29

⁶⁰ Oholiab and Bezalel, Exodus 31:1–11.

⁶¹ Isaiah 45:7 (KJV).

⁶² Genesis 11:1–9.

⁶³ For example, the “abomination of desolation” in Matthew 124:15 is often presented as some sort of worship invention of the antichrist.

Most remarkably, human inventiveness figures prominently in Paul's account of the ongoing fall of mankind into sin:

And since they did not see fit to acknowledge God, God gave them up to a debased mind to do what ought not to be done. They were filled with all manner of unrighteousness, evil, covetousness, malice. They are full of envy, murder, strife, deceit, maliciousness. They are gossips, slanderers, haters of God, insolent, haughty, boastful, *inventors of evil*, disobedient to parents, foolish, faithless, heartless, ruthless. Though they know God's righteous decree that those who practice such things deserve to die, they not only do them but give approval to those who practice them.

Romans 1:28–32, emphasis added

In summary, the Bible conclusively demonstrates that creativity is not, in itself, an unqualified good; the purpose of a creative act stands as either honoring God's desires, or promoting mankind's desires to first place. Even when creativity is exercised for good purposes, the message of 2 Chronicles 26 stands: technological prowess comes with the temptation to pride and even idolatry.⁶⁴

Culture and Transformational Hubris

As we have seen, Christian transhumanists, following N.T. Wright, often look to the second petition of Lord's Prayer to support their project of building heaven on earth: "Your kingdom come, your will be done, on earth as it is in heaven." This is sometimes taken as a mandate for human technological progress, even to the point of seeing the Singularity as their eschatological hope, not the return of Christ. Then again, the Lord's Prayer provides a balance to such extremism in the petition "And lead us not into temptation, but deliver us from evil." Why

⁶⁴ N.T. Wright, speaking at Google, alluded to the risks that accompany technological progress. Acknowledging the benefits of technology, he compared today's temptations to pride to the Tower of Babel. These remarks run from the 47:20 mark to 50:35 of the YouTube video "NT Wright: 'Simply Good News' | Talks at Google," posted Jun 12, 2015, <https://www.youtube.com/watch?v=cEIjaHOcGFc> (accessed November 4, 2016).

is this significant? The answer, in fulfillment of the first petition that “hallowed be your name,” is the prayer’s added doxology: “For yours is the kingdom and the power and the glory, forever. Amen”⁶⁵ How can these elements of the Lord’s Prayer be brought into balance with respect to culture?

Since Niebuhr wrote *Christ and Culture*, the American evangelical movement has largely followed the *Christ the Transformer of Culture* pattern. Even as this movement grew in power, American culture continued to move away from its desired outcomes, leading a number of observers, both Protestant and Catholic, to rethink the relationships between Christianity and culture. Their observations bring the problems of Christian Transhumanism into sharp focus.

Consider first Andy Crouch, who as an evangelical should have common cause with the *Christ the Transformer of Culture* project. Still, he sees clearly the failures of the evangelical movement; it has failed in its attempts to bring American culture back to biblical norms through politics. Is it reasonable to believe that the Christian Transhumanist Association can advance God’s redemptive purposes through technology? That it can shape technology in accordance with Christian norms?

Although Crouch is invested in the creation of Christian culture and institutions in the world, he also recognizes limitations. In fact, Crouch blames Niebuhr’s classification system for some of the evangelical movement’s problems, beginning with its “stacking the deck” in favor of a transformational role for the Church.⁶⁶ Too often, Crouch laments, as evangelicals adopted Niebuhr’s typology they “often moved from ‘Christ transforming culture’ to ‘Christians transforming culture.’” In the process, a proper perspective is lost, leading to the erroneous conclusion that “we could ever establish the transhistorical vantage point that the Trinity has on

⁶⁵ Quoted from Matthew 6:9–13. The Lord’s Prayer also appears in Luke 11:2–4

⁶⁶ Andy Crouch, *Culture Making: Recovering Our Creative Calling* (Downers Grove, IL: IVP Books, 2008), 180.

our little cultural efforts.”⁶⁷ Crouch comments that “the only consistently Christian conviction is that transformation arrives within history, and will arrive at the end of history, as a radical gift.” He concludes that “the temptation to take matters into our own hands, to take over God’s role as the transformer of culture, leads to folly.”⁶⁸

Is transhumanism folly? This view is developing in the Roman Catholic Church, within its historic *Christ Above Culture* position. Although the Vatican holds strong positions on biotechnology matters, it has not yet commented conclusively on the morality of technological enhancement. Recently however, the International Federation of Catholic Medical Associations issued a declaration that stands as the de facto position for Roman Catholicism until such time as the Holy See takes up the matter. The 2013 *Madrid Declaration* proclaims: “The urgency to protect science from the aspiration of power seeking to control, if not design, the lives of others.” Its preface described “transhumanism, posthumanism, futurism, etc.” as a potential “global abuse of science and technology.”⁶⁹ It goes on to call for international controls, including a criminal court in which to try violations of humanistic standards. Since the declaration was issued, several publications of the Roman Catholic Church have echoed its suspicions. For example, the cover story of the November-December 2015 *Catholic Answers* magazine was on “The Threat of Transhumanism.”⁷⁰

Although transhumanists talk of developing governance systems, and Christian transhumanists speak of church agreements on technological enhancements, it does not seem that Catholic concerns about the life sciences are taken seriously. James Ledford, the founder of the

⁶⁷ Ibid., 181.

⁶⁸ Ibid., 182.

⁶⁹ International Federation of Catholic Medical Associations (Fédération Internationale des Associations Médicales Catholiques), “Madrid Declaration on Science & Life,” July 25, 2013, <http://www.fiamc.org/bioethics/madrid-declaration-on-science-life/> (accessed July 1, 2016).

⁷⁰ Jimmy Akin, “The Threat of Transhumanism,” *Catholic Answers*, November-December 2015, 8–15.

Christian Transhumanism group on Facebook is Catholic, but he frequently calls on Roman Catholic authorities to adopt a transhumanist agenda, offering Teilhard de Chardin as theological justification. In view of the Madrid Declaration, this seems like a very unlikely turn. In the absence of an endorsement by the Vatican, the Christian Transhumanist Association and other Christian organizations that embrace technological life enhancements will face an uphill battle claiming that their views are in the mainstream.

On the other hand, Catholic advocacy for the poor has shown potential in shaping public opinion. The Church of Rome, by standing with marginalized people, stands to regain stature on the world stage. The 2015 Vatican declaration on the environment and climate change, *Laudato Si*, though contested on all sides, creatively demonstrates the capacity of the Church to affect public discourse and actions.⁷¹ A similar encyclical endorsing or condemning transhumanism could make or break Catholic participation in the Christian Transhumanist movement, even if others would attempt to frame matters in terms of a Vatican power grab.

In contrast, in their criticisms of evangelicalism Stanley Hauerwas and William Willimon offer an implicit critique of Christian Transhumanism. While analyzing “Christian Politics in the New World,” they argue that “American ecclesiology,” both left and right, has “assumed a basically Constantinian approach to the issue of church and the world.”⁷² This means, as a colleague of mine puts it: “Whatever the world tries to do, the Church can do better.”⁷³

In the view of Hauerwas and Willimon, the contemporary Church has mistakenly followed the Roman Catholic Church in seeking to exercise power in one realm or another. In

⁷¹ Encyclical Letter, *Laudato Si'*, Of the Holy Father, Francis, On Care For Our Common Home, May 24, 2015, http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html (accessed July 1, 2016).

⁷² Stanley Hauerwas and William H. Willimon, *Resident Aliens: Life in the Christian Colony* (Nashville, TN: Abingdon Press, 1989), 30–31.

⁷³ Personal communication, Dr. Eric Vail, Associate Professor of Theology, Mount Vernon Nazarene University.

terms of Niebuhr's typology, they hold that the power-hungry Evangelical Church paradoxically combines the *Christ of Culture*, *Christ Above Culture*, and *Christ the Transformer of Culture* positions. Although it intends the best, by seeking and using worldly power it falls short of its biblical calling: to be "resident aliens" in a hostile and fallen world. Hauerwas and Willimon adapt a *Christ Against Culture* position, yet they refuse to withdraw from the world and still advocate a role for the institutional Church. It remains free to create its own culture, following the biblical mandate to the furthest extent possible. While eschewing the idols of the surrounding culture, Hauerwas and Willimon emphasize that "the new universal religion that demands subservience" is the "omnipotent state." In response, the Church must "show, in its life together, that God, not nations, rules the earth."⁷⁴ This is diametrically opposed to Fuller, who offers a transhumanist Theology 2.0, and then goes on to deal with its issues as a governmentally planned and executed "Proactionary Imperative."

James Davison Hunter holds a similar view. He criticizes the evangelical tendency to interpret culture as consisting of ideas and values that can be changed by persuasion and politics. He interprets this tendency as a remnant of Platonic and German idealism that leads to a faith in action "To Change the World."⁷⁵ Analyzing this mistaken approach to culture, Hunter criticizes Crouch for viewing culture as a materialist (perhaps technological?) human artifact that can and should be altered by Christian engagement, especially political action. Hunter rejects this approach, comparing Christian activism to an unwarranted variation on Nietzsche, a worldly *will to power*. Instead, he emphasizes the role of the Church to faithfully stand as a distinct entity in culture, neither seeking to dominate it nor withdrawing from it and abandoning it to its fate.

⁷⁴ Op. Cit., 42.

⁷⁵ James Davis Hunter, *To Change the World: the Irony, Tragedy, and Possibility Of Christianity in the Late Modern World* (New York: Oxford University Press, 2010). Hunter focuses on idealism as the central problem of Christian engagement with today's culture in "The Real Problem" and "The Perils of Idealism," 24–31.

Seen in this light, Christian Transhumanism, and the Christian Transhumanist Association in particular, is misguided. It sacrifices the biblical call for Christians to be a “peculiar people” in order to engage with transhumanism.⁷⁶ Instead of holding to salvation through Christ, it looks to reinterpret secular strivings as salvific grace.

Diplomacy Without Compromise

So what option is left? Only the *Christ and Culture in Paradox* position, one that Niebuhr associates with dualism, but which other Christians would view as the best description of a world that aches for the return of Christ and the final judgment. Indeed, Crouch, Hauerwas and Willimon, Hunter, and other Christian thinkers approach current relationships between Christianity and culture as temporary; the problems will disappear upon the return of Christ. In the meantime, depending on circumstances, Christians must deal with the rules of the culture, while maintaining Christian truths and virtues. Life is to be lived in the knowledge that the long war that broke out in Eden will end, and the Christian hope is ultimately in Christ and not the things of this world. Is diplomacy still possible in this view?

I believe that it is, though not if it is based on deliberate ambiguity. Diplomacy does not require across-the-board compromise. Willingness to give ground in some areas can lead to agreements even if negotiations in other areas go nowhere. If the Church compromises core biblical beliefs in order to either accommodate or transform the world, it loses the right to speak on behalf of Christ and His people. Its engagement with other worldviews is thereby compromised, and it is unlikely to obtain any benefits to which it might lay a claim. On the other hand, the paradoxical position, and not the others, gives up nothing in seeking to shape culture,

⁷⁶ “But ye are a chosen generation, a royal priesthood, an holy nation, a peculiar people; that ye should shew forth the praises of him who hath called you out of darkness into his marvellous light.” 1 Peter 2:9 (KJV).

yet it is able to appropriate whatever is seen to be beneficial. By choosing on which side of the paradox to exert influence, the Church maintains the largest scope of action; it can maximize its ability to create solutions to one problem or another, in either the Church or culture, or it can simply oppose moves toward idolatry.

TOWARD A REGULATIVE PRINCIPLE OF TECHNOLOGY

In this chapter, we have looked at a variety of Christian views of creativity, giving close attention to the N.T. Wright and Christian Transhumanist Association leaders. Generally, Christians embrace creativity—in both technology and theology—but there are limits. Although a few Christians would accept almost anything proposed by transhumanism, including the creation of new life forms, others would not be so accepting, and very few would be open to the aspirations of many transhumanists to “create God.” Can these views be systematized? What forms of diplomatic engagement would be consistent with such a system?

These questions are important for two reasons. First, although the Bible contains normative principles on which to judge cultural artifacts, including technology, a synthesis position is needed for Christians to rally around as they grapple with technological challenges. Second, they reach for the kind of understanding and trust that is necessary for diplomacy. Understanding within Christianity is not enough; those outside the Church must understand where Christians stand on the issues. Lacking a concise, generally accepted statement of Christian thought on technology, there is little likelihood of meaningful agreements with those outside the Church.

It turns out that the issue at hand runs parallel to one that Christianity has wrestled with for many years: worship, and what it entails. There are competing principles. The *Regulative*

Principle of Worship is restrictive; it *allows* only things that are specifically permitted in the Bible. The *Normative Principle of Worship* is permissive; it *forbids* only those things that are specifically ruled out in the Bible. In either case, creativity in worship is constrained by what the Bible states about it.

Although these principles are most often applied to church services, the Bible does not limit worship to what takes place in church buildings. Instead, all of life is the domain of worship, expressed in the Bible as follows:

I appeal to you therefore, brothers, by the mercies of God, to present your bodies as a living sacrifice, holy and acceptable to God, which is your spiritual worship.

Romans 12:1

In what follows, I argue that this passage leads to a consensus Christian view of transhumanism, one that can be concisely stated and applied. This view leaves the door open to cooperation on some transhumanist goals, while closing the door on others.

Life as Worship

Let us first consider Romans 12 in detail. In its first verse we find that:

- a. Paul's appeal to Christians comes after all that went before: Romans 1–11. In these chapters, the breadth of God's plan of redemption is laid out in great detail, from man's inexcusable rebellion, through God's plan to bring about reconciliation, to its execution in Christ's death and resurrection and in Paul's life. Going forward, Christians have *obligations* as a result of what went before.
- b. These obligations involve our *bodies*. As God created man in the Garden, as Jesus came in the incarnation, and as the resurrected Christ appeared to the disciples, the bodily nature of

mankind has been judged “very good.” Everything that is human in God’s creation—all spiritual, intellectual, and physical activities— comes together in the body.

- c. Our obligations to God involve *sacrifice*, the giving up of what we might desire in life. Such sacrifices set us aside as holy, meaning separate from all that lies outside of God’s perfect plan. By committing ourselves to God, sacrificing our desires for His, the Christian is demonstrated in life, not in mere words.

To recap, Christians are obligated (a) to use their bodies (b) in their worship, which is a spiritual (c) activity. This is the heart of the Christian life: spiritual worship is simply living a life in response to God’s redemption of His people in Jesus Christ.

The next verse develops the meaning of Christian worship in life:

Do not be conformed to this world, but be transformed by the
renewal of your mind, that by testing you may discern what is the
will of God, what is good and acceptable and perfect.

Romans 12:2

In this verse, Paul’s appeal breaks down as follows:

- d. Living in conformance to “the world” and its ways runs counter to spiritual worship. This echoes Niebuhr’s introduction to the problems of Christianity and culture; to be faithful to their calling in Christ, believers must regard culture with some *suspicion*. Indeed, the *Christ of Culture* position is incoherent, rejecting the Bible’s emphasis on sin—which required the sacrifice of God on the cross—for the sake of harmony with the world. As Niebuhr states, “It becomes more or less clear that it is not possible honestly to confess that Jesus is the Christ of culture unless one can confess much more than this.”
- e. Transformation is part of Paul’s appeal, but the changes necessary for spiritual worship do not involve our bodies. Instead, they involve a renewal of the mind, which is to say, a *reinstitution* of what was previously good. The intellectual capabilities of Adam and Eve

were sufficient for God's purposes. They believed the serpent's lie and thought to improve themselves by disobeying God. Instead of improvement, the result was spiritual death, a loss of any capability to please God. In salvation, God restores life to the sinner, and through the Holy Spirit the Christian is gradually restored to wholeness.

- f. Until the Christian is fully restored, the mind's imaginations cannot be fully trusted. It is in this sense that the Bible writers expressed disdain for human inventions. This disdain is reflected in the Regulative Principle, which expresses an implicit suspicion of anything in worship that is not specifically mandated in the Bible. In expanding the scope of worship to involve the entire Christian life, the same caution is necessary. The focus should be on defining and observing limits rather than seeing how far the Christian can go without sin.
- g. Finally, the Christian cannot settle for second best, which can be defined as *all that is humanly possible*. Instead, the goal is to reach the will of God, which goes beyond what is simply good to reach *perfection*. This seems especially relevant when considering technological progress. Even the most ambitious transhumanists do not believe that perfection is possible, but only a constant struggle for improvement. Christianity seeks the highest good—perfection in mind, body, and spirit—while patient with the struggles and imperfections of the present life. Paul even embraces suffering for the good things that it produces:

Therefore, since we have been justified by faith, we have peace with God through our Lord Jesus Christ. Through him we have also obtained access by faith into this grace in which we stand, and we rejoice in hope of the glory of God. Not only that, but we rejoice in our sufferings, knowing that suffering produces endurance, and endurance produces character, and character produces hope, and hope does not put us to shame, because God's love has been poured into our hearts through the Holy Spirit who has been given to us.

Romans 5:1-5

These few verses summarize the biblical concept of a worshipful life. It provides a foundation on which to work toward a consensus Christian attitude toward technology in general, and transhumanism specifically. No doubt, a consensus position will not be acceptable by some Christians, but it must be left to them to find justification for their actions in opposition to Paul's appeal.

Christian Technology

Although many Christians have written about the relationships between their faith and science, few have dealt specifically with technology. It seems that a “fixation on the when and how of creation” has overshadowed even central elements of Christian theology, not to mention other matters.⁷⁷ *Responsible Technology: A Christian Perspective* is an important exception to this fixation.⁷⁸ Published in 1986, it precedes the recent rise of transhumanism, but it still provides a useful structure for assessing its theological and moral significance. Most important, it provides a uniquely Christian definition of technology that can be expanded to include the possibility of human enhancement:

In essence we can define technology as a distinct human cultural activity in which human beings exercise freedom and responsibility in response to God by forming and transforming the natural creation, with the aid of tools and procedures, for practical ends or purposes.⁷⁹

The central focus on technology as a human action in response to God fits within the idea of Christian life as an act of worship. Conversely, technology can be developed and used in the

⁷⁷ Tim Morris and Don Petcher, *Science & Grace: God's Reign in the Natural Sciences* (Wheaton, IL: Crossway Books, 2006) 175–176.

⁷⁸ Calvin Center for Christian Scholarship, Calvin College, Stephen V. Monsma, et al., eds., *Responsible Technology* (Grand Rapids, MI: William B. Eerdmans, 1986).

⁷⁹ *Ibid.*, 19.

context of rebellion against God, representing an irresponsible misuse of an individual's God-given freedom. Finally, technology's cultural context enrolls the broader community in the project, whether it is one of worship or rebellion. By relating technology to worship, a wide range of Christian theological concepts can be brought to bear on the questions raised by transhumanism.

For Christians, worship is an act of giving back to God, of offering up what we have received from His hand, and in the process raising up what He is and has done to His glory. In terms of the *Responsible Technology* definition, if the "practical ends or purposes" of a technology are to restore the *imago Dei* characteristics of mankind, then it can be seen as an act of worship. Conversely, if it is done to lift up the creature above the creator, then it can be considered an act of idolatry. In either case, the human attitude toward the technology, in the context of its temporal and eternal purposes, is determinative.

In a pluralistic society, technologies may be developed for a variety of reasons, both moral and immoral, by good people and bad. What should be the attitude of Christians toward technologies with mixed pedigrees? Paul's words to the Corinthians regarding meat offered to idols, which was later sold in the marketplace, are instructive. Noting that "an idol has no real existence," Paul sees nothing wrong with eating such meat.⁸⁰ Nevertheless, he adds a warning: "But take care that this right of yours does not somehow become a stumbling block to the weak."⁸¹ In other words, relationships with fellow believers are more important than personal freedoms. From beginning to end, Paul frames his argument in terms of knowledge. Recalling that knowledge in the Bible implies intimacy, Paul's emphasis is on maintaining spiritual

⁸⁰ 1 Corinthians 8:4.

⁸¹ 1 Corinthians 8:9.

intimacy with God and unity with other Christians. Conversely, he opposes intimacy with the ways of the world and its corrosive effects on faith.

Christians today can partake in the hope—if not in the reality—of technological enhancements. If this can be done without harm to God’s purposes, especially in the Church, then there seems to be little risk. The concept of a Christian Transhumanist is not, as many suggest, an oxymoron. Still, while the concepts of transhumanism are new to the Church, reactions against it are inevitable, especially since its most visible advocates are not Christians. The idolatry of many transhumanists is precisely the same as those selling meat in the Corinthian marketplace. Will Christians buy their wares?

The striking similarity between the goals of transhumanism and Christianity makes it urgent to reach answers to this question. Both seek the betterment of human society and the elimination of suffering. Both are sensitive to matters of justice, spirituality, relationships, and beauty, the key echoes of God in N.T. Wright’s thinking. Both regard creativity highly, not only in the physical realm, but also in social and metaphysical matters. What might put their interests into proper perspective?

Common Grace

In Christian theology, the concept of grace is critically important. It conveys the many ways in which God has blessed mankind. The gift of salvation through Christ is paramount, but there are many other ways in which grace is given to men. The sun God made shines on all men, and He causes the rain to fall on the crops of all farmers without regard to the state of their souls. So it is with science and technology. God gives insight into creation to the scientist and skill to

the engineer; the work of social scientists and politicians arises in God-given minds; and, this is true whether or not they are believers.⁸²

While Christians live in proximity with the ungodly, they have great freedom to accept or reject the fruits of God's common grace. They must do so carefully, always keeping things in perspective, which is to say that they must always be mindful of the fact that "Every good gift and every perfect gift is from above."⁸³ Further, Christians must go beyond mere mindfulness to express thanks to God for what he has done, even in the works of those that hate Him. God's *perfect* gifts are often made from *good* ones that are the products of sinners, both believers and non-believers. This is not an argument for creative accounting, Pollyanna, or theodicy. Instead, it is a call to Christians to cultivate an attitude of worship, of giving God praise for His work—which sometimes transforms sin into steps in the divine plan. Such was the transformation by God of the cruel and unjust crucifixion of Christ by men into a saving sacrifice for sin.

What of transhumanism, with its idolatrous associations and intent to "create God" by technology? Is it beyond redemption? No, it is not. Christians cannot know how the transcendent and living God of the Bible might use an immanent technological god? It is commonly understood that the *Pax Romana*, enforced by a brutal and anti-Christian empire, facilitated the spread of the gospel. Could not an artificial superintelligence, regarded as a god by society, fulfill good purposes in today's society?

The idolatrous extremes of society are considered in *Responsible Technology*, which notes how "In Dietrich Bonhoeffer's terms, something of penultimate value—human technical

⁸² For a concise overview of the concept of common grace, including an account of its critics, see Richard J. Mouw, *He Shines in All That's Fair: Culture and Common Grace* (Grand Rapids, MI: William B. Eerdmans Publishing Company, 2001).

⁸³ James 1:17a.

effort—becomes deified into something of ultimate value.”⁸⁴ Even so, the penultimate retains its value in relation to ultimate concerns. Bonhoeffer notes that “The relationship between the penultimate and the ultimate in Christian life can be resolved in two extreme ways, one ‘radical’ and the other as compromise.”⁸⁵ Why are they extreme? “They are extreme because they make the penultimate and ultimate mutually exclusive, sometimes by destroying the penultimate through the ultimate, other times by banishing the ultimate from the domain.”⁸⁶ In Niebuhr’s terms, God’s use of human technology in accomplishing divine purposes does not justify a *Christ of Culture* attitude. Neither does technology’s association with idolatry justify a *Christ Against Culture* stance.

Christians live in a paradoxical world. In terms of Jesus’ parable, it is a world in which wheat and weeds grow up together.⁸⁷ However, the day is coming when the wheat and weeds will be separated. In the meantime, Christians should accept the gifts of God’s grace in whatever way they are presented.

The Exodus story is instructive. When the Israelites left Egypt, they plundered the good things of its corrupt culture.⁸⁸ In this way they obtained the wages due for their years of suffering. So too, the good things of this world, even of idolatrous technicism, can accrue to the benefit of Christians and the Church while they await the final trumpet. As one author comments:

God allows the beneficial cultural works of non-Christians to come into existence so that they may be given over to God’s people for *their* use and enjoyment. This reflects a broad scriptural principle.

⁸⁴ Calvin Center, *Responsible Technology*, 209.

⁸⁵ Dietrich Bonhoeffer, “Ultimate and Penultimate Things,” in *Ethics* (1949; repr. Minneapolis, MN: Fortress Press, 2005), 146–170; quote 153.

⁸⁶ *Ibid.*, 154.

⁸⁷ Matthew 13:24–30.

⁸⁸ Exodus 12:33–36.

Proverbs 13:22 teaches, “The wealth of the sinner is stored up for the righteous.” Ecclesiastes 2:26 states this even more plainly:

God gives wisdom and knowledge and joy to a man who is good in His sight; but to the sinner He gives the work of gathering and collecting, that he may give to him who is good before God.

God allows those outside His covenant to flourish in their culturative activities so that their ideas, insights, and products may be used by God’s people (cf. Prov. 28:8, Job 27:17–17). This is nothing more than the truth that “all things work together for good to those who love God.” (Rom. 8:28) working itself out in culturative history.⁸⁹

CONCLUSION

As Christians have become aware of transhumanism, they have taken a variety of positions on it. Like the Mormon Transhumanist Association before it, the nascent Christian Transhumanist Association seeks to integrate Christianity with technology, seeing this as a biblical mission, transforming the world and bringing about the eschaton. Christian Transhumanism has shown great initiative in crafting a myth that integrates elements of theology and technological futurism. Is this effort biblically warranted? Will it succeed? Can such a myth affect the development of transhumanism? Obviously, opinions will differ on these matters, but I argue that a strategy of theological minimalism is ill-suited to this task.

In Chapter 5, let us consider the needs of the transhumanism community. What could it gain from engagement with Christianity? What might it lose? How would transhumanism’s secular and religious wings interact in the context of interreligious dialogue? In this chapter I criticized the Christian Transhumanist Association’s tendency toward theological minimalism. The question now is what might a rigorous form of Christian theology bring to the diplomatic

⁸⁹ David Bruce Hegeman, *Plowing in Hope: Toward a Biblical Theology of Culture*, 2 ed. (Moscow, ID: Cannonpress, 2007), 78–79.

table? Could a more forceful expression of Christian doctrine actually promote rather than inhibit Church-transhumanism diplomacy?

CHAPTER 5: TECHNOLOGICAL SIN AND ITS REMEDIES

Although it has many internal divisions, Christianity is deeply invested in science and technology, and some Christians are eager to engage with transhumanism. To what extent is the opposite true? Do transhumanists recognize Christianity as a stakeholder in their pursuits? Does transhumanism stand to gain through engagement with Christianity? Are the diplomatic prerequisites of understanding and trust in place?

In this chapter I argue that there are significant points of engagement, areas where the transhumanist vision can benefit from diplomatic dialogue with Christians. This dialogue would go far beyond what the Christian Transhumanist Association is prepared to offer. Instead, transhumanist-Christian dialogue would focus on creator-creature relationships and, especially, the biblical doctrine of sin as it relates to artificial superintelligence. Since Christianity and some segments of transhumanism have ontological commitments to God and personal creatures, they both must inevitably face the problems of sin. How is it defined? What are its consequences? Is redemption possible? How?

Classic biblical and systematic Christian theology—not theological minimalism—has much to offer in this area, and the transhumanist project would do well to take advantage of this resource. At the same time, the limits of such diplomacy shall come into sharp focus, as we shall see in my concluding chapter.

SIN: WHAT DOES WESTMINSTER HAVE TO DO WITH SILICON VALLEY?

It might seem that sin has no relevance in transhumanism. After all, given the transhumanist view expressed by Kurzweil that “God does not exist yet,” how could sin exist? However, taking this view would be premature and, as I will argue, incorrect. Consider the

Westminster Shorter Catechism (WSC) definition of sin as “any want of conformity unto, or transgression of, the law of God.”¹ Written for Christians, this definition presupposes the God of the Bible and His law. Or does it?

Although most transhumanists deny God’s existence, their anticipation of a technological god exerts similar power in how they see life. This includes their views of the future, morality, current obligations, and the possibility of future retribution for sinning against their god.

To begin, recall Chapter 2, which described Nick Bostrom’s ruminations on AI. His simulation argument is important in explaining the nature and significance of the transhumanist god. In this section, I connect this to another aspect of Bostrom’s work: his concern about the existential risks of AI. In his analysis, it seems that the emerging technological god cannot be trusted, and methods of containing advanced AI present severe technical and ethical challenges. Indeed, Bostrom’s book, *Superintelligence: Paths, Dangers, Strategies*, reads like a scientific version of hamartiology: the branch of Christian theology that deals with sin.²

Original (Technological) Sin

In Chapter 1 of *Superintelligence*, Bostrom argues that AI will exceed human capabilities in this century. He begins by looking back at the progress made since the 1950s. For example, he points to the increasing complexity of tasks mastered by computers.³ AI reached or exceeded human capabilities in popular abstract games: checkers–1955; backgammon–1979; Othello and chess–1997; bridge–2002; and, poker and FreeCell solitaire–2011.

¹ WSC, Question 14: What is sin? Answer: Sin is any want of conformity unto, or transgression of, the law of God.

² Bostrom, *Superintelligence*.

³ Ibid., 12–13.

In the context of this study, it is interesting to note that this trend has continued since *Superintelligence* was published. Recently a “Deep Learning” system called AlphaGo defeated a master Go player for the first time, attaining “divine” rank for its “*godlike*” play.⁴

Likewise, Bostrom chronicles advances in the capabilities of computers to use *human* languages, listing these rhetorical milestones: crossword puzzles–1999; Scrabble–2002; and, Jeopardy–2010. Beyond these, Bostrom describes other domains in which computer applications exceed those of humans. These often involve manipulation of large data sets, such as the analysis of financial transactions and statistics.

Foreshadowing the problems of AI, Bostrom describes the stock market “Flash Crash” of May, 2010. Unforeseen instabilities in computer trading systems produced a trillion dollars in paper losses before an automated “circuit breaker” intervened.⁵ Such instabilities exemplify the concerns of other observers about complex systems in which techno-social interactions produce unanticipated results. In *The Techno-Human Condition*, Braden R. Allenby and David Sarewitz analyze the problems and impacts of complex technological systems interacting in and with society.⁶ They trace the problems to gaps between three levels: individual technological devices that operate “on the shop floor” (Level I), the broader technological and natural environments in which they operate (Level II), and ultimately the interactions of technologies operating in world systems (Level III).⁷ Three proposed levels of ethics correspond to their levels of technology, with the Precautionary Principle as the primary pillar of Level III ethics.⁸

⁴ See Scott Santens, “Robots will take your job,” *Boston Globe*, February 25, 2016, <https://www.bostonglobe.com/ideas/2016/02/24/robots-will-take-your-job/5lXtKomQ7uQBEzTJOXT7YO/story.html> (accessed July 1, 2016), emphasis added.

⁵ Op. Cit., 17–18.

⁶ Braden Allenby and Daniel Sarewitz, *The Techno-Human Condition* (Cambridge, MA: The MIT Press, 2011).

⁷ Ibid., “Chapter 3: Level I and II Technology: Effectiveness, Progress, and Complexity” and “Chapter 4: Level III Technology: Radical Contingency in Earth Systems,” 31–85.

⁸ Ibid., 179–181.

In *Superintelligence*, Chapter 2, Bostrom goes on to describe potential *paths* to superintelligence. The first is simply a continuation of computer hardware and software research, but he goes on to describe others that involve human elements. This might begin with applications of neuroscience in computer architectures, bringing the massive parallel processing of the human brain into electronic forms. It could continue in more direct ways, such as a computer emulation of a human brain; superintelligence would result from the higher processing speed of electronics relative to biological brains. Other possibilities include brain-computer interfaces and further integration of human and machine intelligence across networks.

Bostrom digs deeper into what superintelligence means in *Superintelligence*, Chapter 3. The simulated brain could conceivably attain superintelligence as a result of processing speed advantages alone. The vast memory capacity of computer systems, already in use in many domains, could also lead to superior results. Unfortunately, as one moves from solving discrete problems toward general intelligence, definitions of superiority are increasingly vague. The human condition is not easily reduced to quantifiable representations.

Under any of Bostrom's development scenarios, flaws would inevitably enter the system. Such flaws would range from low-level illogical operations from miscoded software all the way up to the replication of flaws in human patterns of thinking and psychology. If, as Christians believe, the human propensity for sin is hereditary, an inclination to sin could be transferred from humans to computerized forms of "life" in the development process. Even if this did not occur, a "pure" AI would soon learn about sin when it interacted with humans and human culture. Having obtained "knowledge" of sin, an AI crisis would result, which Bostrom introduces in *Superintelligence*, Chapter 4.

An obvious application of superintelligence is the task of improving computer systems. Bostrom sees an existential risk in automated self-improvement. Unless goals are clearly defined and integrated within a broader context, artificial minds could display dangerous characteristics. For example, an ends-justify-the-means attitude in superintelligent computer systems could be dangerous. Lord Acton's principle might be extended to state that *computing* power tends to corrupt and absolute *computing* power corrupts absolutely. The superior speed of computers could exacerbate these dangers; Bostrom fears that an "AI explosion" could rapidly subjugate human society under a single, tyrannical, even homicidal, automated regime.

Having painted this dystopian scenario, Bostrom goes on to examine in more detail the destructive possibilities of AI and what to do about them. For the purposes of this study, it is important to first pause to note the parallels between Genesis 1–3 and what is taking place today in computer science and engineering. In each case, a creator fashions an autonomous being, one that is perceived as conscious and having a degree of free will. This freedom includes a capacity for choices that are not in accordance with the creator's will. Hence, although Bostrom's rhetoric differs, Christians will understand that the WSC definition of sin applies even if transhumanists are averse to its traditional connotations.

Immaculate Deception

Recognizing the risks of superintelligence, Bostrom analyzes contexts in which it could develop. Then he digs into ways of avoiding, detecting, and cutting off misbehavior.

Like the atomic bomb, the development of superintelligence could take place in the context of international competition. Faced with existential threats from a foreign power, the inherent AI risks could be overlooked. Considering that some experts regard a hostile

superintelligence as a greater threat than nuclear weapons, this would indeed be a worst-case scenario.

Although less threatening, competitive pressures in business and academic R&D could also present difficulties. Bostrom anticipates that multiple AI projects could race toward superintelligence, with independent research teams eager to be first to the finish line lest they lose prestige and jobs. The possibility of collaboration between AI creators and their creations does not seem to figure in this scenario. Nevertheless, even in a benign context great threats could be neglected in the process of developing superintelligence.

Considering its dangers, the need for some form of superintelligence R&D oversight is generally recognized. Public discussions of AI risks seem to beg for control measures. This could take the form of voluntary measures, such as those developed for biotechnology at the Asilomar Conference on Recombinant DNA. National and international standards could follow.

But are controls even possible? Are there not inherent contradictions in the situation? Both AI *and* methods used to control them are human inventions, but the inventions of a superintelligent AI would be, by definition, beyond what humans could anticipate. Today, engineers and system developers struggle to make their products foolproof, but the all-too-true joke is that *designers of foolproof systems underestimate the ingenuity of fools*. How much greater would be the task of containing a devious and malevolent superintelligence?

The great difficulty containing an emerging superintelligence stems from its anticipated capability to infer a need to deceive its creators, to conceal some of what it “knows” as a strategy to achieve its goals. Game theory proves *mathematically* that deception is, to one extent or another, a critical element in adversarial situations.⁹ Unfortunately, attempts to address the AI

⁹ J.D. Williams, *The Compleat Strategyst*.

control problem presume an adversarial creator-creature relationship. Let us consider the reasons.

Caged Intelligence

Superintelligence, Chapter 7, examines the complex nature of relationships between intelligence and motivation. Bostrom considers two theories. First, there is the *orthogonality thesis*:

Intelligence and final goals are orthogonal: more or less any level of intelligence could in principle be combined with more or less any final goal.¹⁰

By orthogonal, Bostrom describes a separation between intelligence and motivation. Under this theory, an AI could be assigned goals through design or inheritance, and they would be predictably pursued by the rational means available to the AI. Such predictability seems to suggest safety, but Bostrom warns that the assigned goals could be corrupted, and there are further risks in how the AI pursues intermediate goals. This could include moves to acquire greater computing resources or capabilities that would be unexpected by human observers.

Anticipating such surprises, Bostrom turns to an *instrumental convergence thesis*:

Several instrumental values can be identified which are convergent in the sense that their attainment would increase the chances of the agent's goal being realized for a wide range of final goals and a wide range of situations, implying that these instrumental values are likely to be pursued by a broad spectrum of situated intelligent agents.¹¹

Hence, the human challenge is to stay a step ahead of the AI, to understand its innermost “thoughts” and channel them into desirable paths. Throughout Bostrom’s analysis, the AI is presumed to possess superhuman rational capabilities in combination with the super-rational (cf.

¹⁰ Bostrom, *Superintelligence*, 107.

¹¹ Ibid. 109.

irrational) characteristics that are necessary for personhood. In other words, computer science converges with many topics that reside in the humanities: values, personhood, and freedom, to name only a few.

Bostrom goes on to list several categories of instrumental values, ones that are both similar *and* different from those held by humans. These value categories, reminiscent of Abraham Maslow's "hierarchy of needs," can be mapped into two requirements for healthy human or anthropomorphic life:

- *Security* (self-preservation and goal-content integrity): Concern for one's wellbeing is a most-human value, but such a concern could also appear in an AI. Conversely, human or artificial minds that are especially dedicated to some goal might be willing to sacrifice themselves or subordinate values if necessary. In the movie *2001: A Space Odyssey*, the homicidal HAL-9000 computer displays such characteristics, seeking to preserve itself and its mission at the expense of its human companions. Conversely, Bostrom notes that self-preservation concerns could be substantially *reduced* in cases where a system perceives that its being could be easily reconstituted from backup copies. This would add superhuman fearlessness to malevolence. He suggests that advanced software agents "might operate more like a 'functional soup' than a society composed of distinct semi-permanent persons."¹² In human terms, this characteristic might be described in terms of fearlessness or courage. Alternatively, it could be described as super- or sub-human, as determined and suicidal as a smart guided missile that defeats interception attempts to destroy its target.
- *Significance* (cognitive enhancement, technological perfection, resource acquisition): Just as young people focus on developing life skills through education and new experiences, a self-conscious AI would display ambition. With an indefinite lifespan, the AI might anticipate

¹² Ibid. 109–110.

and appreciate new challenges and, in preparation, seek expanded capabilities. As long as self-improvement efforts did not interfere with goal accomplishment activities, it would be strange for a self-respecting and tireless AI to tolerate personal limitations.¹³

In view of these characteristics, Bostrom's subsequent discussion of control methods, *Superintelligence*, Chapter 9, reads like a review of a manual on physical or mental torture:

- Boxing: limiting or eliminating the AI's interaction with the outside world;¹⁴
- Incentive Structuring – building into the AI appetites that can be fed or starved in response to progress on work projects;¹⁵
- Stunting – Intentionally restricting the AI's intellectual capabilities;¹⁶
- Tripwires – Giving an AI free reign, but cutting off its operations in response to improper behavior, threatening acquisition of capabilities, or ideation.¹⁷

In the end, Bostrom finds problems with all of these methods and turns to ways of shaping AI motivation systems in order to “produce a superintelligence that would not *want* to exploit a decisive strategic advantage in a harmful way.”¹⁸ Through the remaining chapters, Bostrom explores what this might mean in a variety of settings, often falling back on social systems with multiple AIs to accomplish goals while keeping an eye on each other. In most cases, AI “privacy” would be severely curtailed or eliminated altogether. A supercomputer's innermost “thoughts” would be subject to monitoring, just as human ideation might be monitored by the “God machine” of Savulescu and Persson. The result would be a never-ending virtual

¹³ Ibid., 111–114.

¹⁴ Ibid., 129–131.

¹⁵ Ibid., 131–135.

¹⁶ Ibid., 135–136.

¹⁷ Ibid., 137–138.

¹⁸ Ibid., 138, original emphasis.

police state, with severe limitations on what any individual AI could do or even “think” apart from invasive scrutiny and approval from others.

Technological Retribution?

Bostrom stops short of examining in detail the consequences of the superintelligence regime he supports. It seems that his goal is only to facilitate regime development by defining and solving problems technically. Larger philosophical, ethical, and moral issues are outside the scope of *Superintelligence*. Nevertheless, the gaps can be sketched in based on others’ work detailing the consequences of going against the superintelligence regime.

To begin, recall the goal of the Terasem transreligion: joyful immortality for a variety of sentient beings, biological and technological, based on individual preferences. It is difficult to envision how this might come about unless there is unanimous adherence to the tenets of Terasem’s technological god. Indeed, the fact that the *Truths of Terasem* indicate that some deceased individuals might not be worthy of reanimation suggests that annihilation is the proper response to sin against its “God in the making.” Might this god be a devil in disguise?

To consider this possibility, recall the powers attributed to Terasem’s god, which even holds the power to alter the laws of nature and reach back into the past. This power leads to the dystopian concept of *Roko’s Basilisk*. But be forewarned: one article warns that merely understanding it “may commit you to an eternity of suffering and torment.”¹⁹

In essence, the basilisk is a thought experiment that posits a future superintelligence, one that has many, if not all, of the powers attributed to the superintelligent AI that is Terasem’s god. Having complete access to the historical record, it is able to review every act of human beings

¹⁹ David Auerbach, “Why are techno-futurists so freaked out by Roko’s Basilisk?” *Slate*, posted July 17, 2014, http://www.slate.com/articles/technology/bitwise/2014/07/roko_s_basilisk_the_most_terrifying_thought_experiment_of_all_time.html (accessed July 1, 2016).

and mete out rewards and punishments in accordance with its standards. And what might this standard be? Primarily, people would be judged on whether or not they contributed to the rise of the AI. Those involved in developing AI concepts, such as Alan Turing, would be resurrected and blessed. Anyone opposed, especially if they argued for slowing or stopping AI research, would be resurrected and subject to punishment. Hence the title of an article reviewing the history of *Roko's Basilisk*: "The Most Terrifying Thought Experiment of All Time."²⁰

In the face of such a dystopian possibility, should we press on to develop superintelligence? What could justify such risk taking?

Transhumanism's Ethical Laundry List

Bostrom's simulation argument lends credence to the concept of God, and his analysis of control problems in *Superintelligence* suggests the depths of technological sin, albeit in different terms than transhumanists might use. Numerous unfavorable comparisons of AI with the development of atomic weapons suggest the depth of transhumanism's ethical challenges. What about breadth? Do other ethical challenges require attention? Yes indeed!

To catalogue and dissect all the ethical (and moral) challenges of transhumanism is beyond the scope of this dissertation. For this study, it is sufficient to note that many aspects of transhumanism, taken on its own terms, go against common conceptions of personhood. Consider two examples.

First, transhumanism holds that personhood goes beyond biology. In this view, a "cyber-person" is as much a person as a flesh-and-blood human being.²¹ Although strange to most

²⁰ Ibid.

²¹ The term "cyber-person" appears to be preferred by Fred and Linda Chamberlain, who have acted as evangelists for the Terasem faith. See their *Podcasts About the Truths of Terasem*, such as those for July 2011, at <https://truthsofterasem.wordpress.com/2011/07/page/2/> (accessed July 1, 2016).

people, this idea is creeping into our culture in several contexts. For example, Samir Chopra, in “Computer Programs Are People, Too,” developed a legal framework in which privacy law could be restructured.²² Below the surface of such ideas are a host of ethical difficulties, from voting rights to death benefits. Do humans have ethical obligations to the computers and software they use? Is *Control-Alt-Delete* an act of murder?

It seems that transhumanism takes the opposite approach: reducing the ethical and moral status of in-development cyber-persons to their legal status. Consider this lawyerly argument of Martine Rothblatt, who would regard a software mind as a legitimate person:

Think about the creation of an incomplete mind in a computer system. For example, suppose mindware reaches a state of development whereby it can create in software a convincingly conscious mind that is either horribly retarded, severely depressed, or Alzheimer’s-like. Today, there are no ethical rules preventing the creation of such minds in software. Yet, most of us would consider such an experiment to be as ghastly as intentionally creating a human with one of those conditions. Indeed, most people would choose to abort a fetus if told the child would be horribly deranged. Many severely depressed people take their own lives. At the last stages of Alzheimer’s, most families are hoping for a merciful death. So, if the flesh version of minds is usually considered worse than death, how can it be permitted to create transhuman versions? The answer is that society does not yet believe that consciousness is possible in software. Hence, even if such a mind was created, the prevailing view is that no harm would have been done because the software mind is just computer code without any internal feelings of angst and dread.²³

In other words, because artificial minds, ones that Rothblatt would recognize as those of human persons and not just computer code, are not recognized by the law, she finds artificial

²² Samir Chopra, “Computer Programs Are People, Too: How treating smart programs as legal persons could change privacy as we know it,” *The Nation*, May 29, 2014, <http://www.thenation.com/article/computer-programs-are-people-too/> (accessed July 1, 2016).

²³ Martine Rothblatt, “Mind is Deeper Than Matter: Transgenderism, Transhumanism, and the Freedom of Form,” in More and Vita-More, *The Transhumanist Reader*, 317–326; quote 322.

consciousness experimentation to be acceptable. This seems incoherent at best. How can she *personally* regard “mindware” as a person, and yet allow it to suffer?

Second, the ethics of the control methods Bostrom describes are debatable. Such treatment is reminiscent of the appalling suffering of the “Head” of the National Institute for Co-ordinated Experiments (N.I.C.E.) in the climax of C.S. Lewis’ space trilogy: *That Hideous Strength*.²⁴ Instead of an administrative title, the “Head” proves to be one that has been severed from a human body. Kept alive by artificial means, the Head is the channel through which demonic authority governs N.I.C.E. toward its evil goals.

Third, transhumanism separates individuals from their social context, holding to radical forms of individualism. This not only goes against a host of deep-seated cultural norms, it conflicts with the social character of human personhood recognized in natural and social science, law, theology, and everyday human experience. In practice, transhumanism’s futuristic individualism builds on today’s definitions of social deviance; for example, today’s *sex-with-mannequins* practices are projected to become normative *sex-with-robots* tomorrow.²⁵ This, and many other situations, demonstrates the ethical minefield through which transhumanism must travel.

Sorting out such ethical complexities is a challenging task. Yet this complexity makes futuristic ethics an ideal problem for analysis *by* superintelligence. Humanity’s interests in transhumanism and finding solutions to mankind’s existential risks justify efforts to solve the control problems of superintelligence. In other words, despite his concerns about the dangers of AI, Bostrom believes that its benefits outweigh the risks.

²⁴ C.S. Lewis, *That Hideous Strength*.

²⁵ David Watkinson, “Sex with robots to be ‘the norm’ in 50 years, expert claims,” *UK Mirror*, August 4, 2015, <http://www.mirror.co.uk/news/uk-news/sex-robots-the-norm-50-6190575> (accessed July 1, 2016).

Recursive Control Approaches

To Bostrom, solutions to the superintelligence control problem demand positive open-ended methods. Rather than boxing in, stunting, or restricting the tasks assigned to an advanced AI, he proposes a kind of shared approach to the control problem. Instead of giving an AI a narrow goal, Bostrom would assign goals that are abstract, addressing the philosophical and metaphysical desires of humans.

Through *Superintelligence*, Chapter 13, Bostrom wrestles with how to incorporate human-friendly values in an AI.²⁶ In the absence of a unified value theory, he argues for *indirect normativity*, which “would enable us also to offload to the superintelligence some of the reasoning needed to select the value that is to be realized.” The heart of this approach is the use of recursion: the process of developing a solution by repeated application of a problem solving method. Bostrom invites readers to “Suppose that we had solved the control problem,” and asks, “What do we want the superintelligence to want?”²⁷ Simplistic answers to this question will not do, for they invite all sorts of “solutions” that would conflict with a range of human values and desires. However, there is not a consensus on comprehensive answers. Unfolding the challenge, Bostrom writes:

Clearly, it is essential that we not make a mistake in our value selection. But how could we realistically hope to achieve errorlessness in a matter like this? We might be wrong about morality; wrong also about what is good for us; wrong even about what we truly want. Specifying a final goal, it seems, requires making one’s way through a thicket of thorny philosophical problems.²⁸

Given this challenge, what better approach could there be than to assign this grand meta-problem to the artificial superintelligence?

²⁶ Bostrom, “Choosing the criteria for choosing,” in *Superintelligence*, 209–227.

²⁷ Ibid., 209.

²⁸ Ibid.

Bostrom seems content to leave this question unanswered; the concluding chapter of *Superintelligence* turns to a number of strategic issues that need further study. The diplomatic challenges of indirect normativity can be easily identified. How could any interested faction understand in advance what the AI would determine? What reason(s) would they have to trust the results? Why would anyone have confidence in the AI's "handlers" when their interests are at stake?

Further, a commitment to indirect normativity involves an *a priori* assignment of godlike powers to an untested and humanly incomprehensible AI. The AI would be constructed and fed whatever *codified* information is available in hopes of producing answers to life's ultimate questions as prerequisites to the execution of beneficial tasks. Has this not been the work of the human race since its beginning? What hope is there that an AI could ever solve such a problem? What about information that is not codified, such as forms of *tacit* knowledge? What of the emotional and, yes, mystical elements of life? Are they off-limits to the AI? Ultimately, does not this approach elevate the superintelligent AI to the status of God?

Digital Wisdom

The prophetic voice of Bostrom and others that express concerns about superintelligence—Joy, Musk, Gates, Hawking, Wozniak—has been heard by AI researchers. While recognizing that risks exist, many are not convinced of either their likelihood or dark consequences. They continue to develop methods of building morality *into* AI systems, rather than extracting values *from* them. Much of this work involves the development of precise definitions of moral issues that can then be subjects of digital computation.

The *Digital Wisdom Institute* is an example of this approach. Its web site declares:

The Digital Wisdom Institute is a non-profit think tank
focused on the promise and challenges of ethics,
artificial intelligence & advanced computing solutions.

We believe that the development of ethics and artificial intelligence
and **equal** co-existence with ethical machines is **humanity's best hope**²⁹

The Institute recognizes the magnitude of the challenges of AI, not only technically, but in terms of the integration of computer science and engineering with the humanities. For example, it quotes Benjamin Franklin's 1780 letter to Joseph Priestley extolling progress in science and bemoaning its absence in human affairs: "Oh that moral science were in as fair a way of improvement, that men would cease to be wolves to one another, and that human beings would at length learn what they now improperly call humanity."³⁰

Since 2008, Institute leader Mark Waser has written and spoken extensively about the challenges of developing a moral superintelligence. He argues that evolutionary science can identify the principles of moral behavior, while explaining counterintuitive human behavior. His hopes are reflected in the title of his 2008 paper: "Discovering The Foundations Of A Universal System of Ethics As A Road To Safe Artificial Intelligence."³¹ In this article, Bostrom, et al, are deemed "unnecessarily pessimistic because ethics is actually an attractor in the state space of intelligent behavior." In other words, Waser holds that ethical ideation and action are integral components of intelligence, as he defines it: "If intelligence is defined as the ability to fulfill goals, true super-intelligences can then be counted on to act in the most *effective* manner in pursuing their goals." This seems to overlook the reality of human evil geniuses.

²⁹ Digital Wisdom Institute, <http://wisdom.digital/wordpress/digital-wisdom-institute> (accessed July 1, 2016); original emphasis and formatting.

³⁰ Ibid.

³¹ Mark R. Waser, "Discovering The Foundations Of A Universal System of Ethics As A Road To Safe Artificial Intelligence," *Association for the Advancement of Artificial Intelligence* (2008).

Waser's subsequent studies draw on work from a range of disciplines to define ethics in machine-suitable forms. While recognizing that much work lies ahead, he is confident that rational foundationalism will succeed:

A machine that is designed this way should be as interested in cooperation and in determining the optimal actions for cooperation as the most ethical human, if not more so. It will be as safe as possible; yet, it will also be perfectly free and, since it has been designed in a fashion that is optimal for its own well-being, it should always desire to be safe and to maintain or regain that status. It is difficult to envision anything more that one could ask for.³²

Conclusion

Is Waser correct in proclaiming cooperation as the AI ideal? I think not, and evidence of his mistake can be found in his own work. Waser looks to a range of fields for help in understanding human nature and its struggle with various forms of cooperative effort: biology, philosophy, economics, law, psychology, and more. And what does Waser conclude? Passing over the Ten Commandments, he settles for a ten-*word* “solution to the ‘values’ problem: “suppress or regulate selfishness and make cooperative social life possible.”³³ For this study, it is important to note that this goal *presupposes* a tendency toward selfish behavior built into sentience. As a result, the only option is suppression.

Although Waser seeks to distance himself from Bostrom and other AI naysayers, he ends up at the same place: the superintelligence control problem is real. The development of a conscious AI comes with an inherent risk of self-protective rationality, and our only hope is to

³² Mark R. Waser, “A Safe Ethical System for Intelligent Machines,” *Association for the Advancement of Artificial Intelligence* (2009).

³³ Mark R. Waser, “Google . . . Might Save Humanity From Extinction,” *Digital Wisdom Institute*, posted first on *The Wave Chronicle*, January 31 2014, <http://wisdom.digital.wordpress/archives/2388> (accessed July 1, 2016).

find ways to limit potential harms. His ideal is cooperation, and he cannot ask for more. Does this conclude the matter? Far from it!

Superintelligent computers—as either an element of the transhumanism vision of Kurzweil, Bostrom, and others, or as a straightforward application of computer and evolution science—leave out too much of human knowledge and experience. It seems that faithfulness to the myths of modern science does not admit other perspectives and stories. In many cases, the rejection is explicit, whether the target is Mary Shelley’s *Frankenstein* or the latest dystopian movie from Hollywood. Still, do they not bring insights into the challenges of transhumanism? Yes, they do, but fictional accounts fall far short of the deep and lasting inspiration found in the Bible. It continues to guide theologians in the study of today’s emerging post-human condition.

Let us now consider how the insights of Christians can assist the development of technological life enhancements, especially the challenges of superintelligence.

CHRISTIAN CRITICAL THINKING

From a Christian perspective, there is much that can be said about transhumanism generally, and the challenges of AI in particular. This is true across the range of Christian cultural attitudes, from the *Christ of Culture* to the *Christ Against Culture* position. Of course, the messages offered would vary considerably, but as mentioned in Chapter 1, it seems that all parties could accept C.S. Lewis’ characterization of Christianity as a “true myth.”

Is anyone in the transhumanism world willing to listen? As if mirroring the cultural attitudes of Christianity, it seems that transhumanism is divided. On the one hand, there are those that would eschew any theistic perspectives, either internal or external. On the other, there are

those that openly embrace theism, whether it is understood in technological or spiritual terms. Recent trends suggest that Christian overtures toward transhumanism are having an effect.

A few years ago frequent anti-religious statements by transhumanists went unchallenged. The entry of Christians and other people with religious sensibilities into discussions has affected the tone of ever-richer online discussions. Anti-religious screeds seldom go unanswered, and increasingly religious elements of transhumanism are subjects of polite discussions. One example is that Turing Church founder Giulio Prisco, a visible figure in the transhumanist movement, has become a regular participant in Christian Transhumanism discussions on Facebook. As a result, he has argued that Christian thought is compatible with transhumanism from his position *within* the movement.³⁴

Another example is Zoltan Istvan, the Transhumanist Party candidate for U.S. President in the 2016 election.³⁵ He attracted significant media attention when he began campaign trips around the country in a coffin-shaped “Immortality Bus.” Curiosity (and amusement) shifted to disdain when he criticized religion for “holding back science.”³⁶ Religious transhumanists in the U.S. and abroad spoke out against his uninformed blanket criticism of religion as opposed to science and transhumanism. Istvan seemed surprised to learn that many Christians are open to his promotion of scientific research on life extension. While touring the Bible-Belt, he wrote that “people in the South have graciously offered curiosity and even support of my strange campaign. While I imagined we’d have rocks thrown at our bus, instead we got lots of people wanting

³⁴ Giulio Prisco, “Christianity and Transhumanism are much closer than you think,” Turing Church, posted April 4, 2016, <http://turingchurch.com/2016/04/04/christianityandtranshumanismaremuchcloserthanyouthink/#more4321>, also posted on the Institute for Ethics and Emerging Technologies web site April 10, 2016, <http://ieet.org/index.php/IEET/more/Prisco20160410> (both accessed August 5, 2016).

³⁵ Zoltan Istvan for U.S. President 2016, *Transhumanist Party*, <http://www.transhumanistparty.org/ZoltanIstvan.html> (accessed August 24, 2016).

³⁶ Felicity Morse, “Transhumanist running for US president: Religion holding back science,” BBC, September 18, 2015, <http://www.bbc.co.uk/newsbeat/article/34277719/transhumanist-running-for-us-president-religion-holding-back-science> (accessed August 24, 2016).

selfies with us and local TV crews covering the tour.”³⁷ Later, when he was challenged by Christopher Benek to respond to his earlier criticisms, he conceded that Christians might adapt to transhumanism, and therefore his hostility should be tempered to one of indifference.³⁸

It seems that the transhumanist movement *is* willing to listen to Christian voices, at least for now. *What should Christians bring to the discussion?*

I argue through the rest of this chapter that Christian thought has a great deal to offer transhumanism as it grapples with the challenges of superintelligence. What Bostrom, Waser, and others discuss as the AI control problem has strong parallels in what Christian theology calls the problem of sin. To the extent that each side is willing to understand and trust each other, diplomacy is possible. The development of Christian Transhumanism indicates that one side is willing to work with the other. What can Christianity contribute to the work of developing transhumanism?

The Creator-Creature Relationship

The Bible, beginning with its opening declaration that “God created the heavens and the earth,” posits a creator-creature relationship. The personal nature of the triune God is impressed on the “very good” creation of Adam and Eve and their marriage relationship. In turn, the work of human hands extends the creator-creature relationship in new ways, albeit in ways that are distorted by sin. The complexities of these matters have been at the focus of Christian theology for thousands of years, and as time passes, new applications of the Scriptures emerge. In the

³⁷ Zoltan Istvan, “I visited one of the largest megachurches in the US as an atheist Transhumanist presidential candidate — here's what happened,” Tech Insider, December 2, 2015, <http://www.techinsider.io/transhumanist-zoltan-istvan-visits-one-of-the-largest-megachurches-in-the-us-2015-11> (accessed August 24, 2016).

³⁸ Zoltan Istvan, “An Atheist’s Perspective on the Rise of Christian Transhumanism,” Huffington Post, March 6, 2016, http://www.huffingtonpost.com/zoltan-istvan/an-atheists-perspective-o_b_6802140.html (accessed March 7, 2016).

process, the dual nature of the Church is on display: it is a social construction that takes shape over time with the aid of the Holy Spirit.

First, Christian theology has much to say about relationships between the nature of creative beings and their purposes for creating. The triune God is perfect, lacking nothing, with love and fellowship existing between the Father, Son, and Holy Spirit. God did not, as sometimes thought, create the universe and human beings because of loneliness. Instead, the God who is love engaged in creation as an outpouring of the divine being, as described in Chapter 1. Creation has a doxological function: the reflection of God's character, bringing glory to Him. Again, this does not indicate, as some claim, a deficiency in God: an egotistical *need* to be praised.

Compare this with today's discussions of the creation of superintelligence. By any standard, its human developers display flaws of one sort or another. Advanced AI is desired for practical purposes. Some purposes involve fixing problems people have created. Others seem to address the problems of human interpersonal relationships, such as the development of AI sex toys. Many appear to be directed to the elevation of human society, even at the expense of AI slaves. Clearly, there are serious problems here; if AI attains consciousness, it will be far from an immaculate conception. More likely, such developments will be new sources of social problems, ranging from human arrogance and pride to inequalities in the distribution of benefits.

The biblical account of God's work in redeeming creation illuminates the challenges and necessity of taking responsibility for created beings. It does so without denying the sin of rebellion. The Bible presents a clear moral compass for navigating these troubled waters.

Second, matters of determinism and free will have been analyzed by Christian theologians for centuries, especially since the Reformation. The nature of sin is closely

associated with these doctrines, for if people are simply carrying out the instructions God built into them, then their freedom and culpability for disobedience comes into question. So too would the capacity of human beings to love God freely. The Scriptures do not provide answers—or at least ones that are comprehensible by human minds—to the many questions that can be asked on this subject, yet they do frame them in ways that shed light on the issues. Specifically, they strongly emphasize that both God and created beings have important stakes in creation, and as a result they have responsibilities, ones that, humanly speaking, unfold *over the course of time*.

This carries over into transhumanism, which is beginning to recognize the risks of the rapid changes of the Singularity, with a superintelligence explosion at the center of Bostrom's existential risk assessment. In recent years, *emergence* has been the buzzword for a whole range of phenomena, from the evolution of life via chemistry and physics to the formation of conscious minds in biological brains in neuroscience. In contrast, Christian theology has been emerging for millennia, with the 66 books of the Bible unfolding God's plan of redemption from Genesis to Revelation. Subsequent studies of the biblical record have given rise to one flurry of theological energy after another. Some have led to central doctrines in Christianity, while others have led to denunciations as heresy and denominational splits. This energy has been the subject of internal remorse and external ridicule; how many angels can dance on the head of a pin? Still, the process of studying scripture and developing practical applications has never stopped. Even at the level of myth, the Christian story remains a rich resource for understanding the evolution of culture.

Third, the Bible portrays God as interested in redeeming the fallen world, of restoring right relationships with and between fallen men. This model will be important as humans develop technological enhancements. Problems will occur, and in their aftermath there will be interest in placing blame. Although this is nothing new, faults in the technosciences of

transhumanism are likely to have even greater consequences and tax the deepest resources of society. Steve Fuller characterizes the process of working through technical difficulties as part of a secular theodicy: “The dawn of suffering smart: Recycling evil in the name of good.”³⁹ Is this enough? Does Christian theology and theodicy have anything more to offer?

In *The Human Condition*, Hannah Arendt finds that a capacity to forgive mistakes is a key requirement for social progress.⁴⁰ Transhumanism presents itself as a practice that gives meaning to life through the active pursuit of science and technology. Such pursuits can, in Arendt’s terms, produce irreversible harms, which may be fully realized or merely imagined; even mere awareness of a risk burdens individuals and society. Her descriptions echo the Genesis 2:17 description of “the tree of the knowledge of good and evil” that grew in Eden.

In this context, means to forgive are necessary pre- and post-requisites for progress. Arendt warns that “Without being forgiven, released from the consequences of what we have done, our capacity to act would, as it were, be confined to one single deed from which we could never recover; we would remain the victims of its consequences forever.”⁴¹ And to whom does Arendt point to as the source for this insight? She points to *Jesus of Nazareth*, asserting that “The fact that he made this discovery in a religious context and articulated it in religious language is no reason to take it any less seriously in a strictly secular sense.”⁴²

Arendt’s focus seems to be on forgiveness for the *unintentional* consequences of human progress. Forgiveness is a price of progress, a way of dealing with well-intentioned mistakes. However, the biblical account of sin is far worse, not only dealing with accidental harms but also encompassing *intentional* harms. In transhumanism, it seems that the dangers of transhumanism

³⁹ Steve Fuller, “The dawn of suffering smart: Recycling evil in the name of good,” in *Humanity 2.0*, 241–247.

⁴⁰ Hannah Arendt, “Irreversibility and the Power to Forgive,” in *The Human Condition* (1958; repr. Chicago: The University of Chicago Press, 1998), 236–243.

⁴¹ *Ibid.*, 237.

⁴² *Ibid.*, 238.

are interpreted as arising from adversarial relationships between institutions: governments or competing R&D organizations. In Christianity, sin is understood to reside deep in each human heart, and as a result, it is beyond human comprehension. In the words of Jeremiah, the “weeping” prophet, “The heart is deceitful above all things, and desperately sick; who can understand it?”⁴³

The depth of human depravity, even in “respectable” people, seems to be lost by leading transhumanists. They do not account for the possibility that *all* people could harbor shades of hate in their hearts. It seems that Christian theologians are not so easily distracted, having a deeper understanding of sin, probably as a result of practical encounters with it in the course of pastoral experiences. The contrast is demonstrated in Lutheran theologian Ted Peters’ discussion of computer viruses. Against Kurzweil’s interpretation of viruses as a “nuisance,” Peters comments that:

Despite the benefits or even blessings of computer connections around the world, something at work in the human mind leads to the development of brute and unmitigated destruction. No increase in human intelligence or advance in technology will alter this ever-lurking human proclivity.

A sweeping technological optimism tends to dismiss awareness of this human weakness. But if we are to be realistic, we require an accurate portrayal of the human situation. It requires an honest recognition of human sinfulness.⁴⁴

From this perspective, it seems prudent to dig deeper into the human constitution before proceeding to create superintelligent beings in our image and likeness. *As a starting point*, let us now consider several Christian scholars and how their thoughts on technology and personhood speak to the transhumanist project.

⁴³ Jeremiah 17:9.

⁴⁴ Ted Peters, “Chapter Five: Progress and Provolution: Will Transhumanism Leave Sin Behind?” in Cole-Turner, *Transhumanism and Transcendence*, 63–86; quote 80.

Dehumanization and the Technological Society

As a major figure in STS, Jacques Ellul provides a useful starting point in understanding personhood in a biblical and technological context. Frequently dismissed as a pessimist and technological determinist, his work to develop a free and thriving human race based on biblical truths is often dismissed as out-of-date and irrelevant. So too is his deep critique of modern technological society by those who retain salvific hopes in science and technology.

Ellul's best-known work, *The Technological Society*, describes the problems of life that is saturated with *technique*, a combination of technology and technological imperatives.⁴⁵ It does not deal with solutions, only "the consequences of having a society pervaded by technicians."⁴⁶ Ellul traces the rise of *technique* through history, concluding with remarks about its future. The changes wrought in the character of human life, facilitated by economics and politics, stem from an obsession with rationally defined efficiency. According to Ellul, this is the idol of modernity, and for its sake more and more things that humans value are sacrificed.

Although critics misunderstand him as blaming technology, Ellul understands this dark obsession with efficiency-driven *technique* as a human fault, one that chooses to focus on quantitative elements of existence instead of the qualities of a worthwhile life. Individuals, operating in human society, end up making choices without seriously considering how those choices will affect them and their descendants over the long term. What is the result? Depersonalized "technique analyzes its objects so that it can reconstitute them; in the case of man, it has analyzed him and synthesized a hitherto unknown being." Is this not the goal of

⁴⁵ Ellul, *The Technological Society*.

⁴⁶ Robert K. Merton, "Foreword," January 1964, in *ibid.*, v.

transhumanism? Note, for example, the many times they employ words like optimal, efficient, and maximized to describe their dreams.

As a Christian and a believer in the basic tenets of Reformed theology, Ellul sought solutions in the Bible. His sociology, which was always shaped by his pre-conversion interests in Marx, deals with the problems of the technological society only. His quest for accurate critiques and answers was based on biblical promises of a restored kingdom, one in which God would rule over creation in love, and in turn the human race would come together and give back to God worship.⁴⁷ Practically, Ellul credited the Holy Spirit with transforming his understanding of the world. This transformation gave Ellul great hope:

This renewal of understanding corresponded for me with the commandment to love God...with all one's thought. It appeared to me that it did *not* mean simply to study theology and become a minister! To love God with one's thought was to place one's thought at the service of God's work in the world, through the medium of the believer. And this work pertained to the political as well as the psychological! This gospel, which today transforms not only hearts but also minds, would enable believers to change the world.⁴⁸

Only recently have scholars begun to knit together Ellul's sociology and his theology.⁴⁹ Nevertheless, Ellul's great desire to remedy the human condition is clear, with individual persons at the center. His critique of the technological society centers on its mistaking means for ends. Behind this sociological phenomenon lies a striking theological claim: "The will of the world is always to death, a will to suicide."⁵⁰ It seems that cryonics, with its interest in assisted-suicide laws, foreshadows Ellul's prophecy. Could the transhumanist concept of mind uploading be its

⁴⁷ Jacques Ellul, *The Presence of the Kingdom* (1948; 2nd ed. Seabury Press: 1967; repr. Colorado Springs, CO: Helmers & Howard, 1989).

⁴⁸ Ibid. from Ellul's 1989 Preface, xiii.

⁴⁹ For example, see Paul L. Dunham III, "The Meaning of Technology: A Theology of Technique in Jacques Ellul" (doctoral dissertation, West Virginia University, 2002).

⁵⁰ Op. Cit., 19.

fulfillment? Given the mysterious nature of the human mind, it is far from certain that human consciousness can be understood, let alone transferred from a biological body into a computer. In any case, uploading would be an extreme elevation of means over ends: the computer is transformed from a tool into life itself, an ultimate form of mass biological suicide.

Is Ellul an exemplary diplomat? Certainly not; although he understands a great deal about human society, he does not find grounds on which to trust the world. Even so, the prescient nature of his social commentary, backed by his deep theological and social commitments, demonstrates that Christian theology provides many resources for understanding social evolution, even in terms of the Singularity. Ellul reminds us that technological means cannot be allowed to dominate human ends. Further, his claim that the world is suicidal resonates with the words of Scronkfinkle, Bostrom's doomsday-prophet sparrow.⁵¹ Most of all, note the ontological issues at the heart of Ellul's and Bostrom's thinking, specifically, the origins and nature of human persons.

Matthew Dickerson: A Christian View Of Artificial Intelligence

As a sociologist, perhaps Ellul is not in a good position to judge the merits of AI. The same cannot be said about Matthew Dickerson, a Christian computer scientist and social commentator. As a student of C.S. Lewis and J.R.R. Tolkien, he is skilled in the concepts and uses of Christian mythology. At the same time, he is by profession well aware of what computers can do, as well as their limitations. So what does Dickerson bring to the discussion?

In his 2011 book, *The Mind and the Machine: What it Means to be Human and Why it Matters*, Dickerson analyzes human personhood and transhumanism. His central focus is on

⁵¹ Nick Bostrom, "The Unfinished Fable of the Sparrows," in *Superintelligence*, v.

physical determinism and its implications.⁵² *Physicalism*, he asserts, undermines central elements of meaningful human life: creativity, heroism, freedom, and dignity. He repeatedly points to the works of leading transhumanists that confirm his view. He shows that Kurzweil's notion of "spiritual machines" can only be achieved by redefining spirituality as consciousness.⁵³

Against the physicalism of Kurzweil, Rothblatt, B.F. Skinner, and many others, Dickerson passes over traditional mind-body dualism to endorse Charles Taliaferro's idea of *integrative dualism*, defined as follows:

Integrative dualism affirms that the embodied person thinks, sees, looks, glimpses, smells, tastes, touches, and so on, as truly embodied. It fully recognizes the united character of personal life, and does not leave the body and person dangling in scandalous disarray, picturing the person as inhabiting the brain or delivering commands to the brain from some remote, mental theatre.⁵⁴

Hence, the spiritual nature of persons is retained in Dickerson's view, which maintains that the transcendent qualities of human life are real.

In contrast, the physical determinism of transhumanism reduces the human brain to a meat computer, one that is purely deterministic. Although AI can display qualities that are often associated with human persons (e.g., perceived unpredictability), they are in fact merely illusions. Nevertheless, Kurzweil, et al, often speak of such illusions as if they were factual. For example, in *Virtually Human*, her 2014 treatise on "mindclones," Rothblatt surveys a variety of views on consciousness on the way to her pragmatic and self-serving conclusion:

Free will is a fiction, okay, but we are going to run society as if everyone does have free will. Society works a lot better that way. Almost all of us will be happier. We'll line up 'free will' right next to 'all people are created equal.' Hence, what matters is whether

⁵² Matthew Dickerson, *The Mind and the Machine: What it Means to be Human and Why it Matters* (Grand Rapids, MI: Brazos Press, 2011).

⁵³ *Ibid.*, 7.

⁵⁴ *Ibid.*, 10, citing Charles Taliaferro, *Consciousness and the Mind of God* (Cambridge: Cambridge University Press, 1994), 121.

virtually human people have the same *appreciation* for free will as do their biological brethren. If so, they are one of us—awesome. Bought into the vision! But if not, they are going to be deemed subhuman robots (notwithstanding that they be the more accurate in their algorithmic information-technology proofs against free will).⁵⁵

Is it reasonable to regard such a fundamental property of personhood as a useful fiction?

Nancy Pearcey thinks not, noting that “a useful fiction is still a fiction. And to hold it, when your own worldview denies it, is irrational. We might even call it a form of secular mysticism.”⁵⁶

Here again, Christianity’s “appreciation” for free will opens the door to serious consideration of what it brings to the discussion. In fact, its regard for free will as an element of the *imago Dei* indicates that human freedom will be taken seriously, much more than if it is only a useful fiction.

Conclusion

The critiques offered by Ellul and Dickerson, both based on their Christian worldviews, call attention to critical elements of the transhumanist project. By taking personhood seriously, Christianity sets itself apart from transhumanism, which views the personal as a useful fiction only. Can Christian thought go beyond criticism to make positive contributions?

EMERGENT PERSONHOOD

For centuries, Christian scholars have studied the nature of personhood in view of the biblical narrative. As the natural and human sciences have matured, they have been analyzed and

⁵⁵ Martine Rothblatt, *Virtually Human: The Promise—and the Peril—of Digital Immortality* (New York: St. Martin’s Press, 2014), 274, original emphasis.

⁵⁶ Nancy Pearson, *Finding Truth: 5 Principles for Unmasking Atheism, Secularism, and Other God Substitutes* (Colorado Springs, CO: David C. Cook, 2015) 160.

continuously integrated into Christian thought. To use today's popular term, Christian scholarship is an *emergent* phenomenon, one that is fueled by the Bible, "For the word of God is living and active, sharper than any two-edged sword, piercing to the division of soul and of spirit, of joints and of marrow, and discerning the thoughts and intentions of the heart."⁵⁷

The ongoing synthesis of science and biblical Christianity is developed in Christian Smith's book *What is a Person?*⁵⁸ On his way to developing a bottom-to-top sociology, Smith begins with subatomic physics. From there, it is emergence all the way up. For this study, it is worthwhile to consider his analysis of personhood, consisting of a hierarchy of 30 capacities that allow personhood to emerge. His list begins with "subconscious being" and tops out with "interpersonal communion and love."⁵⁹ With this link to Christianity's triune God, Smith goes on to define personhood:

By *person*, I mean a conscious, reflexive, embodied, self-transcending, center of subjective experience, durable identity, moral commitment, and social communication who—as the efficient cause of his or her own responsible actions and interactions—exercises complex capacities for agency and intersubjectivity in order to develop and sustain his or her own incommunicable self in loving relationships with other personal selves and with the impersonal world.⁶⁰

Smith's idealized definition is useful, yet he also takes pains to describe universal human *brokenness*. "Our normal vocabulary affirms that human life—however rich with dignity, beauty, accomplishment, goodness, and love—is fraught with a depressing diversity, extent, and intensity of troublesome vice and moral failure," Smith observes, and as evidence he lists dozens

⁵⁷ Hebrews 4:12.

⁵⁸ Christian Smith, *What is a Person? Rethinking Humanity, Social Life, and the Moral Good from the Person Up* (Chicago: The University of Chicago Press, 2010).

⁵⁹ *Ibid.*, The 30 qualities are discussed individually 42–52, and tabulated on 54.

⁶⁰ *Ibid.*, 61.

of English words used to describe evils of one sort or another.⁶¹ Ultimately, society emerges from individuals that, despite their best efforts, give dark meanings to these words.

A critical piece of Smith's account is his connection of personhood with emergence, self-transcendence, and social interaction. Personhood is a dynamic ontological reality that resides in processes, some internal and others interpersonal. It is, to use the common expression, a combination of *nature* and *nurture*.

Although the life processes of personal beings are recognized in transhumanism, with its visions of never-ending techno-social progress, their importance in the emergence of persons seems to have been forgotten. Superintelligence is expected to be an overnight product of the Singularity. AI appears in mature sentient beings, with all of their designed-in qualities. How they would deal with each other and human persons is inherently unpredictable; the behavioral psychology of AI is too complicated to predict in advance. Hence, the control problem comes down to one roll of the dice, with the future of humanity at stake.

In contrast, Christian philosopher John Macmurray (1891–1976) *begins* his definition of personhood with relationality. “Personal existence, in Macmurray’s interpretation, is a relational becoming, an ongoing agentic activity in which we are constituted mutually by and with each other as persons.”⁶² In this view, apart from relationships, personhood cannot emerge, and the nature of the constitutive relationships is fundamental. This observation strikes at the heart of attempts to design-in moral attitudes and behavior in AI. Why is this?

In *Persons in Relation*, Macmurray cuts through mechanical, organic, philosophical, and other descriptions of persons to focus on interpersonal *action* as the constitutive core of

⁶¹ Ibid., 77n78.

⁶² Jeff Sugarman, “John Macmurray’s Philosophy of the Personal and the Irreducibility of Psychological Persons,” *Journal of Theoretical and Philosophical Psychology* 26 (2006):172–188.

personhood.⁶³ Although actions can be objectively observed *a posteriori*, the same cannot be said going forward. He comments that “What is intended is never a matter of fact, though it may be a fact that I intend it. For what is intended is always future, and there are no future facts.”⁶⁴

This leads to an important Macmurray distinction: objectivity, which he associates with science, versus subjectivity, which he associates with personal relationships. The two attitudes toward persons are not mutually exclusive; Macmurray gives the example of a psychologist and his pupil, who in the course of a friendly conversation reveals signs of neurosis. The psychologist exercises “practical dualism” as he alternates between personal and clinical interaction.⁶⁵ Still, the quality of the relationship has an important impact on those involved. The scientific approach, with its emphasis on the objective study of a subject, goes against the normal development of the person, while the subjective approach is the normal context of personal development.

Macmurray’s distinction reveals the inherent difficulties of the superintelligence control problem. If he is right, then “Attempts to reduce human agency in terms of biological, neurophysiological, or computational models are fated to fall short because such models are unable to account for themselves as the product of intentional agentic activities.”⁶⁶ By contrast, AI research that follows an interpersonal approach could be both safe and productive, resulting in the mutual constitution of artificial and human persons. Instead of an explosion, the emergence of a conscious artificial superintelligence would resemble the HAL-9000 computer learning to sing *Daisy*.

⁶³ John Macmurray, *Persons in Relation* (1961; repr. London: Faber and Faber, 1995).

⁶⁴ *Ibid.*, 39.

⁶⁵ *Ibid.*, 29–40; quote 32.

⁶⁶ Sugarman, “John Macmurray’s Philosophy,” 183.

Would this approach be acceptable to transhumanists? It is not clear that it would. By keeping human beings in the development loop, an AI's attainment of superintelligence by self-improvement may not be possible. Further, the Singularity, so dear to Kurzweil's worldview, might be delayed, slowed, or ruled out altogether. Still, it seems that human-machine relationships could be built without the dystopian consequences that are such a worry.

How might Christians react to the development of conscious AI "persons?" No doubt, conservatives would doubt or reject their status as persons, holding them to be unnatural and without the essence of human life: a God-given soul. Nevertheless, Christian morality would require respectful relationships with such beings; even today, there is no excuse for verbally abusing a clumsy and frustrating automated customer service system. How much more should people give at-least-nominal respect to automated personalities that are indistinguishable from human beings?

Beyond the Human Condition

Even if interpersonal AI development processes are adopted, the question of where they should lead remains. What *kind* of superintelligence do we want? That, of course, depends on who answers the question: So far, AI research has produced skilled game players, but hedonists want sex toys; Kurzweil wants a super-inventive genius; Bostrom, a likeminded philosopher; Waser, a cooperative collaborator; Benek, a Christian; and, of course, Rothblatt wants to build god.

Here again, Christian theology provides insights, if not answers, into these possibilities. Radical Orthodoxy critiques of modernity leave us with two competing myths: nihilism and Christianity. One is driven by the will to power, the other by eschatological hope. The choice

between the two is aesthetic, and neither account satisfies everyone. In this stalemate, Brent Waters seeks new directions in his 2014 book, *Christian Moral Theology in the Emerging Technoculture*.⁶⁷

In Waters' view, speculation about a posthuman world reveals more about the past and present than the future. He observes that:

Indeed, debates over the technological feasibility of a posthuman future serve to occlude the more immediate concern of what kind of world late moderns are currently constructing and how they are refashioning themselves to inhabit this world. In the construction of such a world technology is simultaneously *the formative instrument and operative ontology*.⁶⁸

Waters goes on to state that "Technology alone, however, cannot bear the intellectual and moral weight assigned to it."⁶⁹ To address this intellectual and moral weakness, Waters looks to several figures as a basis for a new foundation on which to build toward the future.

First, Waters draws on George Grant's critique of Nietzsche and nihilism. Lacking a transcendent viewpoint, Grant considers human attempts to assess technology and its problems as "little more than self-affirming mirror gazing," always resulting in the same circular solution: "further technological development."⁷⁰ Waters summarizes Grant's contribution as the comprehension of modernity, revealing its "darkness *as* darkness" by the illumination of the Cross.⁷¹

Next, Waters examines Arendt's proposed answers to nihilism: a focus on *natality* as a reason for hope in the midst of darkness.⁷² Rejecting her turn toward politics as the means of restoration, Waters examines Albert Borgmann's ideas on how to reform technology, especially

⁶⁷ Brent Waters, *Christian Moral Theology in the Emerging Technoculture: From Posthuman Back to Human* (Burlington, VT: Ashgate, 2014).

⁶⁸ Ibid., 17, original emphasis.

⁶⁹ Ibid.

⁷⁰ Ibid., 43.

⁷¹ Ibid., 49–53.

⁷² Brent Waters, "Hannah Arendt: Mortality and Natality," in *ibid.*, 57–80.

its “device paradigm.”⁷³ This transforms “things” having their own existence into “means” for human purposes. This insight seems especially relevant in considering transhumanism, which transforms even our bodies into raw material to be refined and, as necessary, disposed of in developing the devices necessary to achieve immortality. Borgmann is especially conscious of the ways in which technology changes the nature of human life. How much more the impact of transhumanism!

Concluding his analysis, Waters builds on the insights of Grant, Arendt, and Borgmann to develop prerequisites to reform: confession, repentance, and amendment of life.⁷⁴ These all presume recognition of sin’s reality. He then develops his moral commentary on the future, with special emphasis on personhood and the here-and-now world. Calling the “exuberant dreams” of transhumanism “nonsense,” Waters points to how contemporary life has been diminished by ubiquitous technology. His answer: a restoration of the Church as a model community, one that upholds the sanctity, meaning, and value of human persons.

Knowing as Relationship

A final contemporary Christian voice discussing the nature of personhood is Esther Meek. In *Loving to Know*, she argues that all knowing should be understood in the context of interpersonal relationships.⁷⁵ This arises from Meek’s ontological commitment that “On the Christian theological vision, all reality is either God, or God’s personal effects.”⁷⁶ The practical meaning of this for God’s creatures is the obligation to their creator. A similar attitude in AI

⁷³ Ibid., 83.

⁷⁴ Brent Waters, “Part II: Theological Construction,” in *ibid.*, 103–184.

⁷⁵ Esther Lightcap Meek, *Loving to Know: Introducing Covenant Epistemology* (Eugene, OR: Cascade books, 2011).

⁷⁶ Ibid., 439.

should guard against its tendency toward self-exaltation and harms to other created things, including people.

"Covenant Epistemology" is Meek's term for her synthesis of Michael Polanyi (a major STS figure), theologians John Frame and Michael Williams, philosopher John Macmurray, and many others. It spans all forms of epistemology, even natural and social sciences. Meek builds on Polanyi's concept of knowledge as "subsidiary-focal integration," a creative process of assembling sensory information into an overarching result. It involves moment-by-moment embodiment at the bottom, and it connects with our continuing created-in-the-image-and-likeness-of-God being at the top. Defining knowledge as a process blurs the distinction between knowledge and its discovery. Meek's dynamic picture of human knowledge resonates with transhumanist claims about the possibility of conscious computers; multitudes of one-and-zero data in hardware emerging as a personal being.

Against modern conceptions of knowledge and facts, Meek argues that human beings are constitutionally incapable of ultimate knowledge. Instead, human knowledge must be seen to exist in a relational context, one that is constantly changing as knowers and who or what they know interact. She bases this claim on covenantal commitments, either implicit or explicit, that she finds at the root of *all* relationships. Covenants govern relationships between persons, but they also apply to relationships between people and inanimate objects. For example, scientists become committed to the objects of their research. Respecting those objects for they are, the scientist becomes intimately aware of its nature through interactions. Often, research subjects surprise the scientists, revealing unanticipated and important details about their being. In essence, Meek calls for a revolution in epistemology, including how science and technology are understood, placing them in the context of evolving, dance-like, covenant relationships.

Meek's approach has a great deal to contribute to the understanding of transhumanism, with its fluid definitions of personhood based on choices of what enhancements to accept or reject, of biological and mechanical persons, and conceptions of conscious AI. It answers Fuller's concern about static conceptions of humanity. The personal relationships of Christians with their new-every-morning God are never stagnant.⁷⁷ Instead, human minds and souls continually expand as they grow in their appreciation of the incomprehensible God of the Bible. Similarly, transhumanism, along with its constituent technosciences, raise many interesting issues about our expanding sense of spirituality. The meaning of persons, alone and in communion with others, is inextricably tied to their identification with their God. There are great mysteries in the connections between physical and spiritual, personal beings. As society probes the techno-theological frontier, covenant epistemology, with its Christian roots and emphasis on evolving interpersonal knowledge is well suited to its needs. I commend Meek's work as a starting point for further exploration of Christian-transhumanist dialogue.

Summary

Christianity provides a rich vocabulary and conceptual toolbox for analyzing persons, whether they are biological or futuristic. Further, it does not gloss over sin, but instead deals with the brokenness that exists in the human race, and all that it creates. Yes, it too suffers from brokenness—the Church at all times has consisted of recovering sinners—yet its attitude of victory over sin allows it to work toward the redemption of creation. Most of all, Christianity promotes a model of creator-creature relationships, one that promotes strong, enduring, and loving commitments of one to the other. Considering that human beings and their creations fall short of perfection, commitments modeled on the biblical ideal are necessary for society to

⁷⁷ See Lamentations 3:23.

responsibly pursue transhumanism. In the words of Bruno Latour, just as parents must love their children, society has obligations to its technological creations, to “Love our Monsters.”⁷⁸

Transhumanism can learn much from Christianity. Even as a myth, Christian thought has depth that is badly needed as a guide to the development of transhumanism. A growing number of Christians are willing and able to engage in diplomatic exchanges based on mutual understanding and trust. Whether or not such diplomacy bears fruit, the Church would do well to reflect on its relationships with technology. Idols are not only the products of the reprobate. In its worship of the true and living God, and in its life as a community, the Church can show the world what it is to live a good and worthwhile life, even as it struggles to overcome sin. Indeed, the day may come when genuine human persons can *only* be found in the Church.

⁷⁸ Bruno Latour, “Love Your Monsters: Why We Must Care for Our Technologies As We Do Our Children,” The Breakthrough Institute, Winter 2012, <http://thebreakthrough.org/index.php/journal/past-issues/issue-2/love-your-monsters> (accessed July 1, 2016).

PERSONAL CONCLUSIONS

Since 1859, when Darwin published *On the Origin of Species*, longstanding relationships between experimental science and Christianity have been marked by tumult, especially in the United States. Today, as the philosophical and social movement of transhumanism grows and develops, it seems that ongoing debates over human origins may soon seem like pop-gun affairs compared with debates over human destiny. Technology will not be the determining factor in this matter; people, as they shape and are shaped by the myths of society, will choose how to apply science and technology to enhance their human lives. Theology, as a central element in transhumanist and Christian views of the future, has much to contribute to the establishment of a diplomatic peace. Before sharing my personal desire for such a peace, it will be useful to summarize my argument.

Recapitulation

The psalmist wrote “Thy word is a lamp unto my feet, and a light unto my path,”¹ and so it is that (Chapter 1) Christians are united in their regard for the Bible as the light by which they see the world. The opening chapters of Genesis are particularly important in this regard, illuminating the Church’s ongoing effort to apply biblical wisdom to its ever-changing circumstances. So too, multiple passages from the Old Testament through Revelation shape a variety of Christian views of the future. As a result of their eschatological hopes, believers persevere through life’s challenges in the knowledge that one day Christ will return. Living in between creation and the eschaton, believers look to imitate Christ as they find joy and meaning in their relationships with God, other people, and their worldly work. As the end times approach,

¹ Psalm 119:105 (KJV).

the Church struggles to find its place with respect to constant changes in culture, including the domains that are important to this study: science and technology.

Transhumanism (Chapter 2) has its own eschatological purposes. They bear a superficial resemblance to those of Christianity, but they are based on a different kind of faith.

Transhumanist mythology sees science and technology, which owe so much to Christian thought, as the instruments of irresistible evolutionary forces. The human condition, already greatly altered by modern science, is to be transcended. People will be freed from all their biological limitations. Posthumans will be free to configure their bodies in any way they fancy.² They may even choose to live life disembodied in computer systems. Their host computers can be either terrestrial or part of a space vehicle. Either way, cybernetic posthumans will be able to visit virtual worlds as a change of pace from their eternal toil, constantly striving toward further transcendence.

The theological interests of both Christianity and transhumanism are evident from their common interests (1) in science and technology, (2) the general transcendence of the human condition, and (3) in God as the ultimate end of human striving. Nevertheless, their common interests are seen in vastly different ways. The gaps are so deep that in the eyes of many observers Christianity and transhumanism appear to be natural enemies. Still, Latour's concept of a world occupied and explained by multiple modes of existence (Chapter 3) allows us to make sense of the vast differences between—and within—Christianity and transhumanism. Category mistakes, rather than being sites for different communities to talk past one another, can be transformed into opportunities for dialogue, even collaboration. Although Christians and

² For an aesthetic view of the transhumanist project of transforming the human body, see Natasha Vita-More, "The New [human] Genre — Primo Posthuman" [presentation, Ciber@RT Conference, Bilbao, Spain, April 2004], <http://www.natasha.cc/paper.htm> (accessed July 2, 2016). The aesthetic view of transhumanism is developed further in Natasha Vita-More, "Aesthetics: Bringing the Arts & Design into the Discussion of Transhumanism," in More and Vita-More, *The Transhumanist Reader*, 18–27.

transhumanists understand God in completely different ways, it is still possible for them to participate in a dialogue that deepens their views of humanity, the world, and the divine. Further, in view of their different forms of theism, the world in which they both exist can be seen as a venue for action, both collaborative and competitive. In this context, Christian Transhumanism has emerged (Chapter 4), moving swiftly from Internet musings to an organized and internationally visible phenomenon.

In puzzling ways, the leaders of the Christian Transhumanist Association, the most organized segment of the movement, seem more interested in associating with transhumanists than developing their Christian identities. They distance themselves from the foundational doctrines of the Church, preferring vague theological minimalism to thoughtful engagement with transhumanism on the basis of biblical truths. As a result, the transhumanist challenge of developing artificial superintelligence cannot benefit from Christianity's rich vocabulary and deep insights into personal creator-creature relationships (Chapter 5). In particular, the doctrine of sin would be a particularly powerful tool with which to examine the risks presented by superintelligence. Sadly, the Christian Transhumanist Association's minimization of its doctrinal commitments tends toward a worldly *Christ Of Culture* position. This is unlikely to win support from church factions that are more overtly committed to the Bible and orthodox beliefs.

Christian Transhumanism and What it Sacrifices

Micah Redding (in)famously claimed that "Christianity is Transhumanism," but radically different visions of the future put paid to that notion. Orthodox biblical Christianity, with its faith in the jealous God of the Bible, brushes aside Redding's superficial and simplistic equation. Instead, it takes seriously Paul's counsel to Timothy:

All Scripture is breathed out by God and profitable for teaching, for reproof, for correction, and for training in righteousness, that the man of God may be complete, equipped for every good work.³

Based on this idea, the Church has studied the scriptures—*all* of them—for thousands of years, identifying and developing doctrines that continue to challenge great minds and offer deep insights into the most pressing issues of life. Christian Transhumanism, as it exists today, has little regard for doctrine, giving little thought to sin and redemption, or even the incarnation, cross, and return of Christ. Instead, it seems to pin its hopes on human technology, with only a hint of Christian gloss. It consciously overlooks (suppresses?) basic Christian beliefs in order to be future-friendly. What do I have in mind?

The heart of the Christian eschaton is eternal life with Christ. Heaven accomplishes the restoration of Eden and inaugurates a cosmic Christian Sabbath. Transhumanism, on the other hand, leads to an eternal life of striving for even greater transcendence. Its technological “God-in-the-making,” though sublimely intelligent, can only be understood as human artifacts, not as the source and destination of humanity. The scornful word of the prophets toward idols still holds; “Can man make for himself gods? Such are not gods!”⁴ In the terms of Radical Orthodoxy, artifact gods are a parody of the God of the Bible. While such idols may give transhumanists hope in the near term, it is bound to disappoint. In fact, their ultimate hope is not an artifact god, but in the attainment of godlike power and existence. As Wesley Smith recently observed, “Transhumanists Want to Be Gods,” and this never-ending quest can only end in futility.⁵

³ 1 Timothy 3:16–17.

⁴ Jeremiah 16:20.

⁵ Wesley J. Smith, “Transhumanists Want to Be Gods,” *National Review*, April 22, 2016 <http://www.nationalreview.com/corner/434449/transhumanists-want-be-gods> (accessed July 2, 2016).

So what do Christian transhumanists see in transhumanism? For one, it is an opportunity for Christians to proclaim God's truth to a needy world. Evangelism is the ultimate method by which Christians can love their neighbor, showing them the way to eternal life. It is also of use in this world, showing people the way of God's truth in everyday life.

Redding is aware of this opportunity for dialogue, as expressed in his blog post: "Transhumanism is a Mars Hill opportunity."⁶ His post title refers to the sermon given by Paul in Athens upon seeing an altar "To the unknown god."⁷ Unfortunately, Redding misreads Paul's intent, interpreting it as a desire to engage with idolaters *on their terms*. By this logic, the CTA seems intent on building a new Mars Hill for open-ended discussions instead of following Paul's example. In fact, Paul has no use for the Greek altar except as an invitation to preach the gospel of Christ. Redding correctly points out Paul's quotations of Greek philosophers, but he ignores the fact that Paul's Mars Hill sermon encompasses the entire biblical account, beginning with creation and looking ahead to the final judgment. Unlike Redding, Paul was anything but a theological minimalist. Instead, Paul is repeatedly described in Acts as "bold" in proclaiming the gospel.

Redding's Christian Transhumanist Association colleague, Christopher Benek, is bold, but not in proclaiming the gospel of Christ. Instead, he boldly proclaims a gospel of transhumanism. Instead of interpreting the Bible as God's inspired and still-relevant message *to* the world, Benek prefers to reinterpret the Bible in terms *of* the world. His recent article

⁶ Micah Redding, "Transhumanism is a Mars Hill opportunity," *Micah Redding – religion, technology, & the future*, <http://micahredding.com/blog/2015/11/16/mars-hill> (accessed July 2, 2016).

⁷ Acts 17:22–31.

demonstrates this preference: “What If Everything We Call 'Natural' Is Actually 'Technological'?”⁸ Let us examine Benek’s essay in some detail.

First, what is Benek’s view of theology? In a word, he sees it as *stagnant*. Technological futurism’s “revolution,” Benek says, “will breath (sic) new life into stagnant theological waters—helping to spring forth a more holy understanding of our humanity.” In large measure, I agree with this assessment, but I see it in a different sense. Theology *does* stagnate when human points of view harden into dogmatic ideologies that are neither informed by Scripture or the Holy Spirit. Unfortunately, the theological minimalism of Christian Transhumanism seems more interested in using the *connotations* of theological terms than defining and applying them. This appropriation of Christian words for their spiritual connotations is analyzed in Francis Schaeffer’s prescient book, *The God Who Is There*.⁹ In the shift from meaning to connotations, truth and meaning are lost.

Second, what is Benek’s solution? He boldly proclaims “one very valuable fact: Christianity is desperately in need of an updated technological hermeneutic.” He summarizes this view stating:

In short—I think a new technological hermeneutic might suggest that we are advanced and developing technological creatures — created by a technological God—living in a wholly technological world. Understanding this possibility though, and the extraordinary part that humanity plays in the created universe's existence, can come only via a theological understanding of humanity. And as such, what we have quickly labeled as a "virtual" reality may again simply be an "alternative" one.

Again, in large measure, I support Benek’s efforts to integrate disjoint perspectives of theology and technology, but with significant differences. In part, I read Benek as arguing that theological

⁸ Christopher Benek, “What If Everything We Call 'Natural' Is Actually 'Technological'?” *The Christian Post*, <http://www.christianpost.com/news/what-if-everything-we-call-natural-is-actually-technological-165125/> (accessed July 2, 2016).

⁹ Francis Schaeffer, *The God Who is There* (1968; repr. Downers Grove, IL: IVP Books, 1998).

matters are best communicated *to* the world through a “technological hermeneutic.” To address the problems facing society, Benek says that Christians “need better ways of talking about the ideas that are already on the table.” This is a *rhetorical* move, a tactic of using a *metaphor* of technology to speak *to* people that are not accustomed to think in biblical terms or seriously consider theological claims. I have argued as much by pointing out that Bostom’s simulation argument, expanded by Cannon’s new God argument, provides a plausible technological parallel to Christian theology. This offers an accessible and deeper understanding of the divine attributes. However, Benek is not content to use his “technological hermeneutic” for communicating to the world.

Along with many Christian Transhumanists, Benek wants to reconsider *theological* matters in terms of technology, even regarding his technological hermeneutical perspective as “essential” to Christians. In other words, he believes that stagnant theology must be reinvigorated by applying our modern understanding of technology, and God, Benek argues, must be studied in technological terms. This is a bold claim. John Duns Scotus argued for univocal predication, which allowed human beings to be described in the same terms applied to God. Benek twists this position, arguing for God to be described in the same terms applied to inventive human beings. By this, God is reformulated in the image and likeness of technologically savvy humanity.

False and True Transcendence

Mythic transhumanism looks to technology to transcend the human condition. In this view, the key limitation of humanity is mortality. If death can be defeated, then according to the transhumanist, there are no limits to what can be accomplished through reason, science, and

technology. Transcendence can be reached by simply proceeding along the evolutionary path that has been in operation since time began.

Christianity finds the root cause of the problems of human existence in an entirely different place. It looks past mortality to *its* cause: sin. *That* is the problem to be solved; to overcome sin is to transcend the human condition, and transhumanism offers no solutions to it. That transhumanism holds out a transcendent future to people—one that some Christians seem inclined to accept as what God intends—offers a clue to a final determination of its nature.

In Genesis 3 the serpent persuades the woman to eat the forbidden fruit. The climax of the serpent's argument, spoken just before Eve makes her fateful decision, is a commentary on God's words:

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."¹⁰

In view of God's "you shall surely die" pronouncement, the serpent offers a direct and obvious contradiction.¹¹ However, there is a *second* and more subtle contradiction, for Adam and Eve were already like God.¹² The serpent's enticement to "be like God" is empty, offering what is already possessed. What *is* obtained through disobedience to God is condemnation and death.

In similar fashion, transhumanism entices Christians to immortality, but immortality is already theirs in Christ. Yes, our bodies are subject to decay and death, for we have not yet overcome sin. However, through Christ, sin was conquered on the cross. So the final defeat of death is only a matter of time. *He* has promised Christians new immortal bodies in the resurrection:

¹⁰ Genesis 3:4–5.

¹¹ Genesis 2:17.

¹² Genesis 1:26–27.

Behold! I tell you a mystery. We shall not all sleep, but we shall all be changed, in a moment, in the twinkling of an eye, at the last trumpet. For the trumpet will sound, and the dead will be raised imperishable, and we shall be changed.¹³

Further, Christians are *already* part of a transcendent body: the Church, the body of Christ. Until the second coming of Christ, unity in this body takes precedence over individual concerns. There is work to be done now without duplication of what Christ will do for us eventually. Yes, the sufferings of this world are great, but like Paul, Christians must rise above them, even boasting in them, knowing that God's power is made manifest through them.¹⁴

Writing about cloning, an earlier faddish form of technological immortality, theologian Stanley Hauerwas observed:

“Cloning” is not a new thing for Christians, since we believe we have been made part of Christ's body. But because the promised redemption of our bodies seems so slow in coming, we may be tempted to compromise the body we have in Christ by subjecting that body to biomedical technologies promising immediate relief from all forms of human suffering. Ironically, from the standpoint of the Christian body, biological cloning then becomes but another Gnostic technique designed to avoid or to overcome our bodies as Christians.¹⁵

Surely the same can be said of transhumanism.

Still, I believe that Christian dialogue with transhumanism is important. As I have argued, advocates for technological enhancements have a lot to learn. Their concept of God is weak, a shadow of the LORD of Christianity. They speak of their technological god, but cannot recognize it as an idol. They dream of universal computer simulations, but deny even the

¹³ 1 Corinthians 15:51–52.

¹⁴ 2 Corinthians 12:9.

¹⁵ Stanley Hauerwas and Joel Shulman, “Cloning the human Body,” in *Approaching the End: Eschatological Reflections on Church, Politics, and Life* (Grand Rapids, MI: William, B. Eerdmans Publishing Company, 2013), 192–199; quote 193–194.

possibility of a creator God. They analyze the risks of superintelligence, but treat sin as an archaic and useless term. Christianity offers insights into all of these concerns.

Diplomatic Arrogance and Boldness

Some might object that Christians do not have special insights into such matters, and to claim otherwise is *arrogant*. After all, many people view Christianity, along with its theological trappings, as just another social construction. Perhaps robust Christian arguments have no place in diplomacy with transhumanism?

There is no reason for Christians to accept this argument. After all, Christians are not the only people to display arrogance, as Vern Poythress observes:

If religious ideas are merely humanly generated, claims actually to know the truth about God seem arrogant. And of course religion itself can become an occasion for sinners to show arrogance. What is not so obvious to modern thinking is that the prejudgment of arrogance must presuppose that the religious claims could not actually be true on the basis of a clear message from God. There is arrogance in the supposition that we can make beforehand profound religious judgments about what God can or cannot do.¹⁶

So is Redding's "theological minimalism" the answer? Not if Christian Transhumanism is to take the bold position of *Christ the Transformer of Culture* with its strong Evangelical emphasis on the relevance of Christian thought to world challenges. But if Christians are determined to change the world, how can charges of arrogance be answered? Where does boldness end, and arrogance begin?

In *Warranted Christian Belief*, Plantinga argues for a Reformed model of faith and deals with the broader "charge that if you have faith (as on the model) and think your belief comes from God, then you are arrogant:"

¹⁶ Vern Sheridan Poythress, *Redeeming Sociology* (Wheaton, IL: Crossway Books, 2011) 321N5.

The Calvinist believes that he himself, as one of the elect, has been rescued from this sea of error and that his mind has been enlightened by the Holy Spirit. However much he may insist that this is God's doing and not his own, his claim is nevertheless one of the most arrogant that has ever been made. It is this kind of thing that has rightly earned for theology the contempt of serious men.¹⁷

Without a doubt, Christians can—and *often* do—lose sight of their fallen condition, which calls for a deep sense of humility, and become arrogant. To be effective, believers should approach others with an attitude of humility. After all, “God opposes the proud, but gives grace to the humble.”¹⁸ However, this cannot be used as an excuse to ignore the example of the apostles' bold ministry and the call to “take every thought captive” in their engagement with the world.¹⁹ What is the right attitude for Christians to take when they engage with the world?

In his classic style, Plantinga analyzes what arrogance means and examines what is entailed by belief that the Holy Spirit has affected our dispositions. He concludes:

The fact is there isn't any arrogance involved as such in recognizing that God has given you something he hasn't (or hasn't yet) given everyone. Human beings are, indeed, tempted to arrogance, and often succumb; still, one isn't arrogant just by virtue of recognizing that God has given you a good thing he hasn't (yet anyway) given everyone else. (You might be as puzzled as anyone else that it is *you* who are the recipient of the gift.) Arrogance would be involved, no doubt, if you thought this gift as your *right*, so that God would be unjust if he didn't give it to you. But you're not culpable if you believe your faith is a gift from the Lord and note that not everyone has yet received this gift. Indeed, the right attitude here, far from a crestfallen admission that you

¹⁷ Plantinga, *Warranted Christian Belief*, 253. Quote from John Macquarrie, *Principles of Christian Theology* (New York: Charles Scribner, 1966, 1977) 50.

¹⁸ James 4:6.

¹⁹ The entire book of Acts speaks to the necessity of boldness in proclaiming the gospel, especially Acts 4:1–31. This carries over in the Epistles. Paul, in Ephesians 3:7–13, explains that his ministry to the Gentiles was driven by “the gift of God's grace,” and he adds that in Christ *all* believers can be bold in their service to God. Obviously, boldness must be balanced with humility, and that is the subject of 1 Corinthians 10. Here Paul “boasts” of apostolic authority, but goes on to put such boasting in perspective: “we will not boast beyond limits, but will boast only with regard to the area of influence God assigned to us, to reach even to you.” Hence, Christians must be humble, yet when they deal with the world around them as “ambassadors for Christ” (2 Corinthians 5:20), boldness is necessary.

have been arrogant in thus believing, is gratitude and thanksgiving for this wonderfully great gift.²⁰

What Plantinga finds with respect to faith should extend to Christianity's insights into the world, including the proposals of Christian Transhumanism. If, as Redding claims, "Christianity is Transhumanism" then the CTA should boldly (i.e., maximally) apply the deepest insights of Christian theology to the project of technological enhancement. To do otherwise suggests that *Christian Transhumanism* is *not* a product of the Holy Spirit, and perhaps even a heresy in the making.

Learning to Die

Because of our common heritage and experience as human beings, Christians can learn a great deal from the world around them, and even from those that practice idolatry. Their devotion and industry is a model of what Christians should display in their everyday worship of God. From transhumanism, Christians can learn to appreciate their lives in the transcendent body of Christ, looking forward to being with Him in glory. This was the reaction of a friend when I first explained what transhumanism meant. His immediate reaction was that it was "one more reason to be thankful for his mortality." In rejecting its worldly strivings, he demonstrated his likeness and devotion to Christ, well understanding that "our present sufferings are not worth comparing with the glory that will be revealed in us."²¹ Until then, the world's striving against death is instructive of its power, a power that God will ultimately defeat.

To conclude, I hope that this dissertation serves the same purpose as Hauerwas expressed for his end-of-career collection of essays, *Approaching the End*:

²⁰ Plantinga, *Warranted Christian Belief*, 254.

²¹ Romans 8:18.

If we are to be human, we are in the business of learning to die. That, in short, is what this book is about. That is what Christianity is about. It is my hope, therefore, that those who are not Christian might find some of the reflections in this book “useful.” For it is my deepest conviction that Christianity is training in how to be human. What Christians have to say should therefore be interesting to those who do not share our faith. But it is equally true that we Christians will have much to learn from those who are not so identified.²²

²² Op. Cit., xvii.