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The desire to upload: a theological analysis of transhumanist advocacy for life-extension and immortality

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THE DESIRE TO UPLOAD: A THEOLOGICAL ANALYSIS

OF TRANSHUMANIST ADVOCACY

FOR LIFE-EXTENSION AND IMMORTALITY

by

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The consciousness of AC encompassed all of what had once been a Universe and brooded over what was now Chaos. Step by step, it must be done. And AC said, "LET THERE BE LIGHT!" And there was light –

Isaac Asimov, "The Last Question"

DEDICATION

I would like to dedicate this work to my parents, Joseph and Karin, for their lifelong love

and support.

ACKNOWLEDGMENTS

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ABSTRACT

Transhumanism is a movement dedicated to radically changing the human condition through technology, including by extending lifespan in one of three ways: (1) a biological approach that focuses on reducing the effects of aging, (2) a cybernetic approach that focuses on replacing the body with mechanical equivalents, and (3) a digital approach that focuses on reproducing human minds within computers. This dissertation focuses on the third way, digital immortality, because digitality can serve as a framework for further human enhancement that goes beyond mere life-extension, and thus has nearly unlimited potential to transform the human condition, and also because some forms of digital immortality are already technologically feasible. The dissertation examines transhumanist ideas of digital immortality from three perspectives. First, it employs the lens of theological anthropology to evaluate transhumanist arguments for how and why it is possible to reconstruct a person's behavior patterns, and perhaps consciousness itself, in a machine. Second, it uses the lens of eschatology to examine the relationship between these immortality scenarios and the technological singularity, including the rise of superintelligent artificial intelligence. Third, it applies the lens of the philosophy of history to examine transhumanist ideas of evolution and the necessity of

perpetual cycles of human enhancement to keep pace with AI and future generations of posthumans. The dissertation uses the anthropologies, eschatologies, and philosophies of history constructed by Pierre Teilhard de Chardin and Jürgen Moltmann to create a framework for comparing Christian theology and transhumanist philosophy. The dissertation concludes that the real conflict between Christian theology and transhumanism is over supernaturalism, the degree to which God intervenes and directs human activity in history. As a result, transhumanists can find common theological ground with Christian naturalists as they pursue the religiously charged questions that transhumanists are asking about the essential nature, purpose, and destiny of humanity.

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LIST OF ABBREVIATIONS

A4M   American Academy of Anti-aging Medicine

AI   Artificial Intelligence

CTA   Christian Transhumanist Association

H+   Humanity Plus

hGH   Human Growth Hormone

LEV   Longevity Escape Velocity

GLOSSARY

Avatar: The digital representation of a given person. For a digital person, this would refer to the virtual body that they use to appear in digital space.

Cosmism: A Russian movement dedicated to following the teachings of Russian-Orthodox Christian philosopher Nikolai Fyodorovich Fyodorov. Contemporary cosmists seek to resurrect their ancestors, which Fyodorov called, "the common task."

Cybernetics: The science of communications and automatic control systems in both machines and living things, created by Norbert Wiener. Wiener theorized that organisms use a process of feedback and feedback correction to home in on a specific goal. He theorized that it may be possible to have machines go through a similar process. As an example, consider someone shooting a basketball. She may overshoot the basket on the first shot and then adjust her next shot to be shorter. If that shot also misses, she will adjust the next short to be longer. The feedback gets smaller and smaller until the shot is perfect. Cybernetics is notable because it presumes that actions can be tailored precisely if they have the right goal in mind and the right mechanism for adjustment.

Cyborgization: The gradual replacement of a person's body parts with mechanical prosthetics. Transhumanists define almost all uses of prosthetics as kinds of cyborgization. For instance, a mechanical arm and hearing aids can both be considered applications of technology towards cyborgization in their view, even if these are generally used only therapeutically. Transhumanists believe that all people should have the freedom to change their body parts for mechanical ones if they so choose.

Deathism: Deathism is what transhumanists refer to any culture that normalizes or excuses death. This criticism is often leveled against religions whose adherents believe in an afterlife because they allow people to cope with their deaths rather than being spurred into action to evade or postpone them.

Digital artifacts: Digital artifacts refers to any media, website, or code that can be found on the internet. This term most commonly refers to the product of a person's social media activity, such as a person's Facebook status or tweets on Twitter.

Digital immortality: The persistence of a person's essential information pattern across time. This persistence can be achieved through the copying (and promulgation) of that person's pattern across successive avatars. These patterns are backed up similarly to a computer in that if a person's pattern were to be damaged or erased, it could be restored to its backup.

In my argument, there are three types of digital immortality: 1) Weak digital immortality, in which a machine (like a chatbot) is pre-programmed with responses but would never be thought of as conscious; 2) Mimetic digital immortality, in which a person is perfectly copied into digital space and is a non-dynamic representation of the original person but may be limited in their functional rights; and 3) Strong digital immortality, in which a person has their full consciousness and is a dynamic person, with the fundamental rights that go along with being so.

Extropy/Extropianism: Extropy is a term used by philosopher Max More to describe continuous future progress. Extropy is opposed to entropy, the heat death of the universe.

As More imagines it, perpetual progress can be made towards increasing amounts of order through technological advancements.

Gerontology: The scientific study of old age, the process of aging, and the health problems affecting older people.

Longtermism: an idea in utilitarian ethics that since there is an unimaginably great number of future people, the utility of their well-being should be prioritized. This term is used to describe Nick Bostrom's position towards the utility of future well-being of future generations.

Longevity Escape Velocity (LEV): The idea that humans might use advances in longevity science to take advantage of all successive advances due to their increased lifespan. Every increase in lifespan grants an individual human more time before the next increase is needed. Achieving 'longevity escape velocity' means that humans will be near immortal.

Mind uploading: The direct copying of a person's brain pattern into a machine, usually to direct a virtual avatar that is itself a copy of the uploader's body.

Omega Point: A theoretical endpoint of unification with God proposed by Teilhard de Chardin. Teilhard theorizes that it will happen prior to the collapse of the cosmos, preventing the heat death of the universe. He suggests that it can be called the Logos, and that it will draw everything unto itself. Frank Tipler hypothesizes that the Omega Point might refer to a single point towards which the universe will eventually collapse. He suggests this point could be harnessed for incredible power.

Patternism: Ray Kurzweil's term for his anthropology that a person is essentially a pattern of information governing their physical matter across time rather than the physical matter itself. He argues that the pattern is what gives identity to a physical body that is always changing, in which the particular matter involved in constituting a given person is always changing.

Personal eschatology: A branch of eschatology which focuses on what happens to an individual person after death.

Posthuman: The product of transhumanist evolutionary efforts, in which humans are no longer 'homo sapiens,' but something else entirely. Max More does not envision a specific endpoint for transhumanist evolutionary efforts, meaning that several different kinds of posthumans could coexist simultaneously. Posthumans following their own transhumanist evolutionary efforts would be seeking to change yet further, to post-posthumans, etc.

Singularity: A term which is used to describe the development of computers to develop yet more advanced computers, which will in turn be able to design computers more advanced than themselves. This process will eventually yield superintelligent machines many times smarter than humans.

Superintelligence: Superintelligence refers to Nick Bostrom's description of the radical reasoning ability and processing speed that artificial intelligences will have over people. He speculates on what type of superintelligences there might be and how it might be achieved in AI.

Transhuman: The transhuman is an intermediary state that transhumanists believe we are coming into, in which humans will be using technology to actively change their bodies and their minds.

Transhumanism: As defined by Nick Bostrom, "a loosely defined movement…[that] represents an interdisciplinary approach to understanding and evaluating the ethical, social and strategic issues raised by present and anticipated future technologies."[1]

Ubiquitous computing: Refers to the prevalence of access to computers and other networked objects, such as phones. The term is meant to describe the qualitative difference in the reach of computers today relative to the past.

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[1] Nick Bostrom, "Transhumanist Values," in *Ethical Issues for the 21st Century*, ed. Frederick Adams (Bowling Green, OH: Philosophical Documentation Center Press, 2003).

CHAPTER ONE: INTRODUCING TRANSHUMANISM

I. Surging Interest in Life-extension Research

In 2021, two major donations were made to help end life-extension research. Vitalik Buterin, creator of the cryptocurrency Ethereum, donated 1000 Ethereum, then valued at nearly $2 million dollars, to the Methuselah Foundation.[1] He sent a similar amount to the Machine Intelligence Research Institute. Another cryptocurrency founder, Richard Heart, hosted a fundraiser for the Strategies for Engineered Negligible Senescence (SENS) Foundation as part of the pre-launch for the PulseChain cryptocurrency, which raised over $27 million dollars.[2] In 2022, the Saudi Arabian Government established the Hevolution Foundation to fund science for life-extension research.[3] Both money invested and interest in life-extension have picked up significantly in the past couple of years. These individuals and groups represent merely some of the people who have been persuaded by life-extension advocacy within the past few years.

Efforts at life-extension are a part of the advocacy of transhumanists, a group of people who seek to change the human condition radically through scientific and technological interventions. As this dissertation will explore, slowing down aging as a

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[1] "Vitalik Buterin Donates More than $2 Million to the Methuselah Foundation," *Fight Aging!*, May 17, 2021, https://www.fightaging.org/archives/2021/05/vitalik-buterin-donates-more-than-2-million-to-the-methuselah-foundation/.

[2] E. I. N. News and Matthew R. Stover, "Richard Heart's PulseChain Gives Largest Donation in Cryptocurrency History to SENS Research Foundation," *EIN News*, August 26, 2021, https://www.einnews.com/pr_news/549640403/richard-heart-s-pulsechain-gives-largest-donation-in-cryptocurrency-history-to-sens-research-foundation.

[3] "Lifespan News – Saudi Government Begins Funding Longevity," accessed July 18, 2022, https://www.lifespan.io/news/saudi-government-begins-funding-longevity/.

part of life-extension research is merely one part of a larger vision of the future that involves posthumans who may be effectively immortal. These posthumans would be something radically different than anything we can imagine about humans today. Life-extension research thus marks only the first step in transhumanist advocacy. This dissertation will examine this advocacy both in terms of its overall ethical framework and the inevitable eschatological orientation that comes from a movement dedicated to radical forms of human enhancement and life-extension.

II.   Statement of the Problem: Examining Digital Immortality

Nick Bostrom, Oxford philosopher and founder of Humanity+,[4] describes transhumanism as "a loosely defined movement…[that] represents an interdisciplinary approach to understanding and evaluating the ethical, social and strategic issues raised by present and anticipated future technologies."[5] A key issue in the study and criticism of transhumanism is the degree to which the movement can be described as religious rather than ideological. For example, Hava Tirosh-Samuelson[6] and Aura-Elena Schussler[7] have criticized transhumanism for its emphasis on transcending human form and human limitations, an impulse which they believe to be religious. Survey data gathered by

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[4] The World Transhumanist Association rebranded itself as Humanity+ (H+) in 2008.

[5] Nick Bostrom, "Transhumanist Values," in *Ethical Issues for the 21st Century*, ed. Frederick Adams (Bowling Green, OH: Philosophical Documentation Center Press, 2003), 3.

[6] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon* 47, no. 4 (December 2012): 716.

[7] Aura-Elena Schussler, "Transhumanism as a New Techno-Religion and Personal Development: in the Framework of a Future Technological Spirituality," *Journal for the Study of Religions and Ideologies* 18, no. 53 (Summer 2019): 94.

sociologist James Hughes shows that the members are largely atheist and agnostic (62%), but with a sizable minority of 'religious or spiritual' self-identifying people (24%).[8] According to their own self designations, transhumanists do not consider themselves to be religious in the sense that they are both atheistic and naturalist in their outlook. However, transhumanism differs from prior secular and atheist movements in that the philosophy embraces three ideas that have direct religious resonance: immortality, self-transformation, and transcendence. I argue that the transhumanist pursuit of digital immortality, the reproduction of a person's mind and personality in digital form, brings together these three ideas in a technologically driven future that warrants theological investigation due to its overlapping concerns over questions in anthropology, eschatology, and our interpretation of history.

The use of the term 'immortality' is somewhat contentious within transhumanist thought. Hughes suggests that the term *immortality* is primarily used in a hyperbolic way, standing in for more scientific terms, such as 'radical life-extension' and 'indefinite life-extension.'[9] Gerontologist Aubrey de Grey makes it clear that his work to prevent the cellular damage that occurs through aging is not a panacea that will prevent death altogether.[10] However, for some transhumanists, true immortality actually is the goal. For

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[8] James J. Hughes, "The Compatibility of Religious and Transhumanist Views of Metaphysics, Suffering, Virtue and Transcendence in an Enhanced Future," *Metanexus*, September 1, 2011, https://metanexus net/compatibility-religious-and-transhumanist-views-metaphysics-suffering-virtue-and-transcendence/. The remaining percentage of people self-identified as 'other' (11%) or 'I don't know' (4%).

[9] Hughes, "The Compatibility of Religious and Transhumanist Views of Metaphysics," 11.

[10] Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthrough That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007).

instance, former transhumanist presidential candidate Zoltan Istvan campaigned on a

platform of cyborgization and immortality using a bus designed to resemble a coffin.[11]

Ray Kurzweil has a book on his personal longevity techniques, which he hopes will allow

him and others to take advantage of future breakthroughs in gerontology.[12] Kurzweil

imagines that humanity's technological advances will feed into one another, such that

immortality might be achievable even for people living today. De Grey calls this scenario

one of reaching 'longevity escape velocity,' or LEV, in which an individual can use one

advancement in life-extension research to take advantage of all successive ones.[13] Since

the breakthroughs necessary for life-extension are unpredictable, transhumanists stress

parallel efforts to lengthen the human lifespan through medical means and to replicate

humans in digital form. In chapter two, I will outline the three main paths towards

immortality that transhumanist envision: the biological route, the cybernetic route, and

the digital route.

 This dissertation argues that digital immortality constitutes a true endpoint in

transhumanist thinking. This argument opposes Max More's assessment that it has no

ultimate teleology, even if it has intermediate goals as a movement.[14] More makes this

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[11] *Immortality or Bust*, directed by Daniel Sollinger (Cleveland: Gravitas Studios, 2020), www.immortalityorbust.com.

[12] Ray Kurzweil and Terry Grossman, *Fantastic Voyage: Live Long Enough to Live Forever* (Emmaus, PA: Rodale Inc., 2004).

[13] Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthrough That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007), 330.

[14] Jose Luis Cordeiro, "The Principles of Extropy," *Lifeboat,* accessed November 28, 2020, https://lifeboat.com/ex/the.principles.of.extropy.

assertion for two reasons. First, More's own brand of transhumanism, extropianism, emphasizes eternal progress and eternal evolution. He stresses that the evolutionary process will continue, meaning that humans will need to change to remain competitive. Second, More's arguments repudiate Teilhard de Chardin's omega point eschatology,[15] which stresses convergence and unification with God. While Teilhard and More are naturalistic in their orientation towards evolution, More's atheism leads him to oppose any sense of a final teleology. This question of how theism relates to naturalism will be important for distinguishing the nuances and intellectual strategies that More and other transhumanists employ.

For More, teleological thinking is antithetical to his atheistic interpretation of evolution. However, the goal of immortality appears to be in tension with the transhumanist framing of history in evolutionary terms. If we consider that the primary mechanism in evolution is the changes between successive generation, then death is an important part of the realization of successful evolutionary change. To resolve this tension, an alternative form of evolutionary progress through technology must be conceived. De Grey's work on preventing the effects of aging aims to rectify problems that have arisen in our bodies due to evolution. As de Grey describes it, unhealthy cells reproduce (as in the case of cancer cells) while healthy cells do not, leading to an increasingly decrepit body over time.[16] Because genes are the primary mechanism of evolutionary change, defects that manifest themselves later in life can remain embedded

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[15] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper, 1955).

[16] De Grey and Rae, *Ending Aging*.

in our DNA because transmission occurs prior the deleterious effects of those defects. Transhumanists propose changes to our genetic code as one means to correct evolution's mistakes.

Here, we begin to recognize that transhumanists see themselves as having a *responsibility* to improve human nature because evolution alone has left us ill equipped to live into the far future. They stand in opposition to the mainstream culture that they interpret as 'deathist,' or normalizing the acceptance of death.[17] Transhumanists have a mission to change the culture in order to bring awareness that it may be possible to defeat death through biological means. Since there may be limits to what is biologically possible, transhumanists necessitate evolutionary change from the human to the transhuman to the posthuman, which is itself an entirely different kind of existence than humans now know. A central problem for transhumanists is not merely how to facilitate the eventual emergence of posthumans over successive generations, but rather how they *themselves* will become the immortal posthumans that they hope this process will yield.

Though the digital posthuman is only one of the potential types of posthumans that transhumanists theorize, I argue that digitality is the best vehicle for transhumanists to satisfy their values and to achieve a personal transition to the posthuman. Transhumanists desire digitality for two main reasons. First, a digital person lacks the constraints that come from biological form. While Bostrom and Anders Sandberg thinks that mind uploading will initially need to emulate human brains with a one-to-one

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[17] Nick Bostrom, "The Fable of the Dragon Tyrant," *Journal of Medical Ethics* 31, no. 5 (May 2005): 273-77.

correlation of physical neurons to digital ones, they envision that it may be possible to emulate specific human minds and their personalities.[18] Once this emulation is achieved, digital humans could remake their digital bodies in whatever way they wish, to suit their own whims. They also could manipulate physical forms as the 'minds' of robots and other machines. In effect, this would allow a person to change their body with few constraints beyond what can be coded. The digital form is itself malleable while the hardware hosting such forms would be upgradable, allowing for digital persons to take advantage of advances in computational power. Second, the advantages conferred to artificial intelligences could be accessed by digital humans. In *Superintelligences*, Bostrom shows that the sheer speed of electrical signals in transistors far exceeds that which is possible among neurochemical signals in a person's synapses.[19] The transition to a digital existence would come with advantages in processing speed, allowing for one's effective intelligence to grow in turn. Not only that, but one's subjective experience could be theoretically stretched, as Frank Tipler suggests in his version of the omega point theory.[20] So long as immortality is a real goal, then consideration of the inevitable end of the physical universe is inevitably relevant for those transhumanists that are serious about living for as long as possible.

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[18] Nick Bostrom and Anders Sandberg, *Whole Brain Emulation: A Roadmap* (Oxford: Future of Humanity Institute, Oxford University, 2008).

[19] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2013), 44.

[20] Frank Tipler, *The Physics of Immortality* (New York: Doubleday, 1994).

This dissertation will argue that the transhumanist prioritization of future immortality defines their interpretation of history and necessitates a certain form of social ethics. Transhumanists have been far more willing to engage and to cooperate with religious groups than past secular movements because their goals depend on their near total cooperation and allocation of resources to scientific research and technological development. This also means that transhumanists must work to avoid scenarios that might destabilize society, such as major world wars, pandemics, and climate disasters. A stable and prosperous society is a precondition for the kind of technological progress that transhumanists envision. To prevent these obstacles and to best enable progress, a moral transformation of humanity will be necessary. For that reason, transhumanist goals go beyond life-extension and include changes to human nature itself.

While transhumanist argumentation begins with personal immortality, it ends with a call to action towards the complete transformation of humanity as whole. This stance heavily biases their interpretation of history as one that necessitates progress. In chapter five, I will use Jürgen Moltmann's analysis of Teilhard's naturalistic eschatology to showcase some of the problems inherent to adopting an evolutionary framework as one's lens for interpreting history. In part, this puts transhumanists into an anxious position in which they fear that they may be left behind by the progress that will come after them. While their framework downplays the victims of injustice, they too stand in a position of potentially becoming the victims of history. Their solution to this solution this dilemma involves the extrapolation of personality after someone has already passed away. The digital immortality scenario also involves a digital *afterlife* scenario, which can be a

failsafe if the necessary technological progress does not happen in our lifetimes.[21] However, this position drifts even further into religious relevance given the potential for technological resurrection and the responsibility of our potential posthuman posterity to do so. This type of vision fits into Nikolai Fedorov's 'duty to our ancestors,' in which technology will be used to bring back everyone who ever lived. The primary differences that will be explored will be the relevance of theism and supernaturalism to eschatological ideas since transhumanists use technology as a substitute for the means by which these scenarios will occur.

III.   Significance of the Problem for Eschatology, Theological Anthropology, and Ethics

A.   Eschatology

Philosopher Mark Coeckelburgh defines eschatology as "a part of theology concerned with the final events of history and the ultimate destiny of humanity."[22] An advantage of this definition is that it can be used to refer to a general conception of humanity's ultimate future. However, defining eschatology in this way may obscure important *religiously specific* concepts that emerge within a given tradition. For instance, debates within Christian eschatology are concerned with the church's connection to the impending arrival of Christ, an event called the *Parousia*. For most theologians, eschatology cannot be conceived without reference to the coming of Christ, as Moltmann

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[21] Cryonics would also fit into this idea of a failsafe technology to ensure that bodies make it into the future.

[22] Mark Coeckelbergh, *AI Ethics* (Cambridge, MA: MIT Press, 2020), 25.

argues in *The Coming of God.*[23] Given the atheistic character of the transhumanist

movement, a broader definition of eschatology will be necessary.

Physical eschatology is a secular eschatology that describes the fate of the

cosmos. Since transhumanist thought is bound by what is scientifically possible, the end

of the physical universe bounds the question of immortality. In Christian eschatology, the

way that Christians imagine the eschaton is not necessarily bound by the fate of the

universe since an agential God, as the creator of the universe, controls its ultimate fate.

Tipler's idea of increasing subjective time in a simulated space sustains a transhumanist

vision that is near infinite. As Brent Waters explains, "Both agree that death is the final

enemy; transhumanists conquer this foe by achieving the immortality of endless time,

whereas Christians are resurrected into eternity, where there is no time."[24] Religious

transhumanist groups, such as the Mormon Transhumanist Association and the Christian

Transhumanist Association, believe that technology may be God's intended means to

bring about the resurrection. These groups also blend elements of theism and

supernaturalism into their eschatology. Atheist, naturalist transhumanism focuses solely

on human efforts, expecting no intervention to save humanity from the challenges it

faces.

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[23] Jürgen Moltmann, *The Coming of God: Christian Eschatology* (Minneapolis: Fortress Press, 1996).

[24] Brent Waters, "Whose Salvation, Which Eschatology? Transhumanism and Christianity as Contending Salvific Religions," in *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement,* ed. Ronald Cole-Turner (Washington, D.C.: Georgetown University Press, 2011), 164.

The differences between Christian and transhumanist eschatology parallels the intra-Christian debate in the early twentieth century between premillennialism and postmillennialism. The difference in positions relates to the degree to which human effort can yield religious promises for a better world. Postmillennialists emphasize that humans necessitate the achievement of a better world prior to Christ's return, while premillennialists stress that such change is impossible without God's direct intervention. Historian George Marsden argues that American Evangelicals turned away from public service in the early twentieth century since their efforts failed to change society, instead coming to believe that humans are unable to effect such change due to their fallible, sin nature.[25] Because such parallels are possible, Albert Antosca, a philosopher specializing in technology, argued in his dissertation that millennialism is a useful lens through which to examine transhumanism, especially if the Parousia is likened to the singularity, the rise of superintelligent AI.[26] As noted by Waters, Christians and transhumanists appear to be far more divided about means and purpose than goals. To give an overview, these are the primary areas of dispute between Christian theologians and transhumanists in eschatology: 1) the relationship of technology to life-extension, immortality, and resurrection, 2) fundamental theological anthropology, 3) eschatological scenarios, 4) the interpretation of history in light of evolution, and 5) the relationship of a divine actor to any of these topics.

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[25] George Marsden, *Fundamentalism and American Culture* (Oxford: Oxford University Press, 1980).

[26] Albert R. Antosca, *Singularitarianism and the New Millennium: Techno-Theology in the Transhumanist Age of Re-Enchantment* (Newport, RI: Salve Regina University, 2018).

Finally, transhumanist eschatology is focused primarily on questions of the self, a topic usually called 'personal eschatology.' This dissertation hopes to go beyond merely assessing transhumanist personal eschatology by offering potential correctives to its focus. Moltmann's framework for eschatology, which focuses on justice for historical wrongs and eventual reconciliation between oppressors and the oppressed, emphasizes the need for redemption over the continuation of life. This dissertation will show that the focus on personal immortality instrumentalizes scientific and technological advancements and even superintelligent AIs. The strict focus on personal immortality obscures the necessity of a broader transhumanist social ethics that may benefit considerably from the wisdom traditions.

B. *Theological Anthropology*

The second major area of relevance that digital immortality has for theology is in its ramifications for theological anthropology. The concept of digital immortality raises this question since it appears to presume a kind of substance dualism. As Ted Peters describes, it is best to understand transhumanism as a combination of both atheistic materialism and substance dualism.[27] To understand this view, we can look at Kurzweil's description of 'patternism' in *The Singularity is Near.*[28] Kurzweil's anthropological analysis comes out of the failures of atheist-materialist assumptions to explain the continuity of the self, given the ongoing destruction and reproduction of the body at the

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[27] Ted Peters, "The Soul of Trans-Humanism," *Dialog: A Journal of Theology* 44, no. 4 (February 2005): 390.

[28] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin, 2006).

cellular level. To resolve this, Kurzweil suggests that a non-material pattern of information governs our bodies in a kind of software to hardware relationship. Computers are an important metaphor for how patternists understand the self. This connection with computers runs even deeper, as Kurzweil desires to become more machine-like with all the advantages that machines possess. As Carmen Fowler LaBerge explains, there is a kind of neo-Gnosticism present within transhumanism that views the body as something that needs to be escaped.[29] In thinking that the pattern of information governing the body does not need the body, a process of de-identification with bodies occurs. This implies that it is not the synthesis of the body and mind that makes up the self, but the mind alone, the informational pattern. If the self is a pattern of information, then it is possible to replicate it in the way that information is replicated. Following these steps, Kurzweil concludes that the body is not essential to the conception of the self and that the self might be transferred, replicated, and/or reproduced in a different form.

The question of theological anthropology yields three primary questions for investigation. First, to what degree is the transhumanist picture of patternism accurate? This is the most important question for investigation since it bears on eschatological questions from previous eras. For instance, when transhumanists refer to resurrection, what process are they describing? The recreation of minds within machines? The revival of actual bodies? The lens of theological anthropology reveals how the different approaches to immortality value the body differently. Second, how does transhumanist

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[29] Carmen Fowler LaBerge, "Christian? Transhumanist? A Christian Primer for Engaging Transhumanism," in *The Transhumanism Handbook*, ed. Newton Lee, 1st ed. (Cham: Springer International Publishing, 2019), 774.

substance dualism differ from other substance dualisms? In discussions of an afterlife, Christian theology often focuses on the dualism between body and soul. However, the soul itself has a variety of different conceptions, detailed by Peters[30] and Hughes, some of which are compatible with transhumanism. This does raise a basic question about the difference between mind/body dualism and soul/body dualism. Investigating this basic difference will reveal insights into how the self is conceived. Not only that, but it also reveals how the *ideal* self is conceived. For instance, if, as Noreen Herzfeld suggests,[31] emotions are essential to the self, then part of the tension between her view and that of transhumanists is that the transhumanist picture of the self is one that is more machine-like, a mind sans emotion (or at least one in which emotions can be turned on and off). This stance toward emotions reveals how transhumanists concern themselves with jettisoning everything they view as unnecessary and disadvantageous. This difference between mind and soul thus contains differences over the relationship between the mind and the pursuit of a perfect rationality that only a machine can conceive. Third, why do transhumanists imagine the self in this way? This question can be answered in part thanks to the idealization of superintelligent AI and thus to the desire to remake humanity to resemble these machines, a kind of *imago machina*. This raises the question of whether this is a desirable pursuit since it comes with a kind of normative supposition in which the perfection and preservation of the mind alone is the priority.

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[30] Ted Peters, "The Soul of Trans-Humanism," *Dialog: A Journal of Theology* 44, no. 4 (February 2005): 381–95.

[31] Noreen Herzfeld, "More than Information: A Christian Critique of a New Dualism," *Theology and Science* 14, no. 1 (February 2016): 84-92.

C. Ethical Consequences

The final area of significance for this topic relates to the practical ethical consequences of accepting transhumanist anthropology. So far, this dissertation has discussed how a specific theological anthropology fits into an eschatological scenario. However, this dissertation will argue that acceptance of this anthropology necessitates a broader consideration of social ethics. Kurzweil has described using writings and music that his father had made to recreate him through an advanced machine learning process, one that would eventually yield an AI recreation of his father.[32] While current technological pursuits of brain emulation require sophisticated and detailed images of a particular person's brain, Bostrom and Sandberg suggest that emulation of a particular brain and emulation of the personality that runs on that brain may both be necessary to emulate a person at the necessary level of fidelity. The insistence that the original person and the emulation are the *same* person is a feature of Kurzweilian patternism.

This insistence has the potential to reduce human activity and complexity to a matter of data. This data is both dependent upon our original biological forms but also something that can be detached from it. However, if we are able to devise procedures in which the data of the dead can be gathered, then the potential for resurrection starts to seem like a real possibility. But existing as data also has the effect of enhancing the flexibility of changes made to human persons. Transhumanists assume that such power

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[32] Berman, John, "Futurist Ray Kurzweil Says He Can Bring His Dead Father Back to Life Through a Computer Avatar," *ABC News*, August 9, 2011, https://abcnews.go.com/Technology/futurist-ray-kurzweil-bring-dead-father-back-life/story?id=14267712.

for change will be in the hands of the individual, that it will be change they make to themselves. It is unclear why technology would be so restrictive. By existing in digital space, digital humans would also be able to make changes to their environment. The digital is thus the best place for transhumanists to exercise the kind of godlike power that they eventually desire to wield. This kind of future may not be collective, but rather individual, in which one person imposes their will on their environment and on the digital constructs around them to suit their own whims. While changes to human nature in the short term may demand moral action for the sake of technological progress, the transhumanist bends back towards indulgence. This tendency may undermine the relational necessities of the transhumanist progress, even if their philosophy demands a robust social ethics in the present.

IV.   Methodology

A. Investigative Methodology

The methodologies that I will use for this project come primarily from Katherine Hayles in her book, *How We Became Posthuman*,[33] and Mark Coeckelbergh in his book, *New Romantic Cyborgs*.[34] Both of these scholars ask a central research question regarding the historical development of a particular perspective. Hayles asks about the rise of ideas of the disembodied posthuman, who can exist in cyberspace. She traces the genealogy of

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[33] N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999).

[34] Mark Coeckelbergh, *New Romantic Cyborgs: Romanticism, Information Technology, and the End of the Machine* (Cambridge, MA: The MIT Press, 2017).

this idea back to Norbert Wiener's theory of cybernetics in his book of the same name.[35]

Hayles's work will also be helpful in describing Kurzweilian patternism, since she is

interested in the growth in the plausibility and acceptance of dualistic views of human

minds as the software running the hardware of their bodies.

For Coeckelbergh, romantic influences suffuse efforts both to accelerate

technological progress and to curtail it. This is made possible by cyberromanticism,

which draws both upon ideas of Enlightenment rationalism and upon Romanticism. He

also describes the ways in which use of social media inspires technologies that allow for

the commodification of the self, suffering from the objectification and alienation that

such a process yields. Both scholars trace the ancestry and impact of a particular line of

thinking, examining primary sources from relevant authors to frame historical

development, using philosophical analysis to investigate their target anthropologies. I

clarify the scope and limitations of the diverse source selection in the section that

follows. For this project, I will use these methodologies to establish how eschatological

ideas come to suffuse ideas around digital immortality, potentially leading to extreme

positions about the necessity of total data collection to whatever extent is technologically

feasible. I will also use these methodologies to analyze the directions of transhumanist

eschatology. Given this eschatological dimension, a counter eschatology will be

necessary in offering a corrective vision, and to construct this I will draw on the work of

Teilhard and Moltmann.

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[35] Norbert Wiener, *Cybernetics*, 2nd ed. (New York: M.I.T. Press, 1961).

B. Comparative Methodology

Ronald Cole-Turner demonstrates how to compare transhumanists to Christian ones through his analysis of Karl Rahner and Ted Chu in his article, "Going Beyond the Human: Christians and Other Transhumanists." Cole-Turner asks "whether these technologies play any role in God's transformation of humanity"?[36] For both Rahner and Chu, self-transcendence is a key feature of the universe. For Rahner, this self-transcendence aims at becoming more like God the creator, whereas for Chu it is merely a feature of a how the universe operates, an unexplained given. Cole-Turner demonstrates that it is possible to establish overlap with transhumanist thinkers over theological ideas and to pinpoint the place of divergence. In addition, Cole-Turner pays careful attention to differences in transhumanist thought, as I will do also.

By putting theologians in conversation with transhumanists, there are potential theological gains on each side. As Cole-Turner emphasizes, God remains an inexhaustible mystery outside of our comprehension and outside of our control, an ever-present reminder that humanity's reach is finite. The transhumanist challenge to transcendence even offers an opportunity for theological clarification of the concept of *theosis*, a process of transformation to be more like God emphasized in Eastern Orthodox and Eastern Catholic theologies.[37] For instance, the Mormon Transhumanist Association

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[36] Ronald Cole-Turner, "Going beyond the Human: Christians and Other Transhumanists," *Theology and Science* 13, no. 2 (April 2015): 155.

[37] Several theologians discuss this in their contributions to *The Transhumanism Handbook*.

emphasizes 'transfigurism' and the role that technology may play in it.[38] While the fact

that transhumanists like Chu reach for religious concepts shows the potential for the

distortion of these concepts, the potential weight of them in their application may create

room for discussion that was not possible before.

This dissertation will suggest that the desire for transcendence through digital

immorality is not necessarily be bad, but that the focus on a future that emphasizes only a

personal future is incomplete at best. I will follow Cole-Turner's example in juxtaposing

a theologian with a transhumanist thinker. In this dissertation, I compare Moltmann's

eschatology with Kurzweil's idea of the singularity. Moltmann emphasizes redemption in

The Coming of God because otherwise the weight and sin of the past would remain

trapped there. He explains, "Utopia is an enticing idea about progress and the moral

completion of world history. But it is not utopia that constitutes the hope for the

redemption of the world; it is the experience of redemption in the messianic moment."[39]

Moltmann believes that pain is ultimately transformed and redeemed by God in the

eschaton. Without God, he does not believe that humanity can undergo the necessary

transformation for the future to redeem the past. Transhumanists must consider how other

people, especially those who have been victims of oppression and injustice, will fit into

their vision of the future. Kurzweil's impulse to 'resurrect' his father through digital

means is a recognition that even if he were able to prolong his own life, his own

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[38] "FAQ," Mormon Transhumanist Association, accessed March 16, 2021, https://transfigurism.org/faq.

[39] Moltmann, *The Coming of God,* 35.

happiness would remain incomplete without his father, as only immortality without resurrection. Comparison of these ideas reveals how religiously salient ideas come to infuse transhumanism and why transhumanists may benefit from the theological work that has already been done on such topics. As Ted Peters explains in his article, "Boarding the Transhumanist Train: How Far Should the Christian Ride?," Christians may be able to follow transhumanists a surprisingly long way before diverging from them on important theological topics, such as when it comes to the nature of God. However, given the amount of area that there is for overlap, this question may go both ways: just how far should transhumanists follow Christians in the quest to overcome death? Only investigation and comparison may reveal what can be gained on each side.

V.   Sources for the Study

To understand transhumanism, it will be necessary to explore a lineage of transhumanist thought. When thinking about digital humans, roboticist Hans Moravec is a principal figure, especially his book, *Mind Children*,[40] and his essay, "Pigs in Cyberspace."[41] In Moravec, we start to see a fuller articulation of how autonomous machines might be the product of our technological efforts. The main successor to Moravec, and the developer of the idea of patternism, is Ray Kurzweil. His books, *The Singularity is Near* and *The Age of Spiritual Machines*,[42] showcase a vision of

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[40] Hans P. Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge, MA: Harvard University Press, 1988).

[41] Hans Moravec, "Pigs in Cyberspace" (N.p.: Nasa Technical Report Server, 1993).

[42] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Viking, 1999).

technological progress that leads to a singularity, referring to the exponential rise of

machine intelligence beyond our comprehension. Philosopher Nick Bostrom illustrates

the eventual tempering of transhumanist thought. For instance, in his book,

Superintelligences,[43] he suggests that there are both good and bad outcomes that can

come out of the dramatic rise of machine intelligence. Economist Ted Chu, in his book

Transhumanism and Human Potential,[44] describes a spiritual vision of the cosmos driving

towards increased complexity. He is an important figure for determining how and in what

ways transhumanism comes to replace religious convictions in both deliberate and

unintentional ways.

Scholars and critics of transhumanism will feature prominently in this project to

highlight the impact and implications of digital immortality *as an idea*. Several scholars

have noted how transhumanist ideas can take on a kind of religious character. Robert

Geraci, for example, argues that talk about artificial intelligence and the singularity

comes to take on a kind of apocalyptic character, pronouncing a future defined by radical

change.[45] Apocalypticism is a specific kind of talk in the Christian theological tradition, a

both predictive and normative statement. Albert Antosca proposes that transhumanist

thought can be analyzed using Christian millennialism as a guiding framework, with the

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[43] Bostrom, *Superintelligence,* 20.

[44] Ted Chu, *Human Purpose and Transhuman Potential* (San Rafael, CA: Origin Press, 2014).

[45] R. M. Geraci, "Apocalyptic AI: Religion and the Promise of Artificial Intelligence," *Journal of the American Academy of Religion* 76, no. 1 (March 2008): 138-166.

singularity acting in place for the 'second coming' event.[46] Hughes likewise uses

millennialism as a frame through which to look at the history of transhumanist thought.[47]

Theologians also wrestle quite closely with this parallel between the singularity

and Christian millennialism. Ronald Cole-Turner, for instance, makes direct comparisons

between Evangelical Christian and transhumanist pictures of the future, even including

versions found in popular media.[48] Jeanine Thweatt[49] examines how the transhumanist

picture of the cyborg might be a product of a misunderstanding of Donna Haraway's, "A

Cyborg Manifesto."[50] Thweatt is primarily concerned with continuing to view the figure

of the cyborg as a liberative figure rather than as a symbol for future, yet unknown forms

of oppression. Cole-Turner, Thweatt, Peters, and Brent Waters[51] are helpful starting

points for using theological anthropology to engage with transhumanism because they are

already engaged with transhumanism from their respective traditions.

My main theological talking partner will be Moltmann, and this in two areas.

First, I will compare Moltmann's eschatology with Kurzweil's singularitarianism. The

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[46] Albert R. Antosca, *Singularitarianism and the New Millennium: Techno-Theology in the Transhumanist Age of Re-Enchantment* (Newport, RI: Salve Regina University, 2018), 45.

[47] James J. Hughes, "The Politics of Transhumanism and the Techno-Millennial Imagination, 1626–2030," *Zygon* 47, no. 4 (December 2012): 757-776.

[48] Cole-Turner, "Going beyond the Human: Christians and Other Transhumanists."

[49] Jeanine Thweatt, *Cyborg Selves: A Theological Anthropology of the Posthuman.* (Farnham, UK: Taylor & Francis Group, 2012).

[50] Donna Jeanne Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

[51] Brent Waters, *Christian Moral Theology in the Emerging Technoculture: From Posthuman Back to Human* (Farnham, UK: Taylor and Francis, 2016).

two primary books that I will be drawing from in this area are *The Coming of God,*[52] *The Theology of Hope,*[53] and *The Future of Creation.*[54] Moltmann has written on the relationship between theology and science in his book, *Science and Wisdom.*[55] There, he also considers scientific visions of the end of the physical cosmos, a topic called physical eschatology, and the role that the millennium may play in such predictions. Finally, while not responding to transhumanists directly, he does express an interest in freeing the sciences "from the new, quasi-religious roles which they have come to assume through their supposed separation from social interests and value systems."[56] Moltmann's analysis of Teilhard will establish a framework for assessing the problem of embracing evolution. From this standpoint, we can look at how the conflict between theism and atheism and between naturalism and supernaturalism play out within these different eschatologies.

VI.   Limitations

Parallels between transhumanism and religious traditions will be restricted primarily to those between transhumanism and Christianity. Notably, Hughes has advocated for transhumanism as a Buddhist,[57] and other scholars have examined those

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[52] Moltmann, *The Coming of God: Christian Eschatology*.

[53] Jürgen Moltmann, *Theology of Hope* (New York: Harper & Row, 1967).

[54] Jürgen Moltmann, *The Future of Creation: Collected Essays*, 1st American ed. (Philadelphia: Fortress Press, 1979).

[55] Jürgen Moltmann, *Science and Wisdom*, 1st Fortress Press ed., Science & Wisdom (Minneapolis: Fortress Press, 2003).

[56] Moltmann, *Science and Wisdom, 145.*

[57] James J. Hughes, "Buddhism and Our Posthuman Future," *Sophia* 58, no. 4 (December 2018): 653-662.

parallels.[58] These parallels deserve a book length discussion, and perhaps one can be

launched in the future that uses the methodology of this project with a different religious

tradition. It is also the case that even within Christianity, not all theological traditions will

be represented. Instead, Moltmann and Teilhard will be my primary sources for

eschatology, in addition to the traditions of the theologians most directly engaged with

transhumanism, such as Cole-Turner and Peters.

While AI is important for enabling the transhumanist vision of the future, I will

not be exploring our relationship with AI in great detail. Instead, this dissertation will

focus on theological anthropology, eschatology, and the philosophy of history. AI is

treated as a means of gaining computational power and, theoretically, increasingly

sophisticated power over the physical universe. Transhumanists are primarily concerned

with whether AI will behave in our interests and what the consequences might be if it

fails to do so. I understand AI as both an incredibly powerful tool for making

technological progress and a potential existential threat. The tension of this difference I

explore in chapter 4, on eschatology.

Finally, this dissertation will not explore the question of how transhumanism

might be considered a religious movement. Transhumanism differs enough from past

atheist movements to be considered post-secular in the sense that it directly engages with

questions and topics of religious relevance, namely: immortality, self-transformation, and

transcendence. However, the question of religion itself is too large to explore in detail

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[58] Michael LaTorra, "What is Buddhist Transhumanism?," *Theology and Science* 13, no. 2 (April 2015): 219-229.

here. Instead, I will merely note that these topics have a religious resonance and that this resonance can provide a useful basis for both comparison and critique. However, this juxtaposition is not meant to be used as a polemical strategy against transhumanists. The atheistic materialism of the transhumanists is very important for understanding the movement as a whole, even if the starting point of atheistic materialism raises further questions given some of transhumanism's strange conclusions, especially in the area of anthropology. Theologians and transhumanists alike may both benefit from this kind of analysis given that the proximity of their relative inquiry leads to an overlap in interests and priorities.

VII.   Outline

Chapter one has provided an overview of the transhumanist movement. It has detailed the three religiously resonant ideas with which transhumanists engage: immortality, self-transformation, and transcendence. It has defined what this dissertation means by immortality and why analyzing immortality is important for understanding the long-term vision of transhumanism. It has indicated the three main areas that this dissertation will explore: theological anthropology, eschatology, and the philosophy of history. It explains my methodologies for undergoing this study and what sources I have selected as a starting point. Finally, it delineates the boundaries of the dissertation's questions and other potential areas for future research.

Chapter two explains the three different types of immortality that transhumanists explore: biological immortality, cybernetic immortality, and digital immortality. I argue that transhumanists following Moravec and Kurzweil will believe that digital immortality

is the most desirable endpoint. It is the patternist anthropology that enables the acceptance and desirability of digital immorality. I explain how digitality offers the best means for transhumanists to satisfy their own values of autonomy and expression and the necessities of evolutionary change. I discuss Kurzweil's idea of the law of accelerating returns, which enables him and his followers to believe that life-extension breakthroughs might be chained together in such a way that humans living today may make it to a posthuman state. To that end, I discuss the methods and means of creating digital humans and the concerns for pattern fidelity that transhumanists have.

Chapter three gives an overview of transhumanist and theological anthropology. I begin with an analysis of what indicators we use to establish that a person is legally dead and how transhumanists have come into conflict with government authorities over the legality of cryogenic freezing. I discuss how transhumanists come to view a dead body as one that is potentially resurrectable through the use of technology. I show how transhumanists move from a starting point of atheist materialism to a functional dualism, with the mind being recognized as an informational pattern within patternism. I discuss the neo-Gnostic attitudes within transhumanism that are looking to free the mind from the body. In addition, I explore the distinction in dualist anthropologies between mind/body dualism and soul/body dualisms since it accounts for some of the most important divergences between Kurzweil and his theological critics. Finally, I argue that transhumanists understand the mind as something that can be detached from the body and that there always remains something about the person that renders their identity stable, even if the mind itself should be upgraded through posthuman transition.

Chapter four discusses the different scenarios that transhumanists envision for the future. These visions involve AI and the technological singularity, an event in which technological progress becomes more and more rapid through AIs developing other AIs more powerful than themselves. Transhumanists have both an optimistic vision of the future, in which AIs act as the tool we hope them to be, and a pessimistic vision of the future, in which AIs enslave or destroy humanity. The transhumanist solution to AI and other existential threats is transformation towards increasing intellectual power to combat these challenges. The transhumanist story of the universe thus becomes one of evolutionary progress, in which humanity and AI together drive towards a complexity of consciousness. These eschatological scenarios are atheistic and naturalistic in their orientation. The distinction between postmillennial and premillennial Christian eschatology will be taken up here as a means of showing the relationship of human action to these futures.

Chapter five explores our interpretation of history. Transhumanists frame history around their understanding of evolution. This chapter uses the difference between Teilhard's naturalistic eschatology and Moltmann's supernaturalistic eschatology to show what is at stake in embracing evolution as an overarching framework for understanding the cosmos. I compare Teilhard and Moltmann with More's own picture of perpetual progress, in which the evolutionary struggle continues indefinitely. This comparison shows that even Christ becomes a kind of evolutionary victim for Teilhard, meaning that those who have been harmed by oppression and injustice have no recourse within an evolutionary framework. The universal duty of posthumanity to today's humans also

becomes harder to conceive if all people today and all past people are thought of only as victims of evolution and are treated as inferior. The social ethics of life extension warrant a collective effort of humanity to make technological progress possible. This leads to a fundamental question of whether humans are able to bring about this kind of positive change, given our nature. This chapter explains how the quest to change human nature and the moral efficacy of humans is intimately tied to the transhumanist quest to achieve immortality and avoid existential disaster.

Chapter six gives a broad overview of the trajectory of the entire dissertation, exploring the relative conclusions of chapters two through five. It presents a synopsis of what I call 'the transhumanist scenario,' in which technological progress allows humans today to propel themselves to become posthumans in the future. I offer my final thoughts on how we should view transhumanism, namely for the kind of social ethics that it implies but that have so far been underexplored. In part, these ethics relate to the way in which we can understand both those who have come before us and even past versions of ourselves. Even within the framework of the demand of these social ethics, the focus on the personal inevitably leads transhumanists back to a point of indulgence. This means that the transhumanist vision implies either a future of endless evolutionary struggle or passive indulgence, both of which may be undesirable.

CHAPTER 2: THE IMMORTALITIES OF TRANSHUMANISM

This chapter will explore the transhumanist position towards life-extension and the various routes by which they believe that immortality might be possible. I outline three paths: a biological path, a cybernetic path, and a digital path. I argue that digitality offers the final state that transhumanists most desire and that digital immortality is the most closely connected to efforts in our current world to bring back the dead. The existence of low-level simulations that fit with the idea of digital immortality shows the push for more sophisticated forms that may become possible with technological innovations. I classify forms of digital immortality into three main types: weak digital immortality, mimetic digital immortality, and strong digital immortality. Digital persons may be created in a variety of ways, including through mind-uploading, personality extrapolation, and even some form of quantum generation/resurrection. These more radical forms of creation appear to suit the needs of digital persons better than biological ones, especially given the unpredictability of the timeframe in which these new technologies may become viable. However, future revival and resurrection in transhumanist scenarios *require* a society that has transhumanist values both to extend life and to bring back the dead.

I.   Deathism

Transhumanists oppose the acceptance and normalization of death, which they call 'deathism.' Their criticism has two main targets, the first being the majority culture that believes that death is normal and inevitable, and the second being world religions that promise a release from death or suggest that death is not the end. Transhumanists

abhor the kind of apathy that non-transhumanists appear to show towards the problem of death. The former group insists that much more could be done to prevent death and to circumvent the causes of death, such as aging, and that this could occur primarily through the public becoming more transhumanist and investing in technologies that might ameliorate these problems. How seriously transhumanists take death is evident in Mark O'Connell's book, *To Be a Machine*, in which Timothy Leary's decision to be cremated rather than cryogenically frozen is seen by other members of the Alcor Life Foundation as "a sad capitulation to 'deathist' ideology."[1] They lamented not his death but all the years that could have come from choosing to be frozen: an inconceivable amount of time achieved through the chaining together of technological interventions into the prolonging of life. For transhumanists, every death is the premature end of someone who might have been immortal.

Nick Bostrom's short story, "Fable of the Dragon Tyrant," exemplifies this stance towards death and the transhumanist hope for what might be accomplished if people banded together to oppose it. In this allegory, a dragon that chooses arbitrarily to feed on human lives represents death. The conflict with the dragon is described in military terms, in which increasingly powerful and sophisticated weapons are needed to penetrate the dragon's hide. The emotional weight of the story focuses on a young child whose grandparent is about to be sacrificed to the dragon tyrant: "There were several other speakers that evening, but the child's simple testimony had punctured the rhetorical

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[1] Mark O'Connell, *To Be a Machine: Adventures Among Cyborgs, Utopians, Hackers, and the Futurists Solving the Modest Problem of Death* (New York: Doubleday, 2017), 37.

balloon that the king's ministers had tried to inflate. The people were backing the anti-dragonists, and by the end of the evening even the king had come to recognize the reason and the humanity of their cause."[2] Some characters possess a defeatist mindset: conquering the dragon is impossible, and so acceptance is better. The heroes of the story are the scientists, who eventually succeed in developing a weapon that destroys the dragon tyrant. But before they do, the young child's grandparent is eaten. In the face of this fate, the child wonders if they could have done more to save his grandparent, particularly given their eventual triumph over the dragon. The message of the "Fable of the Dragon Tyrant" is not simply that death is an obstacle that can and should be overcome, but that humanity must prioritize the defeat of death to avoid paying the steep cost in human lives each time technological progress and transhumanist sentiments are impeded.

Religious traditions, especially those that emphasize that life is or may be possible after death, serve as an additional distraction from the transhumanist project. In his book, *Technological Resurrection: A Thought Experiment*, Jonathan Jones explains that our relief from existential dread initially came in the form of religion.[3] While apathy towards the problem of death is significant, religious teachings offer hope for life. For example, an evangelical Christian who believes that they will be united with God after death and this promise depends on God rather than on technological progress. If anything,

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[2] Nick Bostrom, "The Fable of the Dragon Tyrant," *Journal of Medical Ethics* 31, no. 5 (May 2005): 275.

[3] Jonathan Jones, *Technological Resurrection: A Thought Experiment* (N.p: Self-published, 2017), 6.

unnaturally prolonging one's life prevents one from achieving unification with God and with one's departed loved ones in heaven. For a Buddhist who believes in reincarnation, the goal may be to be released from the cycle of life and death rather than to continue living. For transhumanists, supernaturalist religions are escapist fantasies that have their origin in the fear of death. As futurist blogger Kate Levchuk observes,

> Transhumanism is not an ideology for the poor, hopeless and depressed. Those people can dream of better worlds elsewhere. It is an ideology for people who know what they want from life and how to get it. It is a philosophy for strong, happy and ambitious people who could not care less about what happens to their souls after their bodies turn to ashes. These people want life here and now. And they are not ready to be lured into the mockery of an "afterlife" … There is only one explanation to this ongoing absurdity. And it is not even game theory. It is our mortality and the acknowledgement of the fact we will die. People making decisions today will turn to ashes several decades from now.[4]

In this case, alleviating death anxiety through something like religion prevents people from accurately assessing their situation, in which death is inevitable *unless* drastic efforts are undertaken. This view is consistent with ecologist Lynn White's argument that Christians tend to downplay the importance of the environment because they believe that their true future is in heaven rather than on Earth; the environment may disappear even if one invests in it.[5]

In the case of people in the Judeo-Christian religions, who believe that God may make them immortal in the afterlife, their decisions to live a moral life in God's eyes to justify that immortality aligns with the same end that transhumanists are trying to

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[4] Kate Levchuk, "How Transhumanism Will Get Us Through the Third Millenium," in *The Transhumanism Handbook*, ed. Newton Lee (Cham: Springer International Publishing, 2019), 77–79.

[5] Lynn White, "The Historical Roots of our Ecological Crisis," *Science* 157, no. 3767 (March 1967): 1203-1207.

achieve. However, given the atheistic character of transhumanism, transhumanists see

Jews and Christians as regrettably naïve, as people who might otherwise align with their

goals. In that sense, transhumanists themselves do not see death anxiety as intrinsically

bad except as it inclines people to accept what they see as a false religious vision that

obscures the necessary survival drive to oppose death. In other words, they see religion in

the same way that Marx did, as a kind of 'opium of the masses' that actively pacifies their

desires to survive. Not only that, but acceptance of deathist ideology incentivizes leaders

to make short-term political decisions since they will not have to live with the

consequences of their actions.[6]

Interestingly, even religious versions of transhumanism downplay God's capacity

for resurrection. For instance, Christian transhumanists like Nikolai Fedorov and Micah

Redding stress human action.[7] They see it as God's will for humans to create the

technological means by which resurrection can take place in the future. As Jones explains

of Fedorov, "He felt God had allowed Christ to be killed and resurrected, not to pay for

our sins, but rather to provide an example to man that resurrection was possible. And the

crucifixion was humanity's destiny to strive for and to master the act of resurrection,

using science."[8] In this interpretation, it may even be seen as God's will and mission for

humanity to eventually conquer death using technology. Even though God wills it in this

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[6] Michele Adelson-Gavrielli, "Transhumanism: Variety is the Ultimate Hack," in *The Transhumanism Handbook,* ed. Newton Lee (Cham: Springer International Publishing, 2019), 54.

[7] Micah Redding, "Christian Transhumanist Association: Keynote Speech" (keynote speech, the Christian Transhumanist Association, Knoxville, October 19, 2019).

[8] Jones, *Technological Resurrection,* 20–21.

type of theology, it is not God who ultimately resurrects humanity through supernatural action.

Philosopher Nick Bostrom represents an interesting case regarding how to understand beliefs about the potential of immortality. If we look at "The Fable of the Dragon Tyrant," we see his interest in immortality projects. Through his allegory, Bostrom means to show that there is something absurd about our acceptance of death. While transhumanists do not think that *invulnerability* —in the sense that people will be shielded from all harm—is possible, they contend that aging might be prevented. However, while Bostrom railed against the problem of death in 2005 when this article was published, that optimism became far more tempered later in his career. Why? In part because of the Fermi Paradox. The Fermi Paradox asks the question of why we have not yet encountered any other intelligent life forms given the vastness of space and the possibility of life being random. For Bostrom, our inability to locate other intelligent life forms confirms that existential threats to humanity may prevent civilization from progressing beyond a certain level. Identifying and resolving existential threats is the only way for humanity to realize the benefits of future technological advancements.

Bostrom's decision to focus on the problem of runaway superintelligent artificial intelligence, which he takes up primarily in his book, *Superintelligences,* is consistent with the longevity project.[9] For though AI may enable the transhumanist vision of a utopia, solving both the longevity problem *and* a host of other social, economic, and

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[9] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2013).

political problems (Max Tegmark creates an optimistic, fictional scenario like this, which he uses as the opening of his book, *Life 3.0*),[10] it may either get out of control, thus becoming a threat, or be used by bad actors to cause harm. The orthogonality thesis, which proposes that intelligence can be combined with any goal, means that we cannot assume that any superintelligence will be good or that it will act in our best interests. For that reason, Bostrom believes we must solve the fundamental problems of both creating a good AI and making sure that AI is aligned with the goals of the people creating it, something known as the 'alignment problem.'

There is a certain tension within transhumanism between a sober analysis of what is technologically feasible and being swept up in the best possible (though still theoretical) case for life extension. For transhumanist James Hughes, this tension is something central to the Enlightenment itself, which stresses both *rationality* and *eternal progress*.[11] As Hughes notes, it is impossible to make assumptions based on uncontested observations alone, making assumptions—the basis of one's rationality—inevitable. However, this framework may lead one to accept inevitability of progress, which Hughes labels as a kind of 'secularized religious eschatology,' because empirical observation does not support such a premise.[12] In fact, it is possible that humanity will die out altogether. This is part of the reason why the Fermi Paradox may suggest that there are barriers to achieving a particular level of technological sophistication. Consistent with

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[10] Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Alfred A. Knopf, 2017).

[11] James Hughes, "Contradictions from the Enlightenment Roots of Transhumanism," *Journal of Medicine and Philosophy* 35, no. 6 (December 2010): 623.

[12] Hughes, "Contradictions from the Enlightenment Roots of Transhumanism," 631.

their critique of people who focus only on the short-term, transhumanists view themselves as the only ones capable of having a long enough view of society, history, and the planet to make the radical changes necessary for humanity to succeed, which is the primary platform of the United States Transhumanist Party.[13] Their own belief in the potential for immortality is a key part of making this mindset work. If an existential threat, such as AI or climate change, wipes out humanity, then progress becomes impossible. Transhumanists strive to balance their recognition of these threats with their optimism that these technologies must be pursued because they consider the potential benefits to be so great.

Transhumanists as a group have an internal tension of how far to lean into their optimism and belief that a transhumanist future can and will occur. My critique is meant primarily for those transhumanists who become subsumed in the potential of these projects, even at the expense of other concerns. Bostrom represents the kind of transhumanist who is not directly included within this critique because he has eased off his optimism to focus on existential threats. This kind of critique may be helpful to transhumanists who, in keeping with New Atheist movements before them, have a critical stance towards beliefs that are not empirically verifiable. However, the kind of topics that transhumanists are interested in, namely immortality, the afterlife, and the far future, are topics that have importance beyond merely transhumanists. For that reason, theologians

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[13] "U.S. Transhumanist Party – Official Website," accessed May 4, 2022, https://transhumanist-party.org/.

and critics alike can engage with the movement in ways that they have not been able to with other atheistic movements.

II.   What do we mean by immortality?

Before discussing transhumanist proposals for immortality in more detail, it behooves us to establish what we mean by 'immortality.' In philosophy, there is a distinction to be made between 'conditional' and 'unconditional' immortality.[14] In conditional immortality, while a given person may have the capacity to live in the future, circumstances may lead to the end of that person's life. For instance, a person with conditional immortality may be hit by a car, causing their body to fail. In other words, a person with conditional immortality would be immune to so-called 'natural causes' but not to unforeseen accidents or to actions taken by malevolent actors. It is conceivable that an otherwise immortal person could still be murdered. Given their view that indefinite life extension may be possible, transhumanists may take such crimes even more seriously than we do now, considering just how much future life is destroyed. This type of immortality is also called 'medical immortality.'[15] While it is also conceivable that a person may be attacked even at a cellular level (say by a novel virus), medical immortality entails reasonable protection from most diseases and, more specifically, prevention of the bodily damage that occurs at the cellular level through aging. The details of this prevention are discussed later in the section on biological immortality.

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[14] Juraj Odorčák, "Scientific Immortalism and the Problematic Future of Technocentric Immortality," *Journal for the Study of Religions and Ideologies* 19, no. 55 (Spring 2020): 57-58.

[15] John Martin Fischer and Benjamin Mitchell-Yellin, "Immortality and Boredom," *The Journal of Ethics* 18, no. 4 (December 2014): 365.

Unconditional immortality goes well beyond conditional, or medical, immortality. Unconditional immortality posits that a given person is invulnerable to all possible circumstances. As such, an unconditionally immortal person could not be murdered, nor could they take their own life.[16] In the philosophy of death, involuntary immortality involves this unilateral protection from everything, as if by a divine force. This brings us to one of our biggest initial divergences between how transhumanists imagine immortality and how immortality is conceived in Judeo-Christian traditions. In those latter traditions, God provides immortality supernaturally. For instance, in Christian theology, after the resurrection, it is assumed that the resurrection comes with a change in state in which death can no longer be experienced, a change given as a reward for believers.

When transhumanists talk about immortality, they are not talking about this kind of immortality, in part because transhumanists are largely not religious, making a vision of an eternity with the Christian God unappealing. While from a philosophical perspective this new permanent kind of immortality involves protection from circumstances, it is still subject to the supernatural agency of God. This means, conceivably, that there is a hidden condition within that immortality, namely one tied to one's position relative to God. While transhumanists may have some interest in a kind of 'true' immortality in the sense that they are looking for protection from anything that might kill them, capitulation to a God in whom they do not believe does not appear to be

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[16] This autonomy is very important to transhumanists. It drives a core part of their argument that immortality is desirable since it is controllable. In other words, one always has a choice to end one's life later if that future life does not prove worthwhile.

a condition that they would like to fulfill. This causes their search for immortality to be a

kind of atheist search for a naturalistic option that can be obtained through our own

efforts rather than through supernatural intervention. The question of dependence on God

can be transposed to dependence on technology, but these arguments tend to stop at a

prior step. For Christians, eternal life is a by-product of one's relationship with God

rather than the express goal, giving Christians a kind of paradoxical relationship to the

reward that is supposed to accompany their religious life. Conversely, secular

transhumanists may worry about immortality as a by-product of a relationship with God,

given the kind of conditionality that would be placed on it. The kind of immortality for

which transhumanists are looking is one that is under their own control. This means that

they view technology itself as granting them a kind of agency over themselves and over

their own bodies.

Because technologies come with their own risks, transhumanists are not strictly

looking to preserve themselves, but rather to guarantee, insofar as it is possible, that a

version of themselves gets into the future, whether that be a biological version or a digital

version. Transhumanists are willing to produce multiple versions of themselves,

including backups, to make sure that they participate in the future. This makes it plausible

that some person may choose to copy themselves endlessly, a personality becoming a

kind of self-replicating virus for the sake of its own survival. The main qualification for

these copies is the maintenance of the person's pattern, in the Kurzweilian sense.[17] A

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[17] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York, NY: Penguin, 2006).

clone would be incomplete as a copy unless it came with the person's experiences, meaning that a genetic copy is not necessarily what transhumanists would have in mind either. Hans Moravec laments that new minds must be cultivated with each generation, instead preferring a future in which our minds can be passed on directly.[18] These minds could continue to grow in experience well beyond what is possible within our natural lifetimes.

For transhumanist United States presidential candidate Zoltan Istvan, it is only natural that these technologies be driven by personal interest. Yet there is a tension here since the reproduction would have its own life. This means that non-destructive forms of uploading, even if they are successful, would be an ego investment in maintaining the life of the original person, leading to a bifurcated existence. However, if survival is the only concern, then this condition can be satisfied in a multitude of ways that may be viable eventually. For transhumanists, the unpredictability of technological progress means that we cannot know in advance what immortalist technologies will succeed. However, the maximum viability of any immortalist technology given a cosmic view of time leads transhumanists to prefer some technologies over others and the protection of the mind above all else.

III. The Proactionary Principle

A key transhumanist idea is the proactionary principle, which refers to maximization of the freedom needed for technological innovations, a concept developed

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[18] Hans P. Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge, MA: Harvard University Press, 1988).

by philosopher Max More.[19] This concept is fundamentally opposed to the precautionary principle, which presupposes that those consequences may be irreversible and so caution should be exercised. As Steve Fuller suggests in his article analyzing the precautionary principle versus the proactionary principle, it may be impossible in some instances to study a topic sufficiently before acting.[20] The tension between these two principles has to do with what paths should be taken and which should be disregarded. The precautionary principle relies on the slippery slope argument, in which the scope of problems is said to increase drastically as a particular path is followed. The proactionary principle, by contrast, highlights the dangers that may come with our inaction. The transhumanist position argues that inaction in face of the need for life extension guarantees that people alive today will die. Fuller suggests that future disputes will align along these lines: proactionary proponents and their precautionary opposition. For transhumanists, these positions are ideologically opposed in the degree to which they allow and advocate for technological change. Fuller's argument is an excellent example of aligning ideological conflicts on an axis of one's stance toward technological change. For the nontranshumanist, technological changes may endanger humanity. For the transhumanist, humanity is already endangered and only rapid technological advancement can save us.

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[19] Max More, "The Proactionary Principle: Version 3.11," *Extropy Institute* (blog), 2003, accessed November 11, 2020, https://web.archive.org/web/20131015142449/http://extropy.org/principles.htm.

[20] Steve Fuller, "Precautionary and Proactionary as the New Right and the New Left of the Twenty-First Century Ideological Spectrum," *International Journal of Politics, Culture, and Society* 25, no. 4 (September 2012): 164.

a. *Therapy vs. Enhancement. How do we categorize aging?*

The proactionary and precautionary framing of radical life-extension research has implications for the debate about how to categorize technological interventions to the human person as either therapy or enhancement. For example, if someone loses their arm in an accident and has it replaced by a mechanical prosthesis, then the procedure appears to restore a function that they previously had. However, if the mechanical prosthesis comes with certain additional benefits, such as increased strength, then the chain of events that led to a person having their arm replaced leads to an enhancement by means of a therapy since the arm may work better than it did before. However, transhumanists treat aging as a major health crisis that demands immediate attention, rather than as something natural. On the one hand, all humans are subject to aging and share the experience of decline that comes with it. On the other hand, there are creatures on earth that a functionally immortal, that appear to avoid most of the detrimental effects of aging. This implies that aging may be 'natural' to humans but not 'natural' in the sense that there are creatures that have evolved strategies to circumvent aging. Though transhumanists frame their arguments through the lens of evolution, evolution has not equipped humans with the right tools to remain healthy through old age. This is because evolution occurs through the transmission of genes.[21] What is good for the genes is not necessarily good for the carrier of those genes. In other words, given the blind character of evolutionary change we should not be surprised that humans have tended to live only one or two generations beyond the transmission of their genes to their children. Though

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[21] Richard Dawkins, *The Selfish Gene* (New York, NY: Oxford University Press, 1989).

evolution serves as a lens through which to view the necessity of change and to seek out enhancements more generally, it cannot guide the direction of future change. Instead, intelligence— the ultimate by-product of evolutionary competition—can be used to define new endpoints and to correct defects that are still present in our genetic code.

For someone like gerontologist Aubrey de Grey, aging is most appropriately described as a medical disorder in need of a remedy.[22] The cellular degeneration that occurs due to aging is the cause of many other disorders. If we were intending to stop cancer from spreading in elderly people, would we not try to stop aging, which is the cause of such cancer in the first place? Stopping this degeneration would also increase a person's healthspan—the number of healthy years that a person has left to live, not simply how many years they are alive. Similarly, this kind of approach is largely preventive, meaning that deleterious effects would be erased before they could ever manifest in a particular patient. Transhumanists ask whether it makes sense to treat diseases related to aging only after they have appeared.

b. *Morphological Freedom – How can I modify myself?*

One of the key principles to understand about transhumanist philosophy is morphological freedom, which is the freedom to act upon oneself.[23] This means that one can make changes to one's genetic structure and to one's body without worrying about social or legal repercussions. Transhumanists desire to have the ability to experiment on

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[22] Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthrough That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007).

[23] Steve Fuller, "Morphological Freedom and the Question of Responsibility and Representation in Transhumanism," *Confero* 4, no. 2 (January 2016): 33.

themselves without anyone impinging upon this kind of freedom. Such freedom may be necessary to achieve the scientific advancements necessary to prolong their lives. This fits with a larger libertarian stance towards scientific progress in general: if the risks of a scientific enterprise can be restricted to the individual person, then if that person chooses to take on risk there is no reason why that freedom should be impinged. While there may be larger arguments about whether it is a good idea to allow for mass adoption of a given thing, the freedom to experiment is central to getting the chain of accelerating returns going. Also, though I address these types of immortality in a particular order, it is impossible to forecast which technological advancements will be achieved to make any of them possible. In fact, there are enterprises devoted to different problems precisely because it is utterly unclear in which one the necessary breakthrough might happen. One Russian company is already working on the 'upload' program since the founder, Dmitry Istkov, believes that uploading is their ultimate goal.[24] Because of the unpredictability of breakthroughs, it may be necessary to link these different types of immortality together and to combine different approaches. This is true because the end itself is clear: to live as long as humanly possible. Even if something like cryonics were to work, it is merely a stop gap for the eventual research necessary to both revive and to maintain that person (not to mention to reverse the damage done by freezing).[25] The revived person is looking

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[24] Anya Bernstein, "Freeze, Die, Come to Life: The Many Paths to Immortality in Post-Soviet Russia," *American Ethnologist* 42, no. 4 (October 2015): 770.

[25] Bronwyn Parry, "Technologies of Immortality: The Brain on Ice," *The Brain in a Vat* 35, no. 2 (June 1, 2004): 405.

forward not just to the reminder of their natural life if they are cured, but to a virtually indefinite life, if it is available.

For the transhumanist, this logic goes as follows: given the benefits that might come from such experimentation, and given the fact that such risks are limited to myself, can the larger society oppose these decisions? If we take the example of someone who receives a mechanical arm after losing their biological, physical arm, is there an intrinsic reason to stop people from choosing to have their limbs replaced for ones that may work better? We routinely make such replacements when it comes to knee and hip surgery. And it is here that the point of view on therapy versus enhancement diverges, especially regarding the idea of morphological freedom. On the one hand, we might argue that as many people as possible should be treated through therapy, and so enhancement should be the last possible priority of such technologies. On the other hand, some persons might not see why they should be allowed to embrace the possibilities that might come from directly changing their bodies, especially if the risks are restricted to that person alone. The main opposition to these technologies does not come from the argument that people should not be able to risk their own lives, but rather from the argument that the potential benefits of such technologies, should they prove sufficiently safe, will be restricted only to those people who are able to afford them, giving those people an advantage over non-enhanced people. Those in the therapy camp then say that technologies should be a second chance at a normal life rather than a chance to get ahead of their peers. It is for this reason that someone like Francis Fukuyama opposes enhancements: it threatens our sense of the equality of persons, without which the fulcrum upon which democracy

balances might collapse.[26] The key question in this debate then is not how to handle such

technologies should they prove too dangerous, but what to do should the enhancements

prove to be too powerful. In addition, we may ask what kind of enhancements might be

so advantageous that they force adoption due to a shift in the competitive landscape of

human beings.

Hughes recognizes that inequalities may arise, especially due to relative

differences in intelligence, but suggests that these inequalities do not necessarily mean

that the rights of unenhanced peoples would be infringed.[27] Rather, he stresses that more

positive rights might be bestowed upon those with a sufficient level of enhancement.

Still, this view does not relieve the pressure that comes from the argument that creating

enhancement technologies may create a wave of competitive pressure to enhance oneself.

What makes Hughes' version of transhumanism democratic is access to enhancements,

rather than a parity in relative rights, in the sense that enhanced humans would not bar

unenhanced humans from enhancing themselves. In his view, these enhanced humans

would not only be more physically and mentally capable, but also morally superior,

immune to the corruption and pettiness of their predecessors. The totality of these

enhancements is essential. Julian Saveluscu and Ingram Persson argue that humans will

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[26] Francis Fukuyama, "Transhumanism: The World's Most Dangerous Idea," *Foreign Policy*, no. 144 (September 2004): 42.

[27] James Hughes, *Citizen Cyborg: Why Democratic Societies Must Respond to the Redesigned Human of the Future* (Boulder: Westview Press, 2004), 210.

be unable to cope with the self-destructive capacity of emerging technologies without moral enhancements.[28]

As Hava Tirosh-Samuelson stresses, transhumanists imagine the necessary obsolescence of the human species.[29] Given the prior arguments that humans will need to be remade to be more intelligent, more moral, and longer living, this argument is hard to contest. The heart of the division that Fuller describes between the precautionary approach and the proactionary approach involves a divergence over fear of losing our humanity (on the one side) and the *necessity* of change (on the other). Again, important to stress is that the immortality question becomes relevant because the radical enhancement technologies will change the transhumanist into the posthuman, with iterative changes working across the individual's life history until they are a different kind of being altogether, no longer recognizable as what they were before.

IV.   Types of Immortality

a.   Biological immortality

Biological immortality is the most straightforward in the sense that a person continues to live in their body. As gerontologist Aubrey de Grey notes, it may be possible to prevent the on-going accumulation of cellular damage, a process more generally known as 'aging.'[30] According to de Grey, one of the central problems of aging is that

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[28] Ingmar Persson and Julian Savulescu, *Unfit for the Future? The Need for Moral Enhancement* (Oxford: Oxford University Press, 2012).

[29] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon* 47, no. 4 (December 2012): 715

[30] De Grey and Rae, *Ending Aging,* 22.

defective cells continue to live on while healthy cells gradually stop reproducing. This leads to greater system instability over time. De Grey proposes that we may be able to do on-going maintenance to rectify this process. This kind of maintenance is necessary because the body is not equipped to undergo an indefinite number of cellular reproduction cycles. For instance, cells possess a long string of non-coding DNA sequences called 'telomeres,' which are believed to act as a kind of end of a given sequence.[31] As copies are made from the sequence, this tail of sequences becomes shorter and shorter. If we consider that the DNA sequence of humans only needs to last as many cycles as it takes for sexual reproduction to take place, then it is already incredible that humans today can live so far beyond DNA transmission. While it certainly may be adaptive to be able to help one's progeny towards success, it may be maladaptive (in a kind of Malthusian way) for humans to have lived longer in the past. Because this remains a concern, it should be kept in mind that transhumanists anticipate further technological advances to move into a complete post-scarcity society, though further innovations akin to those of the agricultural revolution may be necessary to sustain this kind of life, including technologies aimed at removing problems, such as pollution and waste, that already exist today. While evolution may have gotten us to this point, the randomness of evolution will not necessarily yield in the future the kind of outcomes that humans desire. As a result, transhumanists emphasize a kind of directed evolution

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[31] Leandro Gaitán, "Heaven on Earth: The Mind Uploading Project as Secular Eschatology," *Theology and Science* 17, no. 3 (June 2019): 405.

towards immortality, increased intelligence, and other goals that they believed are imminently desirable.

While biological immortality may be the most straight forward, it is not necessarily the most desirable. If we consider people who may already have begun the aging process, then rejuvenation may be necessary to become younger. Also, the mere extension of life is not the only goal. For instance, if someone could be held on life support indefinitely, but without any kind of agency, then that is not the kind of life for which transhumanists are aiming. Rather, they seek to increase a person's 'healthspan,' the total number of healthy years that they may be able to live. Given what I have just described, this also applies to cryonic freezing, in which a person is frozen to be revived later. Cryogenic freezing is a concession that technologies in the present cannot yield the hoped-for results: they will not allow for one to live longer in any way that could be said to extend one's healthspan. What cryogenic freezing does is grant more time for these developments to take place and to prevent the destruction of that person by any diseases or other conditions that may be uncurable in the present. This time is crucial if one buys into Kurzweil's law of accelerating returns, in which one technological innovation will yield yet further innovation, resulting in a cascade of innovations. Cryogenic freezing itself may not necessarily have to be an indefinite process, merely long enough for the chain of innovation to be far enough along to make it possible to be revived. The most important difference between choosing to be frozen and the choice to die has to do with the potential to be revived into a far better condition. It is the belief in the possibility of revival that makes cryogenic freezing desirable.

b. *Cybernetic Immortality*

Cybernetic immortality involves the gradual replacement of one's body with mechanical prostheses. In many ways, cybernetic immortality and biological immortality are directed at the same goals: fixing the malfunction and gradual breakdown of the body. However, their solution to these problems is quite different. While in biological immortality we are looking at gene therapies and metabolic fixes that interface directly with one's biology, cybernetic immortality involves the replacement of physical body parts and organs with mechanical correlates.[32] These parts could in turn themselves be replaced. In addition, mechanical body parts may directly enhance a given person's strength and durability. For instance, an accident would likely be less fatal for a mechanical person, who may even have backups for their important organs, since they are not as restricted to bodily form (though such modifications may also be done on biological humans).

Versions of this kind of cyberization are already occurring, in part because of the use and application of mechanical prosthetics and replacement joints. One of the key questions that arises with this is that of therapy versus enhancement. The way that transhumanists arrive at enhancement comes with a few premises. First, if one is to receive a mechanical leg, one might find that it is superior to the old one, merely because mechanical limbs have inherent advantages. This means that people who lose a limb are offered something in return that is in some respects better, which is more than a

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[32] Robert F. Harle, "Cyborgs, Uploading and Immortality — Some Serious Concerns," *Sophia* 41, no. 2 (October 2002): 79.

consolation prize. Are there any reasons why healthy persons should be denied the opportunity to access these superior limbs as well? If we were to follow transhumanist assumptions that the technology of the future is going to be superior to the technology of today, then there will be increasing incentive and pressure to accept mechanical limbs and organs.

However, we start to run into the tin man problem, in which the question of identity is raised as gradual replacement of the body occurs. Limbs and identification with those limbs become defined through function. Yet the most interesting questions concern digital replacement of the nervous system and finally cyberization of the brain itself. Is replacing a forearm going too far? Two arms? Arms and legs? Everything below the head? For transhumanists, the key question appears to be whether the produced cyborgs would behave similarly enough for outsiders to *believe* that the produced cyborg is the same as (the person) before. It is this kind of abstraction, which posits external verification as the main criteria for success, that shows how digital immortality does not seem to have different questions than those already associated with a kind of gradual replacement to cyborgization. What then is the appeal of a specifically digital kind of immortality?

As mentioned in our discussion of medical immortality, it is entirely possible that someone who might otherwise be immune to the deleterious effects of aging might come to harm. The way to think about these kinds of issues departs from our normal consideration of risks because of the operative timeframes that transhumanists assume to be relevant. For instance, there may be quite a low chance that someone could suffer an

accident of some kind. However, given enough time, the possibility increases that some

accident will occur, since the relative chance of *nothing* occurring decreases over time. In

this sense, we can consider a scenario like the one that Frank Baum describes in the

Wizard of Oz: that of the tin man.[33] The tin man suffers several accidents that lead to a

gradual replacement of a limb each time he is injured. He inevitably suffers damage to all

his limbs, resulting in his entire body being replaced with tin. There are two main

conclusions that we can reach. First, organic limbs will be more vulnerable to damage.

Even if one's mechanical prostheses were replaced, they could be replaced by other

mechanical prostheses, leading to no real problem. This then raises the question of why

someone may not wish to *prevent* irrecoverable damage (such as might happen when

someone is hit by a vehicle) by fortifying their biological body with prostheses. This

process of replacement could occur gradually, with someone taking on enhancements as

they are able, or it could occur through replacement of one's entire body, as depicted in

the Japanese movie, *Ghost in the Shell*, in which mechanical cyborgs use a 'whole body

prosthesis,' meaning their body is entirely cybernetic.[34] Though such bodies would still

be subject to gradual degradation, parts could be easily manufactured and replaced.

    With increasing cyberization, the question arises of how these technologies will

interface with their technological body parts. Machines that can read a person's brain

may become more common. While these technologies are near miraculous in restoring

normal function, Žižek raises a question about how these machines may be used not only

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[33] L. Frank Baum, *The Wizard of Oz* (East Lansing: Michigan State University Press, 1994).

[34] *Ghost in the Shell*, directed by Mamori Oshii (Anchor Bay Entertainment, 1995), streaming (Funimation, n.d.) https://www.funimation.com/shows/ghost-in-the-shell/.

to read one's actions, but to guide one's actions and, inevitably, to directly stimulate one's experiences.[35] In other words, given a certain level of Cartesian skepticism, is there any way to distinguish between using a brain-link to do actions in the world and using a brain to *simulate* that actions have been taken, functionally making one into a brain in a vat?[36] As will become evident in the next section on digital immortality, this kind of skepticism means that there may be, from one's subjective experience, no functional difference between the cyberized person who interfaces with the world through a brain-link to their full body prosthesis and a person using their brain-link to access a virtual body in a virtual world. This scenario is like that of *The Matrix*, in which one's biological body is inert while one's digital body is active.

The simulation argument proposed by Bostrom is an important part of this skepticism and then the acceptance of simulated experiences. [37] Since we cannot be sure that our reality is any more 'real' than simulated experiences, then there is no reason to assume that experiences simulated through developing and emerging technologies will be less 'real,' since no one can be certain where they are in the simulated chain. Any simulation that contains enough possibilities will itself contain the potential for creating technologies within that simulation that can be used for yet further simulations. Part of

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[35] Slavoj Žižek, *Hegel in a Wired Brain* (London: Bloomsbury Academic, 2020).

[36] J.D. Bernal, *The World, The Flesh, and the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul*, 1929. The term 'brain-in-the-vat' originated in this text.

[37] Nick Bostrom, "Are You Living in a Computer Simulation?," *Philsophical Quarterly* 53, no. 211 (2003): 243-255.

the explanation for the Fermi Paradox, the fact that we have not yet encountered other intelligent civilizations, may be that we already live in a simulation.[38]

c. *Digital Immortality*

Digital immortality thus finds itself as an extreme form of replacement, in which everything, including the brain itself, has been replaced by a hardware correlate. The thing holding steady is the pattern. Devices could be used to harvest both body and personality data for the purpose of future extrapolation. This section focuses primarily on the three types of digital immortality and the methods for creating digital persons.

There are three types of digital immortality: 1) weak digital immortality, 2) mimetic digital immortality, and 3) strong digital immortality. Weak digital immortality involves any digital recreation of a person that can make basic responses but lacks any subjectivity. As an example, Muhammad Ahmad created a chatbot recreation of his father with which his children could interact. It was explicitly programmed to give responses like his father. Like other chatbots, it will be limited in the number of responses that it can give depending on how complex its decision tree is. Ahmad does not identify as a transhumanist, but the desire to preserve those who have died is a desire that goes beyond the interests of the transhumanist community. These types of chatbots have been called 'griefbots,' in part because of the distress caused by the deaths of the person being recreated.

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[38] Nick Bostrom, "Where Are They? Why I Hope the Search for Extraterrestrial Life Finds Nothing," *MIT Technology Review*, April 22, 2008, https://www.technologyreview.com/2008/04/22/220999/where-are-they/.

Mimetic digital immortality is a type of digital recreation that involves mimicking the original person as closely as possible. In the terms of Kurzweil, these recreations would be capable of passing a Turing test *as that person*. However, these recreations do not have any dynamism and exist only as that person from a given point in time. For example, since Kurzweil cannot upload his father, he intends to recreate him using machine learning on his essays and other documents to mimic the original person as closely as possible. There is no functional difference between the original person and the Turing test capable recreation of that person. However, this type of recreation is frozen in stasis. It can only behave as a person from a given point in time. It would lack agency and dynamism to change.

Strong digital immortality refers to digital recreations that have full agency and rights. These types of recreations are not static and are instead capable of the changes and upgrades for which transhumanists most hope. If the transhumanist scenario were to succeed, then today's humans will use technology to recreate themselves in digital form. Such a posthuman would serve as the framework upon which further change could be undertaken. In other words, once the transition has been made, the new digital person could rewrite their code, make upgrades to the hardware housing them, and radically change their avatar to suit their own whims. There is no telling just how far a recreation would choose to depart from its original state.

Among these three types of immortality, mimetic and strong immortality will both require powerful technological methods to work. However, we must keep in mind that

weak digital immortality is already possible, even if the other methods that I describe do not lead to results.

Bostrom and Sandberg produced a comprehensive guide to building a physical model to the brain in their document, *Whole Brain Emulation: A Roadmap*.[39] Early advances in brain emulation technology will have to rely upon in-depth physical models. In practical terms, this means that a brain would be cut into thin slices that could then be mapped and input into a computer, layer by layer. From there, the computer could build a physical model that mimics how the brain specimen works. This kind of model necessitates an understanding of neuroelectric activity and neurosynaptic connections. If modeled correctly, the digital model of the brain would behave just like the physical specimen.

Ideally, mind uploading would not require the destruction of the original brain. A distinction is to be made between destructive and non-destructive forms of mind uploading, with non-destructive forms to be preferred since destroying one's brain for the sake of a digital life may seem too much of a leap of faith.[40] Less destructive methods would involve forms of precise imaging beyond what is technologically possible today. The modeling of the position and history of the particles is important within a physicalist framework of the universe, in which the mind is functionally an epiphenomenon of the constituting physical particles. Modeling these physical particles is then, theoretically, the

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[39]Nick Bostrom and Anders Sandberg, *Whole Brain Emulation: A Roadmap*, (Oxford: Future of Humanity Institute, Oxford University, 2008).

[40] David J. Chalmers, "The Singularity: A Philosophical Analysis," *Journal of Consciousness Studies*, no. 17 (2010): 34.

key to modeling the mind. The method of Bostrom and Sandberg is to use physical models to model a particular brain and a particular personality on that brain. Whether such a powerful emulation will be possible or whether all the underlying physical models are required remains to be seen. This is especially important to consider if the new digital person is going to be capable of changing their digital body.

However, as Bostrom and Sandberg infer, emulating the function is far more important than the underlying physical processes. If true, it may be possible to extrapolate the mind without a precise physical model underpinning it. This means there is an assumed hardware/software relationship between body and mind, in which the 'pattern' of a given person is informational, not bound by any set of particles making up that person. Whether a physical model is necessary or whether a *mental* model is enough to recreate Turing-test capable recreations is yet unknown.

For the sake of argument, let us imagine digital immortality first as an extreme form of replacement in which every part of the person is replaced by machine body parts. At the point that the brain is replaced and can interface directly with electrical systems, physical continuity might be preserved at every step of the process (as in the case of the tin man), but the main benefit of the cyborg body is its replaceability. In other words, there is no reason to be attached to one's body parts and, by extension, to physical form. If one begins to identify as the commanding software of the cyborg, then one might choose to retreat into digital and virtual spaces. Why might this be desirable from a survival perspective? First, Kurzweil imagines that a person's mind will be distributed

across many servers, and thus not vulnerable to hardware failure in any location.[41] While

the cyborg is less vulnerable than the biological person, it still might operate as a single

point of failure. The distributed digital person is less vulnerable to physical attacks and is

viewed as having the ability to move between systems at will. Given the speed of

processing, it is assumed that the digital person will be far more responsive, not slowed

down by physical limitations.

The cyborg may be able to think and process at speeds rivaling the digital person,

but the cyborg is still hampered by the physical limitations of the real world. It may be

possible to have backup copies of the cyborg as well, but the primary benefits to the

digital person come from inhabiting virtual spaces, which are malleable and thus

responsive to the will at the speed of thought. Taken further, if our physical presence is a

strain on the environment, then environmentally concerned transhumanists may stress

withdrawing from that environment altogether. However, Kurzweilian singularitarians

idealize the digital state in part because we do not yet know the dangers of a fully digital

existence, let alone whether it is even possible to achieve.

<div align="center">

d.   Technological Resurrection

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Technological resurrection is the most extreme technological intervention because

it means that someone who has already died might theoretically be brought back to life.

This scenario is discussed in the book, *Technological Resurrection: A Thought*

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[41] Ray Kurzweil, "Human Body Version 2.0," accessed February 24, 2021, https://www.kurzweilai net/human-body-version-20.

Experiment.[42] In that text, Jonathan Jones proposes that immortality technologies may supplement technologies of full resurrection.

How would these technologies work? There are two primary mechanisms. First, there is extrapolation. Personality extrapolation functions using a machine learning investigation of artifacts left behind by a particular person. Kurzweil believes that he may be able to create a sentient AI replica of his late father by feeding letters, papers, and other personal artifacts into an algorithm that can create an artificial personality out of them.[43] While this would not be the original person, Kurzweil contends that what is important is that this replica be a Turing test passing *as* that person. This means that it would be a replica convincing enough to get that person's loved ones to believe that the AI replica possesses the same personality as the original person. Second, Jonathan Jones speculates that it may be possible to retrieve the original person through quantum tunneling, time travel, and other speculative technologies. These methods appear to involve the manipulation of time and space to bring a person who died to a point in time in the future in which immortalist technologies are present. Both approaches aim at solving the problem of what to do with the people who have already died. This is an important question because it is possible that present transhumanists may not live long enough to see the development of the first immortalist technologies. If the benefits of these future technologies are not seen by the people in the present, is there any way to

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[42] Jones, *Technological Resurrection*.

[43] John Berman, "Futurist Ray Kurzweil Says He Can Bring His Dead Father Back to Life Through a Computer Avatar," *ABC News*, August 9, 2011, https://abcnews.go.com/Technology/futurist-ray-kurzweil-bring-dead-father-back-life/story?id=14267712.

bring them into the future? Even if future posthumans have such technologies, would they be inclined to use them?

For the sake of this dissertation, only the first method, extrapolation, will be considered in depth. The reasons for this are as follows: First, this dissertation is concerned primarily with digital immortality. Extrapolation of personality may be one possibility for achieving mimetic digital immortality of people who cannot be uploaded directly. Second, the direct manipulation of time and space to resurrect someone starts to drift beyond what is merely technologically feasible to a different kind of question. While it may be an excellent example of how technological feasibility drifts into theological territory, especially given that it assumes control over time and space for the express purpose of resurrection, focus on that thematic drift avoids key questions around digitality. Transhumanists have gone beyond taking immortality as a goal, preferring the digital state, for reasons that warrant further investigation. In other words, insofar as it may be possible to exercise a choice about the form of immortality, digital immortality takes priority.

V.   Defining the Transhumanist Scenario

Kurzweil believes in the 'law of accelerating returns,'[44] which suggests that the next set of technological advancements is closer to a breakthrough than the last. Kurzweil bases this law on Moore's Law, which is a description of the rate of doubling of the power of transistors over time (and a decrease in their relative size). It is unknown

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[44] Kurzweil, *The Singularity Is Near,* 35-36.

whether Moore's Law will continue infinitely into the future because of limitations to the minimum size of a transistor.[45]

However, it is unclear whether technological advancements proceed in a particular order. The order of immortalities presented within this chapter describes how radical the technologies involved are, not how likely a breakthrough is to occur in any one of those domains. For instance, there have been incredible breakthroughs in neural link technologies, which have enabled mechanical prostheses to be more responsive and more available for use. Even if the digital state is desirable, if the technologies necessary to mind upload are only developed in the far future, then it will be necessary to invest in whatever immortalist technologies are available at the time.

The transhumanist is in the unfortunate position of not knowing with certainty what technologies will lead them to survival. As such, they will have to assume that they will need to live on in their bodies. Kurzweil, again, presents the best example of this.[46] Though he advocates for a digital existence, he takes supplements designed to extend his life, betting on the possibility that he may be able to live long enough for the technologies he desires to develop. Do these supplements and methods lengthen one's life? It is impossible to tell at present. Instead, transhumanists may *believe* in the power of these methods, even if their actual efficacy is unproven. This happened, embarrassingly, to the

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[45] "No More Transistors: The End of Moore's Law," *Interesting Engineering,* February 13, 2022, https://interestingengineering.com/transistors-moores-law.

[46] Ray Kurzweil and Terry Grossman, *Transcend: Nine Steps to Living Well Forever* (Emmaus, PA: Rodale Inc., 2009).

founder of a longevity group in Arizona, in which the founder, believed already to be immortal, died of natural causes.[47]

Self-experimentation becomes a necessity based on what is plausible but not yet provable. Whatever negative side effects might come from such methods are unknown, but the benefits are too great to ignore. As a result, it becomes possible to market longevity (also unproven) as a product. Similarly, they may create demand for experimental therapies and treatments not yet available to the public, thereby creating the inequity in access that they suggest will not be a problem far into the future. Transhumanist advocacy revolves around removing barriers to both self-experimentation and to industry experimentation to facilitate the process of technological discovery. As Bostrom suggests in *Superintelligences*, it is impossible to know whether a singularity will be a slow or a fast process, meaning that transhumanists must plan for setbacks to ensure that they reach the point at which they can take advantage of all the technological advancements as they happen.[48] Once a singularity is reached, time no longer becomes an issue so long as there remains room for further innovation.

VI.   Why Focus on Digital Immortality?

This dissertation argues that there are three primary reasons to focus on digital immortality. First, as detailed here, the digital state is a crystallization of transhumanist ideals. The digital represents a sphere out of which complete 'mastery over nature' might be exercised. If transition into a digital state is possible, then its subjective experience

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[47] Ryan Van Velzer, "Immortality Eludes People Unlimited Founder," *The Arizona Republic*, November 16, 2014, https://www.azcentral.com/story/news/local/scottsdale/2014/11/16/people-unlimited-scottsdale-charles-paul-brown-immortality/19152253/.

[48] Bostrom, *Superintelligence*, 63.

might be stretched.[49] However, while it may seem to be important to understand digital immortality for the sake of transhumanist aims, what can be gained from studying something that is ultimately speculative?

Second, studying digital immortality reveals the motivations of the people interested int them. The focus should not be on the question about whether these bots are Turing capable but rather on whether theses bots can satisfy the authors that created them. Consider the rise of projects oriented around a person's 'digital legacy' and 'digital afterlife.'[50] Given the amount of information that exists on each person and the number of digital artifacts, it appears to be possible to offer services aimed at developing griefbots to replicate interactions with that person. However, this present effort is mainly aimed at what can be retrieved after a person has already died. If, as the Digital Legacy Association suggests, it may be increasingly important to plan and manage these artifacts,[51] then this means that people are beginning to consider how to frame their future digital avatars. There is a subtle shift here from re-creation to deliberate self-creation in digital form. For transhumanists, the creation of a digital avatar that can satisfy oneself is the ultimate test of whether one has truly managed to live on. Given patternist assumptions, this is a relatively low bar for 'living on.'

Third, efforts at digital immortality represent a dramatic theological reframing of life, death, and the afterlife. If digital immortality comes to seem plausible, even in its

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[49] Frank Tipler, *The Physics of Immortality* (New York, NY: Doubleday, 1994).

[50] "Plan Your Digital Afterlife," *Digital Legacy Project,* accessed May 5, 2022, http://www.digitallegacyproject.com/plan-your-digital-afterlife.

[51] "What is a digital legacy?" *Digital Legacy Association,* 2021, accessed May 6, 2022, https://digitallegacyassociation.org/about/what-is-a-digital-legacy/.

weak form, then a primary concern starts to become the fidelity of reproduction and, by extension, the number of digital artifacts that a person can produce for the sake of that reproduction. The quality of these artifacts is important, as is their content, because if these artifacts are used to create the digital avatar for a digital afterlife, then one's self-presentation becomes paramount. In other words, the fidelity of character is not the only thing in view: so too is the desirability of living on *as* that recreation. This a key problem within this kind of question because malleability, including the malleability of the self, are assumed within transhumanism, yet this kind of project aims at offering both a faithful reproduction as well as one that can be changed to better suit one's preferences about oneself. This is the same core problem as is assumed in Christian afterlife scenarios, in which continuity of identity is important, as well as transformation to the 'best' version of oneself. The key difference is who does the perfecting. For the Christian, the perfecting is done supernaturally by God under God's idea of perfection. For the transhumanist, this question is left in the hands of the individual, who must decide how they will be recreated and then that recreation must decide how it will be transformed thereafter. The person is only limited by what is technologically feasible at any given time.

Fourth, there is also an interesting question about grief here. How should we "process" those that have died? Should we be attempting to bring these people into the present in digital form? Should we learn to live in their absence? Is it responsible not to leave artifacts behind from which to be reproduced? The questions of digital legacy, the digital afterlife, and digital immortality accentuate theological questions because the

identity remains present for both. And while the transhumanist focus does tend to be on the extension of the individual's life, we are already beginning to see the necessity of examining the ramifications of the larger community. It may seem that these sorts of tools are innocuous enough, but technological progress in this area, or perhaps even obsession of recreation, may create digital avatars of extreme quality.

Consider the Black Mirror episode, "Be Right Back."[52] In the episode, a service is offered to Martha to converse with her boyfriend, Ash, who had passed away. This begins through chat conversations, a phone call, and then eventually a full reproduction of Ash in robot form. The reproduced Ash is tasked with learning from Martha how to be Ash, even though the reproduced Ash never seems to get it quite right. While it may be tempting simply to write off reproduction for missing the mark, it is easy to see its appeal. Also, the process highlights the anthropological question: the inherent problems of a strictly physicalist framework for defining identity create real problems for continuity. Especially in the absence of a supernaturalist religious framework, it is unclear what norm should prevail in this case. Consider that atheists in prior generations prided themselves on being unafraid of death. If transhumanists, as a continuation of secular principles, propose instead that reproduction is possible, then the transhumanist vision looks like a replacement of a religious afterlife. If transhumanist anthropological assumptions are accepted, then the eventual emergence of digital avatars of this kind appears to become inevitable. Given a long enough time, it is possible to imagine a world

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[52] *Black Mirror,* season 2, episode 1, "Be Right Back," directed by Owen Harris, written by Charlie Booker, aired February 11, 2013, on *Netflix*, https://www.netflix.com/title/70264888.

filled with these digital avatars. Even readers skeptical of the ceiling of these

technologies must recognize that active digital avatars of the departed are already at hand.

CHAPTER 3: TRANSHUMANIST AND THEOLOGICAL ANTHROPOLOGY

The previously described immortality technologies serve as an important backdrop for understanding the developments, motivations, and arguments of transhumanist anthropology that I tackle in this chapter. One of the core conceptual problems that this chapter explores is how a consistent anthropology can be established given the transhumanist commitment to transformation. Not only do transhumanists want to accelerate humanity towards a transformation into the posthuman, but they also insist that today's humans can be transformed into immortal posthumans. Transhumanists tend either to downplay the importance of identity (as Buddhist transhumanist James Hughes does) or to say that identity is not rooted in a person's physical characteristics but rather in their pattern of mental activity and personality. These kinds of arguments, if accurate, would make it plausible that identity is stable, even after a posthuman transformation. Such arguments re-consider and re-prioritize what is essential for a person to be a person. Continuity is an essential concept for transhumanists to establish that their desired future results in immortality rather than a succession of lives of identical persons.

Transhumanist anthropologic claims allow their adherents to imagine that humans living today may be able to extend their lifespans radically into the future. In other words, their anthropology enables claims of immortality. In addition, their anthropology allows for one's immortality to take place outside of our current biological form, either as a cyborg or as a digital person.

Two primary sets of opponents counter such transhumanist claims. The first are religious thinkers and theologians, who often have their own conception of the afterlife

and what constitutes the non-material person. The second, as Abou Farman explains, are secular groups that have long moved away from the concept of the soul, instead referring to the 'mind' as the non-material quality of the person.[1] In other words, Farman suggests that broader secularization has made the term 'soul' unpopular because of its religious connotations and history, particularly if used to refer to an intangible essence of a given person. For instance, Robert F. Harle casts doubt that any mindfile could ever capture our essence, especially since "the brain-body is a unified system."[2] Many secular scholars oppose the core anthropological claim that a non-biological essence can be extracted from the body. In the same way, talk of immortality has its own religious connotations and history, leading some of those secularists to criticize these projects as outside the boundaries of science. As Farman highlights, transhumanists challenge the medical and legal definitions around death, as is the case with longevity interventions such as cryogenic freezing. The boundaries of legal medical interventions and legitimate scientific research are recurring points of conflict between transhumanists and secular institutions.

I.   Secular Infighting

For transhumanists, mainstream culture is 'deathist' because it rationalizes and normalizes the idea that people die.[3] 'Deathism,' they argue, receives support from both

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[1] Abou Farman, "Secular Immortal" (PhD diss., New York: The City University of New York, 2012), 14.

[2] Robert F Harle, "Cyborgs, Uploading and Immortality — Some Serious Concerns," *Sophia* 41, no. 2 (2002): 79–80.

[3] Anya Bernstein, "Freeze, Die, Come to Life: The Many Paths to Immortality in Post-Soviet Russia," American Ethnologist 42, no. 4 (October 2015): 769.

the major religions and from secular institutions. Transhumanists believe that religion (specifically the Judeo-Christian religions) offers a false promise of immortality that cannot be realized and prevents religious people from being motivated to support life extension research. To secular groups, the transhumanist pursuit of indefinite life extension looks like religious promises of immortality. In other words, transhumanism appears to sit outside the realm of secular thought and, by extension, outside the bounds of respectable science.

This critique is rooted in the speculative nature of the technologies in question. Farman gives the example of the differentiation between cryonics and cryobiology.[4] For cryonicists, the question of whether a human can be cryogenically frozen and later revived remains open. For cryobiologists, previous research has confirmed that mammals cannot be revived after more than a few days. Attempting to freeze a person indefinitely appears to be implausible. This disagreement around the plausibility of cryogenically freezing human beings frames the boundary between cryonics and cryobiology. It is a key part of what makes cryonics a 'fringe' discipline, sitting outside mainstream scientific discourse. As Farman suggests, there is a fundamental difference in belief about whether future experiments will reveal a latent potential to revivify humans. The conflict is not about what past experiments show, but rather about what future technological and scientific advancement will be able to achieve. For the transhumanist, technologically

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[4] Farman, "Secular Immortal," 329.

facilitated immortality is a real possibility of which some people alive today will be able to take advantage.[5]

Here we begin to recognize that it is the pursuit of immortality itself that is wrapped up in the differentiation between conventionally accepted research in cryobiology and the casting of cryonics as "fringe" and unscientific. As Farman sees it, the very goal of cryonics research impinges on how the secular is supposed to be defined. Acceptance of death is a core part of what differentiates secular from religious attitudes. In this kind of formulation, 'enlightened' secularists can show that they have overcome the innate fear of death[6] and thus they can accept a world without religion.[7] The New Atheists perceive religious people to have caught themselves in a delusion that is understandable; after all, everyone is afraid of dying. However, they argue that being deluded does not change the underlying truth that is impossible to escape death. Like supernaturalists, transhumanists make their assertions based on what might be possible rather than on what can be proven definitively. Transhumanists differ from other secular groups in their insistence that we should not wait for the science to confirm that immortality is possible, as Max More did at the 2021 Transvision Conference.[8] While transhumanists argue that their position is entirely scientific because science can show

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[5] Juraj Odorčák, "Scientific Immortalism and the Problematic Future of Technocentric Immortality," *Journal for the Study of Religions and Ideologies* 19, no. 55 (2020): 58.

[6] Mikel Burley, "Atheism and the Gift of Death," *Rel. Stud* 48, no. 4 (2012): 533–546.

[7] Drew Chastain, "Gifts without Givers: Secular Spirituality and Metaphorical Cognition," *Sophia* 56, no. 4 (2016): 631-647.

[8] Max More, "How to Argue for Human Augmentation and Life Extension" (lecture, Transvision, Madrid, October 9, 2021).

examples of biologically immortal creatures, there remains a great hope within the movement for eventual achievements well beyond what humanity has already been able to achieve. This hope is key to identifying what motivates their anthropological arguments.

Transhumanists occupy a strange position: they must, on the one hand, assert that they are atheists because the idea of an agential God that will intervene distracts from their goal of scientific and technological development. On the other hand, however, transhumanists find the abstract acceptance of death in secular attitudes equally distressing. From their perspective, secularists promote the passive acceptance of death. The point is not to get past our death anxiety but to use that death anxiety to fuel our pursuit of immortality technologies. In brief, transhumanists agree with some religious groups, particularly Judeo-Christian groups, that it may be possible to obtain immortality in some form (though the theologically loaded 'eternal life' is different from how transhumanists conceive of immortality). While there are distinctions to be made in their overall telos, there is a great deal of overlap in their desired outcome. They both suggest that death might not be the end. It is possible to see other parallels as well, depending on the tradition in question and how the process of transformation is conceived. From a distant view, it is easy to see these parallels, especially in contrast to mainstream secular thought.

a. Legal and Medical Boundary Questions

As Farman describes it, the core disagreement between secular legal and medical institutions and transhumanists is over how to define death. This conflict is most clear

when transhumanists are attempting to freeze someone cryogenically. This process

cannot take place until the person to be frozen is declared legally dead. Cryogenic

freezing is not seen as a legitimate medical intervention given unknowns about the

reversibility of cryogenic freezing, the damage from the cryogenic freezing process

itself,[9] and the effects of whatever was the cause of death. Scientific consensus moved

away from efforts to freeze mammals and other complex creatures cryogenically after

experiments in the mid-twentieth century stalled. The field of cryogenics was then split

between cryogenics and cryobiology, the latter applying cryogenic techniques to tissues

and small organisms. Farman notes that although research breakthroughs do still happen

in cryogenics and spill over into the university-recognized field of cryobiology,

cryogenics is not regarded as a legitimate science. In other words, university-based

researchers treat the research questions in cryogenics as illegitimate, especially those

related to human preservation for the sake of immortality. The science is thought to have

been settled: sufficiently complex organisms cannot be cryogenically frozen and revived

consistently to make it conceivable that the process can be applied successfully to

humans. Extending the timeframe of the freezing appears to lead to a drastic decline in

successful revival rates. As Brownyn Parry explains about cryobiologist Audrey Smith's

animal experiments in the 1950s:

> Astonishingly, many of the hamsters were successfully resuscitated using
> this technique: of the 20 hamsters that had been frozen for 50–70 minutes,
> seventeen recovered normal posture, although seven of these died within
> 24 hours and a further two more within ten days of re-animation. The

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[9] Oliver Krüger, "The Suspension of Death. The Cryonic Utopia in the Context of the U.S. Funeral Culture," *Marburg Journal of Religion* 15, no. 1 (April 2010): 6.

remaining eight survived up to 450 further days (approaching this animal's normal life span). However, those frozen for longer—between 70 and 90 minutes—rarely recovered; most convulsed and died within minutes of revival. Analysis revealed that adult golden hamsters would not survive freezing for more than one hour at -5°C if more than 50% of the animal's body water had been frozen. They concluded that there was, in fact, 'no prospect of storing the animals [long term] in a state of suspended animation in a partially frozen condition at temperatures close to zero and little hope of reviving them after complete freezing at lower temperatures.'[10]

Medical authorities cannot responsibly release a dying patient to be cryogenically frozen because, from their perspective, the cryogenic freezing process itself appears to kill the person it is trying to save. However, a person who is already legally dead cannot be harmed further by cryogenic freezing. As Farman suggests, transhumanist proponents of cryonics disagree with the secular authorities about whether a person has the potential for life when they are declared legally dead. Though cryogenic freezing is usually thought of as taking place *prior* to legal death (that is, to a person who may have a terminal disease or condition but is otherwise still alive), the illegitimacy of cryogenic freezing as a medical treatment means that companies can only take action to prepare and to handle the body once legal death has been declared. Further disruptions to cryonics companies have occurred via legal measures, preventing the preparation of bodies (work usually done at mortuaries) and the storage of those bodies (usually done at cemeteries) from happening in the same place.[11] These kinds of practical legal difficulties exemplify the conflict

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[10] Bronwyn Parry, "Technologies of Immortality: The Brain on Ice," *The Brain in a Vat* 35, no. 2 (June 1, 2004): 404.

[11] Farman, "Secular Immortal," 186. Farman notes the legal obstacles to preparing and storing cryogenically frozen bodies in the same location, as was ruled in Michigan. This ruling prevented the Cryonics Institute from accepting new bodies.

between transhumanist institutions and secular government authorities. Given the scientific findings around cryogenic freezing, why might transhumanists, such as Max More, be in favor of it?

First, transhumanists fundamentally disagree that the science around cryogenic freezing is settled. This means they hope for eventual breakthroughs not only to reverse the freezing process but also to reverse the conditions that are currently deemed terminal. The larger transhumanist constellation of beliefs suggests that scientific advances are inevitable. This means that many of the problems we face now will become relatively trivial in later years in just the same way that modern breakthroughs have overcome diseases and medical complications that would have been deadly a century ago. Given enough time, they contend that these problems will be solved. Even a dead body is potentially an important source of information for future resurrection. Belief in the latent possibility of resurrection separates cryonicists from other scientists working on similar research. This question of whether the dead stay truly dead is what most separates atheists from supernaturalists and transhumanists.

For transhumanists, intelligence can fundamentally solve any problem given enough time, with increases in intelligence lowering the amount of time that it takes to make concrete progress. Statements from transhumanist thinkers like Kurzweil about advances in artificial intelligence and the law of accelerating returns describe more than increases in computer power. Instead, these statements should be recognized as evidence of the larger framework in which transhumanists imagine that general increases in intelligence, especially those from artificial intelligence, will lead to the necessary

scientific and medical breakthroughs that will eventually make immortality possible. Since time is a key factor in this because each successive medical intervention must occur prior to medical failure, increases in intelligence are necessary to stay ahead of each of these problems. Theoretically, if cryogenic freezing becomes viable, then someone can be frozen as a stopgap measure each time a person is at risk of dying. Freezing without revival is pointless since there is no experience after death.

Second, cryogenic freezing may preserve enough of the form of the body, including a person's brain structure, for a person to be recreated into a digital counterpart once those technologies become available. The body is preserved as a specimen for study and recreation rather than for revival. This means that many of the problems related to revival can be sidestepped so long as enough of the person's body and brain structure remain intact. The question of legal death then becomes far less important than the question of the personhood of whatever will result from this reconstruction process.

Depending on the technique, the body may be non-invasively scanned or destroyed completely. For instance, the body might be dissected into tiny slices that are then imaged together with an electron microscope.[12] This is called 'destructive uploading' because the information gathering process irreparably damages the original body. Given that people most invested in the success of the technology are hoping to be immortal, risking their chance at immortality through a destructive uploading process that is still unproven may make them reluctant to experiment with this kind of process.

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[12] Nick Bostrom and Anders Sandberg, *Whole Brain Emulation: A Roadmap* (Oxford: Future of Humanity Institute, Oxford University, 2008), 27-28.

Instead, they will typically prefer 'non-destructive uploading,' especially since an intact

body can always be used to extract new information, if necessary. However, destructive

uploading methods have the advantage of avoiding a situation in which both a biological

and digital version of the same person would exist at the same time. The non-destructive

uploading method leaves open either the possibility that the body could be revived, or

lingering doubt that the 'real' person remains behind in the body. This question of

identity in reconstruction is talked about in the so-called 'transporter problem.' As Paul

Fiddes describes, the transporter problem refers to the issue of whether the person who

goes into a Star Trek transporter and the person who comes out of it are in fact the same

person.[13] The uniqueness of an individual as a single person is another key

anthropological question that arises with uploading technologies. As David J. Chalmers

describes,

> Faced with the prospect of destructive uploading (in which the original
> brain is destroyed), the issue between the optimistic and pessimistic view
> is literally a life-or-death question. On the optimistic view, destructive
> uploading is a form of survival. On the pessimistic view, destructive
> uploading is a form of death. It is as if one has destroyed the original
> person, and created a simulacrum in their place.[14]

Even if one were to accept the pessimistic view that the upload is a replica, there remains

the question of whether the replica satisfies some criteria of having lived on. Kurzweilian

patternism renders the replica the same as the original person.

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[13] Paul S. Fiddes, *The Promised End: Eschatology in Theology and Literature* (Oxford: Oxford University Press, 2000), 76-77.

[14] David J. Chalmers, "The Singularity: A Philosophical Analysis," *Journal of Consciousness Studies*, no. 17 (2010): 40.

The transhumanist conception of mind uploading does not depend upon the cryogenic preservation of the body. To use Chalmers term, reconstructive uploading offers the possibility for resurrecting someone from artifacts or some other data. As previously mentioned, Kurzweil envisions using his father's records to recreate his father as an AI.[15] A replica could also be explicitly programmed. Even physical records, such as those taken from brain scans, might play a role in reconstructive efforts. Once replicas are accepted as legitimate life extension interventions, how similar the original person is to the replica is a question of what methods will yield the greatest fidelity. How that fidelity can be defined and measured would be a significant issue, even within patternism. For instance, if we were to accept the transhumanist scenario of technological resurrection and that replicas eventually will become possible, earlier replicas created with inferior technology would likely not be as close to the originals as later replicas would be. Definition of personhood for those replicas would likely have to remain flexible because of those differences.

If we look at our prior immortality schema—biological, mechanical, and digital—we start to see that the first two of those efforts largely depends on the continued life of the subject. In the process of cryogenic freezing, it is unclear whether complex mammals can be frozen and then revived successfully without killing the subject—part of the reason why cryonics is not considered to be a legitimate medical intervention. Since subjects can only undergo cryogenic freezing after death, it is a misnomer to label it as

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[15] John Berman, "Futurist Ray Kurzweil Says He Can Bring His Dead Father Back to Life Through a Computer Avatar," ABC News, accessed February 24, 2021, https://abcnews.go.com/Technology/futurist-ray-kurzweil-bring-dead-father-back-life/story?id=14267712.

'life extension.' The stopgap of the process is hedging against the decay of the physical body rather than the prolonged operation of the body at extremely low temperatures. Digital immortality requires a change in form, and so the 'extension' of life is a less clear concept. However, cryonicists insist that the frozen body, despite being legally dead, still has the potential for life. This includes the heads of people who have been frozen without the rest of their bodies. Such a "body" can only have the potential life if either: 1) our scientific understanding of death, and therefore our application of the legal concept of death, is simply wrong; 2) the condition of death itself can be reversed; or 3) patterns (extrapolated from artifacts, taken from body records, or both) can be used to recreate a person independent of the status of the original body. Options two and three are not so much about life-extension but about a process of technological resurrection. Digital immortality through the recreation of a person through a digital replica of their original personality appears to be by far the most plausible scenario in which transhumanists might be able to claim having achieved one of their goals.

II.   Intractability of the Mind-Body Debate

Historically, questions of theological anthropology have centered on how to categorize the different parts of the human person, usually referring to the qualities of soul, mind, and body in a tri-partite anthropology and to soul/mind[16] and body in a dual-partite anthropology. Anthropological questions were vital for understanding the

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[16] For the sake of this anthropological overview, the main difference to note in patristics anthropology is about whether mind and soul are separate or whether they are a part of the same phenomenon. The belief that there is no soul, only mind, is a modern understanding that has its roots in the early twentieth-century development of psychology, which sought to study the mind as a scientific discipline. Study of the soul was relegated to theology.

relationship between Christ's humanity and divinity. Many controversies of the Patristic

era centered around conflicts between rival anthropological accounts.

For example, Gnosticism is a set of beliefs deriving from Neo-Platonism. In its

Christian variant, the physical world has been created by the demiurge, a rival creator god

to the spiritual God. The material world is an obstacle to ascent to the spiritual world,

where the true God exists. While Gnosticism was also declared heretical, the association

between the body and sin and between the soul/mind and divinity remains a long-

standing holdover of the influence of Gnosticism. The most significant contribution that

Gnosticism makes to our analysis of transhumanism is that the true self can and must

separate from the body. In William Gibson's novel *Neuromancer*, the character Case

feels freest when he is diving into the net. He has multiple experiences in which

consciousness connects with AIs, even as his heart flatlines, showing no outward signs of

life.[17] As Jeffrey Pugh describes,

> Even with the goods of enhancement, transhumanism, like Gnosticism,
> reflects an alienation from the eros of the sensuous world. Once life enters
> artificiality, it risks coming loose from the world itself. The counterfeit of
> reality is a negation of being. This sounds, perhaps, too much like
> nostalgia for the time when we knew our place in the universe and the
> hidden God, *deus absconditus*, resided in heaven, working all things out
> according to divine providence. The idea of final causes used to comfort
> us in the darkness, but most do not mourn the disappearance of divine
> purpose within the processes of nature given our successful scientific and
> technological abilities. In our hands nature itself becomes a malleable
> thing, without its own integrity, save as material for us to control and
> master. Whether the technology is artificial chromosomes, implantable

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[17] William Gibson, *Neuromancer* (New York: Ace Books, 1984).

computer chips, or artificial intelligence, the assumed goal is the necessity to escape the confines that nature and time have placed on us.[18]

Transhumanists desire a complete control over nature, but a digital world is far more malleable and responsive to human desire than the natural world ever could be. Digital existence will attract transhumanists, even if all immortality paths were to be possible.

The question of whether the body and soul/mind can be separated is a deep question of theological and philosophical anthropology. Theologians such as Thomas Aquinas say that it is nonsensical to think of the soul as something apart from the body, given that its intrinsic nature is to give form to the body. Despite this, elaborate eschatologies involving transitions from the Earth to purgatory to heaven appear to make more sense if incorporeality is imagined to be true. For instance, in such a scenario family members could understandably intercede on behalf of their passed away loved ones while they were in purgatory, a practice undercut by theologies that imagine a future bodily resurrection, especially if there is a decaying body right in front of you. The dead person is imagined no longer to be in their body but to be somewhere else, potentially even somewhere outside of this world. Purgatory fits with a kind of 'psychological immortality,' which describes how the mind can be thought to live on even after death. As Jesse M. Bering describes, "intuitive reasoning about dead agents' minds would seem to leave open the possibility for continued social relationships with the dead."[19] These

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[18] Jeffrey Pugh, "The Disappearing Human: Gnostic Dreams in a Transhumanist World," *Religions* (Basel, Switzerland) 8, no. 5 (2017): 81.

[19] Jesse M. Bering and David F. Bjorklund, "The Natural Emergence of Reasoning About the Afterlife as a Developmental Regularity," *Developmental Psychology Journal* 40, no. 2 (March 2004): 230.

beliefs imply a dualist separation between body and mind, with the body acting as a vessel for the mind.

In modern philosophy, René Descartes has exerted a great deal of influence on how dualism is theorized. Famously, he conceived of the 'cogito ergo sum' formulation. This idea was important for Descartes to establish a starting point for his philosophy, as something that could not be denied. Yet the importance of God to Descartes' philosophy can also not be underestimated, since God acts as a kind of guarantor that the mind authentically reaches true and distinct ideas, even if those ideas appear to exist only mentally, as is the case for disciplines like abstract mathematics.[20] Descartes attempted to solve the mind-body problem (which centers on how the mind and body are related given their distinct natures) through an organ he called the pineal gland, through which the mind controls the body. Systematic scientific investigation into anatomy in the centuries that followed Descartes made the pineal gland idea, and by extension Descartes' dualism, less persuasive. As science grew in its explanatory power, both philosophers and theologians adopted stances that were more in harmony with scientific findings. For example, theologian Nancey Murphy proposes 'non-reductionist physicalism' as a way of understanding the relationship between body and mind.[21] Anthropological debates moved away from the question of dualism and instead focused on the mechanisms of causation and the potential for emergence within a physical system. Mind re-enters this

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[20] René Descartes, "Meditations," in *The Philosophical Works of Descartes*, trans. Elizabeth S. Haldane (Cambridge, UK: Cambridge University Press, 1911), 22.

[21] Nancey C. Murphy, *Bodies and Souls, or Spirited Bodies?* (Cambridge, UK: Cambridge, 2006).

conversation as a potential product of a physical system, but it is more akin to the software/hardware relationship than the body/mind relationship of ancient philosophers, in which the mind and mental objects inhabit their own plane of existence. Even if software is dependent upon hardware to run, it is not bound that hardware since run on any compatible system. What is important for transhumanists is that software can be saved, recovered, and copied, which leads them to believe that it is highly preferable to organic life.

Transhumanists are highly interested in the quality of mind that can develop from physical systems. If, as Terence Deacon describes in *Incomplete Nature: How Mind Emerged from Matter*, mind can emerge from natural systems because of interactions at the level of thermodynamics, then it may be possible to mimic those particle interactions with the hope of producing an emergent order. Nick Bostrom and Anders Sandberg discuss many of the challenges to simulation in, *Whole Brain Emulation: A Roadmap*. They suggest that, "A typical example is how the microscopic dynamics of a laser (atoms interacting with an oscillating electromagnetic field) gives rise to a macroscopic dynamic (the growth and decay of different laser modes) in such a way that an accurate simulation of the system using only elements on the macroscale is possible."[22] Bostrom and Sandberg look for shortcuts of this kind because the amount of computational power necessary to produce a one-to-one particle model with the intention of producing emergent macroscopic systems is staggering. Any model that is built, though, will largely

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[22] Nick Bostrom and Anders Sandberg, *Whole Brain Emulation: A Roadmap* (Oxford: Future of Humanity Institute, Oxford University, 2008), 12.

rely on assumptions of this kind and a prevailing theory of the relatedness of the mind to the body. For instance, consider the differences between Deacon's naturalistic story of emergence and Philip Clayton's version, which allows for top-down causality from a divine actor.[23] The question of whether the microscopic interactions alone are enough to produce the macroscopic order (weak emergence) or whether the macroscopic has a causal effect on lower levels (strong emergence) has implications for what an accurate simulation would need to model. As an added challenge, Bostrom and Sandberg explain,

> A [whole brain emulation] without any synaptic change would likely correspond to a severely confused mind, trapped in anterograde amnesia. While working memory may be based on attractor states of neural activity in the prefrontal cortex and some forms of priming and habituation are plausibly based on synaptic adaptation and calcium build-up, long-term memory formation requires changes in the strength (and possibly connectivity) of synapses.[24]

In other words, their goal is not simply to produce a mind at a single point in time, but a mind that is dynamic in the way that we expect a human mind to be. Whole brain emulation offers a path towards immortality, but only if it can satisfactorily model identity.

The more pressing issue for transhumanists is whether minds are dependent upon biological bodies or whether they can potentially exist without them. Transhumanists contend that minds are 'substrate independent,' meaning they can exist in multiple forms. This position asserts both that completely artificial minds are viable and that it may be

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[23] Philip Clayton, *Mind and Emergence: From Quantum to Consciousness* (Oxford: Oxford University Press, 2004), 49–54.

[24] Bostrom and Sandberg, *Whole Brain Emulation,* 66.

possible to recreate human minds through digital means. For Kurzweil, the pattern is far

more important than whether it is biological or not:

> If you do accept the leap of faith that a nonbiological entity that is
> convincing in its reactions to qualia is actually conscious, then consider
> what that implies: namely that consciousness is an emergent property of
> the overall pattern of an entity, not the substrate it runs on. There is a
> conceptual gap between science, which stands for objective measurement
> and the conclusions we can draw thereby, and consciousness, which is a
> synonym for subjective experience. We obviously cannot simply ask an
> entity in question, "Are you conscious?" If we look inside its "head,"
> biological or otherwise, to ascertain that, then we would have to make
> philosophical assumptions in determining what it is that we are looking
> for. The question as to whether or not an entity is conscious is therefore
> not a scientific one. Based on this, some observers go on to question
> whether consciousness itself has any basis in reality. English writer and
> philosopher Susan Blackmore (born in 1951) speaks of the "grand illusion
> of consciousness."[25]

As exemplified by Kurzweil, transhumanists can be somewhat dismissive of the question

of consciousness because subjectivity cannot be investigated scientifically. For Kurzweil,

the test for consciousness is simply *seeming* to be conscious. He reasons that since the

same philosophical doubt can be cast both on human consciousness and machine

consciousness, we may as well discard our skepticism should advances in machine

intelligence be achieved. This position downplays the possibility that the artificially

intelligent "mind children"[26] will be some form of philosophical zombies. Kurzweil

pushes into the mystery of consciousness to show just how miraculous the evolutionary

process is:

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[25] Kurzweil, *How to Create a Mind*, 211.

[26] Hans P. Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge, MA: Harvard University Press, 1988), 4. Moravec chooses to refer to AIs as our mind children because he believes that they will be full inheritors of our knowledge.

Even if we do live in a simulation, as speculated by Swedish philosopher Nick Bostrom, reality is nonetheless a conceptual level that is real for us. If we accept the existence of the physical world and the evolution that has taken place in it, then we can see that conscious entities have evolved from it. On the other hand, the Eastern perspective—that consciousness is fundamental and represents the only reality that is truly important— is also difficult to deny. Just consider the precious regard we give to conscious persons versus unconscious things. We consider the latter to have no intrinsic value except to the extent that they can influence the subjective experience of conscious persons. Even if we regard consciousness as an emergent property of a complex system, we cannot take the position that it is just another attribute (along with "digestion" and "lactation," to quote John Searle). It represents what is truly important. The word "spiritual" is often used to denote the things that are of ultimate significance. Many people don't like to use such terminology from spiritual or religious traditions, because it implies sets of beliefs to which they may not subscribe. But if we strip away the mystical complexities of religious traditions and simply respect "spiritual" as implying something of profound meaning to humans, then the concept of consciousness fits the bill. It reflects the ultimate spiritual value. Indeed, "spirit" itself is often used to denote consciousness. Evolution can then be viewed as a spiritual process in that it creates spiritual beings, that is, entities that are conscious. Evolution also moves toward greater complexity, greater knowledge, greater intelligence, greater beauty, greater creativity, and the ability to express more transcendent emotions, such as love. These are all descriptions that people have used for the concept of God, albeit God is described as having no limitations in these regards.[27]

Evolution acts as the backdrop for the story into which Kurzweil fits consciousness. Spiritual beings, he says, have been created because of the physical processes of the cosmos. There is a significant difference between the treatment of conscious and unconscious beings, and so there is an underlying ethical implication for the way that Kurzweil imagines machines. If he desires to become a machine and believes that machines are conscious, then the kind of dignity that is reserved for humans alone may

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[27] Kurzweil, *How to Create a Mind,* 222.

have to be given to machines as well. But for Kurzweil, this evolutionary story does not

end with us. It is still building towards more consciousness of increasing complexity,

such as that he imagines will be created with the advent of superintelligent AI.

Kurzweil is not simply anticipating this future to happen; he is expecting to

participate in it. This vision involves a transition to a digital life. Kurzweil's version of

emergence involves a pattern of mind that is not dependent upon the body. An

understanding of the body may be critical for creating the first digital humans, but

Kurzweil imagines a kind of mercuriality that would come with being digital. Consider

Kurzweil's story in *The Singularity is Near*, in which he recalls his alter ego, Ramona, a

young pop star resembling Alanis Morrisette.[28] He states explicitly that we will be able to

change our virtual bodies without any consequences. This desire for freedom of form is

part of what motivates the anthropological claim that the mind can be free of the body.

This version of the unencumbered spirit parallels Gnostic claims of freedom, as Pugh has

described.[29]

Transhumanists treat machine intelligence as one of the ways in which facts about

human intelligence can be established. They make the underlying assumption that human

and machine forms of intelligence can be designed to be equivalent.[30] This foundational

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[28] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin, 2006), 339.

[29] Pugh, "The Disappearing Human: Gnostic Dreams in a Transhumanist World," 3–4.

[30] This equivalence between human and machine minds is one kind of a baseline for what machines may be capable of in the future. In many ways, machines already far outstrip human capacity, such as in domains that require heavy calculation. The claim is that machine minds will be able to do what human minds can already do and eventually to go far beyond these capacities post-singularity.

assumption comes largely from Norbert Wiener's work, *Cybernetics*, on how habits

work.[31] For instance, he observed that aircraft gunners in World War II went through a

process of error correction to hit their targets. He surmised that machines could go

through a similar process so long as a few conditions could be met. First, the machine

needs a goal that can be measured. Second, the machine needs a feedback mechanism to

change its target relative to the goal. Third, the machine needs a process of negative

feedback to reduce how much the target changes over time. Take the example of shooting

a basketball. On the first shot, I might overshoot the basket and hit the backboard. On the

second shot, I might undershoot the basket and hit the net. Though I corrected my aim in

the right relative direction, I have *overcorrected* the shot. On the third shot, I might

overcorrect again and hit the back of the rim. If I pay attention, over the course of

successive shots I should be able to reduce the margin by which I am missing shots until

it reaches some minimum amount and the ball falls through the net. Wiener suggested

that machines could go through a similar process of error correction, allowing them to

become gradually more accurate in their behavior. Though cybernetics eventually fell out

of favor as a disciplinary approach, the assumption that humans and machines work in

the same way has persisted because humans are also a product of their material

underpinnings within an atheistic-materialist understanding of the universe, meaning that

it is only a matter of discovering the right mechanisms out of which intelligent behavior

can emerge. Though transhumanists believe that intelligence can be established through

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[31] Norbert Wiener, *Cybernetics* (New York: M.I.T. Press, 1961).

completely artificial means, discovering the secrets behind biological life remains a kind

of 'shortcut' for artificial intelligence.

As Katherine Hayles explains in her book, *How We Became Posthuman*,

 In the first approach, humans and robots are judged alike because they
 obey the same universal law, whatever their mechanisms. In the second
 approach, humans and robots are judged alike because they use the same
 mechanisms. This double attack is also invoked…by Norbert Wiener and
 his collaborators when a young upstart philosopher took issue with their
 cybernetic manifesto. It tends to appear when cybernetic arguments are
 challenged because it allows a defense on two fronts simultaneously. If
 mechanisms are black-boxed so that only behavior counts, humans and
 robots look the same because they (can be made to) behave the same. If
 the black boxes are opened up (and viewed from carefully controlled
 perspectives), the mechanisms inside the boxes look the same, again
 demonstrating the equivalence.[32]

The assertion of the fundamental equivalence between humans and machines can be

traced to this larger, more abstract process to which all living things, mechanical and

biological, conform. Hayles specifies that the method of analysis itself leads to this

conclusion. We have seen that the Turing Test is one way to establish that an AI can

communicate in the same way as a person. As Kurzweil argues, if an AI can fool you into

thinking that it is a human, then there is no real difference between the two.[33] These tests

look at function and external criteria, defaulting to a quasi-scientific form of observation

and discounting the importance of subjectivity, since the subjective experience of other

minds remains out of reach. The similarity of mechanisms is then decided by function,

what it is that a given system does, rather than on what it is. Hayles continues,

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[32] N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago, IL: University of Chicago Press, 1999), 61.

[33] Kurzweil, *The Singularity is Near*, 200.

There is another way to understand this linkage. By suggesting certain kinds of experiments, the analogs between intelligent machines and humans construct the human in terms of the machine. Even when the experiment fails, the basic terms of the comparison operate to constitute the signifying difference. If I say a chicken is not like a tractor, I have characterized the chicken in terms of the tractor, no less than when I assert that the two are alike. In the same way, whether they are understood as like or unlike, ranging human intelligence alongside an intelligent machine puts the two into a relay system that constitutes the human as a special kind of information machine and the information machine as a special kind of human. Although some characteristics of the analogy may be explicitly denied, the basic linkages it embodies cannot be denied, for they are intrinsic to being able to think the model. Presuppositions embodied in the electronic rat include the idea that both humans and cybernetic machines are goal-seeking mechanisms that learn, through corrective feedback, to reach a stable state. Both are information processors that tend toward homeostasis when they are functioning correctly.[34]

These constructions of the human as a machine allow for transhumanists to believe that a biological brain, a mechanical brain, and a virtual brain are all sub-types of the same thing: they are the physical means that makes minds possible. This way of looking at minds is called *substrate independent minds*. Incidentally, acceptance of this idea also leads to at least implicit acceptance that the same mind might be instantiated or transferred between different substrates, which is important for acceptance of the idea of mind uploading.

III.   Cybernetic Anthropology and the Push towards Patternism

Roboticist Hans Moravec is one of the main successors of Weiner's *Cybernetics*. To begin his book, *Mind Children*, Moravec talks about the tension between the organism and its genes. This way of talking about this conflict comes from Richard Dawkins' book,

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[34] Hayles, *How We became Posthuman*, 64–65.

The Selfish Gene. Moravec believes that moving away from biological bodies may relieve the tension between the mind and the genes. As Moravec says,

> The uneasy truce between mind and body breaks down completely as life ends. Our genes usually survive our death, grouped in different ways in our offspring and our relatives. In a subtle way it is no doubt in their evolutionary interest to regularly experiment like this with fresh shuffles of the genetic deck. But the process is devastating for our other half. Too many hard-earned aspects of our mental existence simply die with us.[35]

Moravec expresses lament here that the mental developments of a given person are lost when that person dies. The genes are limited to passing on physical characteristics. As a result, this knowledge must be re-acquired for each successive generation. The title's 'mind children' has a kind of double meaning. First, it refers to the transfer of humans into mechanical minds that will succeed them. Second, it refers to the advent of AI. However, if human minds and AI minds are both programs, then they are not necessarily all that different.

One of the primary reasons to go through the process of mind uploading is to achieve immortality. The transition from mortality to immortality poses a challenge to living in the new environment:

> A mind would require many modifications to operate effectively after being rescued from the limitations of a mortal body. Natural human mentality is tuned for a life span's progression from impressionable plasticity to self-assured rigidity, and thus is unpromising material for immortality. It would have to be reprogrammed for continual adaptability to be long viable. Whereas a transient mortal organism can leave the task of adaptation to the external processes of mutation and natural selection, a mind that aspires to immortality, whether it traces its beginnings to a

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[35] Hans P. Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge, MA: Harvard University Press, 1988), 4.

mortal being or is a completely artificial creation, must be prepared to adapt constantly from the inside.

Perhaps it would undergo a cyclical rejuvenation, acquiring new hardware and software in periodic phases that resemble childhood. Or maybe it could update the contents of its mind and body continuously, adding and deleting, testing components and in all kinds of combinations, to keep up with changing conditions. The testing is of central importance: to steer evolution. If the individual makes too many bad decisions in these tests, it will fail totally, in the old-fashioned Darwinian way.

A postbiological world dominated by self-improving, thinking machines would be as different from our own world of living things as this world is different from the lifeless chemistry that preceded it. A population consisting of unfettered mind children is quite unimaginable. We are going to try to imagine some of the consequences anyway.[36]

Moravec envisions an evolutionary journey for the mind beyond its initial biological origin. However, Moravec explains that human minds will initially be poorly adapted to cyberspace, an argument which he highlights in his essay, "Pigs in Cyberspace."[37] There may be a necessity for bodies merely because human minds are accustomed to them, though there may be some flexibility in whether that body is mechanical, digital, biological, or some combination of the three. The endless improvement of which Moravec speaks also fits within the larger framework of evolution that we have outlined. The key difference is that one is constantly seeking ways to improve oneself. This evolution is self-directed and targeted at oneself, the subject of the changes. He explains:

Your new abilities will dictate changes in your personality. Many of the changes will result from your own deliberate tinkerings with your own program. Having turned up your speed control a thousandfold, you notice that you now have hours (subjectively speaking) to respond to situations that previously required instant reactions. You have time, during the fall of a dropped object, to research the advantages and disadvantages of trying to catch it, perhaps to solve its differential equations of motion. You will

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[36] Moravec, *Mind Children,* 4–5.

[37] Hans Moravec, "Pigs in Cyberspace" (N.p.: Nasa Technical Report Server, 1993).

> have time to read and ponder an entire on-line etiquette book when you find yourself in an awkward social situation. Faced with a broken machine, you will have time, before touching it, to learn its theory of operation and to consider, in detail, the various things that may be wrong with it. In general, you will have time to undertake what would today count as a major research effort to solve trivial everyday problems.[38]

Moravec's description of the posthuman sounds like a machine coding itself.

Many objections to this transhumanist picture specifically have to do with identity. What does it mean to have an identity if one's self is constantly changing? Note that people such as Moravec specifically downplay the importance of identity. For instance, he cites the split-brain experiment, in which the hemispheres can be tested and give different responses to stimuli.[39] If our identity is divisible as Moravec suggests, what does that mean for who we are? Though that question is too abstract for Moravec's analysis, it weakens the sense that mere continuity is enough to satisfy a criterion of intrinsic identity. However, the central philosophical tension within transhumanist thought relates directly to the appeal of immortality. If one goes through the process of consistent change, much like the ship of Theseus, then continuity can theoretically be preserved between the original person, the digital copy/mimic/continuation of that person, and the transformation of the digital copy/mimic/continuation of that person. This is partially why Moravec proposed a form of copying that involved a particle-by-particle transition while the person was still conscious. In that process, the person is literally

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[38] Moravec, *Mind Children*, 114.

[39] Moravec, *Mind Children,* 110.

conscious in both states until the full transition is made and the old body is destroyed, but with consciousness preserved at every step of the transition.

John Scalzi uses Moravec's description in the body change technology he describes in the *Old Man's War* series.[40] Evidence of this continuity appears to rely on a deep definition of subjectivity that spans every possible transition, a position that appears hidden by the materialism of many transhumanist authors. This point can be taken in two ways: identity can be maintained by the belief of subsequent versions in their continuity, or it can be maintained no matter how one happens to change. Interestingly, this continuity is maintained even in the event of death, given our earlier discussion of cryonics, because of the potential of that dead body being 'resurrected' back into the original person at some point. So long as there is some way to bring a person back, whether that is through scanning the original body, creating a digital mimic from artifacts, or some other method, once the means exist, a person can always be brought back, or so it seems.

Kurzweil takes this idea the furthest in his idea of *patternism*—the idea that it is the pattern of the person, rather than their body, that maintains their identity over time. Kurzweil, in *The Singularity is Near*, arrives at patternism primarily through negation. He puts it like this: since the body is continuously destroyed and replaced at the cellular level, then the body does not truly have physical continuity over time. Instead, it is the emergent pattern of a person that is continuous. Kurzweil defines this pattern as being

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[40] John Scalzi, *Old Man's War* (New York: Tor Books, 2005).

inherently informational,[41] both in terms of the body plan that is dictated by one's DNA

and in terms of the information that is supposed to dictate the contents of a person's

mind. As he explains in his book, *How to Create a Mind,*

> In order to assess the extent to which my own brain is similar to the
> computer programs I was familiar with, I began to think about what my
> brain must be doing as it processed information. I have continued this
> investigation for fifty years. What I will describe below about our current
> understanding of how the brain works will sound very different from the
> standard concept of a computer. Fundamentally, however, the brain does
> store and process information, and because of the universality of
> computation — a concept to which I will also return — there is more of a
> parallel between brains and computers than may be apparent.[42]

This type of description is a distillation of the 'software' and 'hardware' distinction, in

which the brain is merely the apparatus of the mind. Another consequence of defining the

mind in this way is that it leaves open the possibility that the information can be used to

reconstruct either the body or the mind. The mind, however, as the seat of identity, is the

most important feature (Moravec suggests that it is a fallacy to confuse one's body with

one's identity[43]). In accordance with cybernetic theories, the 'true mind' is merely the

message, bits of essential information. As machines become more accurate, they will be

able to move closer and closer to perfect or near perfect capture of the message, which

can then be transcribed into a different medium. This abstracted form of identity is

agnostic to the form of the body. Even better, if the pattern can be reconstructed at a later

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[41] Kurzweil, *The Singularity is Near*, 6.

[42] Ray Kurzweil, *How to Create a Mind: The Secret of Human Thought Revealed* (New York: Viking, 2012), 26.

[43] Moravec, *Mind Children*, 118.

point, then the concern over continuity is not nearly as important. A Turing test-capable

AI of a dead loved one cannot change that it is a reconstruction, but it is still in effect the

same pattern of the person, according to Kurzweil. It is only a question of how accurate

the pattern can be at that point.

While the question of identity is less important for Kurzweil, it remains a

significant issue for transhumanist Alex Turchin, founder of *Digital Immortality Now*.

Turchin proposes four primary paths towards immortality: a) fighting aging, b) cryonics,

c) digital immortality, and d) big world immortality.[44] Turchin justifies identifying digital

immortality as path c because of the real identity concerns, especially over whether a

digital replica is merely some kind of zombie. In fact, he develops several scenarios to

account for different theories of identity in a blog post on the website, *LessWrong.*[45]

Turchin makes a distinction between direct mind uploading and digital immortality,

which he classifies as a reconstructive effort through data. As opposed to Kurzweil, the

difference in the creation of the digital person and the accentuation of identity concerns in

the latter lead to this distinction. Mind uploading, as Turchin defines it, is the process of

directly copying one's brain (or the information in one's mind, depending on the

approach), while digital immortality involves using artifacts to recreate someone from the

traces they left behind. Despite the relative lack of priority that digital immortality

appears to receive from Turchin's plan, Turchin has been noted for deliberately creating

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[44] Alexey Turchin, "Multilevel Strategy for Immortality: Plan A – Fighting Aging, Plan B – Cryonics, Plan C – Digital Immortality, Plan D – Big World Immortality," *PhilPapers* (November 2019).

[45] Alexey Turchin, "Identity Map," *Less Wrong* (blog), August 15, 2016, https://www.lesswrong.com/posts/hKEG5vmBtgrqG6yWH/identity-map

traces of himself for future reconstruction. For example, Turchin creates logs or detailed

journals each day and wears an EEG helmet while he works to generate data deliberately.

In other words, he appears to follow Kurzweil in believing that creating more information

about himself will lead to a greater fidelity of reconstruction.[46]

Though transhumanists are optimistic about technological advancement, there is a

great deal of uncertainty of what technological advancement will happen when or how

technological resurrection will be possible. Breakthroughs in life extension and cryonics

may not occur for some time. Cryonics allows for the body to be preserved for potential

technological resurrection in the future. In the case of digital immortality, it is already

possible for people to create and to store their own data. It is one of the few areas in

which agency can be exercised, hence why Turchin himself goes to such efforts to create

data about his person, though his plan is not entirely dependent on his ability to capture

data about himself.[47]

For Turchin, the identity question inherent to digital immortality does heighten

transhumanist anxiety that the reconstructed person will be a philosophical zombie rather

than him. The prioritization of technological advancements in his plan confirms that

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[46] Gian Volpicelli, "This Transhumanist Records Everything Around Him So His Mind Will Live Forever," *Vice* (blog), June 21, 2016, https://www.vice.com/en/article/4xangw/this-transhumanist-records-everything-around-him-so-his-mind-will-live-forever.

[47] One of the more extreme scenarios that Turchin describes is one called, "Big World immortality." In that scenario, a superintelligent AI is used to create all possible minds, one of which would inevitably match someone who passed away. The dependence of this scenario on superintelligent AI and on the use of quantum computing for the explicit generation of unique minds appears to be implausible. In addition, transhumanists already anticipate that superintelligent AI would be able to solve other scientific and technological problems related to life extension. I will discuss how superintelligent AI is used as a catch-all to increase the plausibility of all these scenarios in chapter four.

transhumanists are looking to preserve themselves, not merely to achieve advancements in life extension in general. It is for this reason that they are both extremely interested in mainstream developments in life extension and frustrated at the lack of total institutional focus on life extension specifically. While Kurzweil tries to downplay the importance of identity concerns, a transhumanist like Turchin must lean into digital immortality *despite* the various concerns that he has about it. So long as some version of himself survives into the future, even one that he believes might be a philosophical zombie, he will have achieved his goal to some extent.

The figure of the posthuman is important to this debate over identity because the acceptability of a given form of a person can be guided by the transhumanist conception of the posthuman. If we were to follow the same line of thinking as Kurzweil and Moravec, then the fully digital person becomes both plausible and desirable. Turchin makes a distinction between mind uploading and digital immortality because of their different methods. However, both mind uploading and digital immortality revolve around the idea of a fully digital person. This digital person will be said to have a longer lifespan *and* will be further along than humans in what transhumanists believe is a potentially inevitable push towards machine superintelligence. It is out of machine superintelligence that true immortality becomes possible, they say.

While Turchin himself suggests that life-extension and cryonics should be prioritized because of identity questions, it seems to me that transhumanist logic will always tend towards digitization because of their focus on machine superintelligence. I will discuss how machine superintelligence is the goal of so many transhumanists

because it allows for them to project solving the problems of life extension. Not only that, but the advent of superintelligent AI, if indeed it grants immortality to transhumanists, will allow them to continue to evolve with the cosmos. Evolution is something they will see and in which they will participate; it will not merely be an evolutionary steppingstone for the posthumans that might succeed them. These kinds of motivations for the positive personal consequences that might result from technological innovation contribute heavily to the assessment that transhumanists have an eschatological orientation, which I will take up in the next chapter.

CHAPTER 4: TOWARD A TRANSHUMANIST ESCHATOLOGY

I.   Transhumanism through an Eschatological Lens

Philosopher Mark Coeckelbergh defines eschatology as "a part of theology concerned with the final events of history and the ultimate destiny of humanity."[1] Normally, eschatology is a religious topic, especially in Christian theology. For instance, debates within Christian eschatology are concerned with the church's connection to the impending arrival of Christ, an event called the *Parousia*. For most theologians, eschatology cannot be conceived without reference to the coming of Christ, as Moltmann argues in *The Coming of God.*[2] However, transhumanist eschatology is defined not in reference to the Coming of Christ in the *Parousia*, but rather in reference to the advent of superintelligent AI, called the Singularity. For this reason, it is easy to apply millennialism frameworks, usually used in reference to the *Parousia*, to the singularity event. Albert Antosca is one scholar who takes this approach.[3]

An important difference between transhumanist eschatology and Christian eschatology is the emphasis on naturalism versus that of supernaturalism. For transhumanists, it is impossible to conceive of life existing outside of our universe. The thought of living in eternity in heaven with God makes little sense within the context of a limited space-time universe in which nothing except perhaps a quantum vacuum can exist outside of it. This means that the fate of the universe exists as a hard limit on the fate of

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[1] Mark Coeckelbergh, *AI Ethics* (Cambridge, MA: MIT Press, 2020), 25.

[2] Jürgen Moltmann, *The Coming of God: Christian Eschatology* (Minneapolis: Fortress Press, 1996).

[3] Albert R. Antosca, *Singularitarianism and the New Millennium: Techno-Theology in the Transhumanist Age of Re-Enchantment* (Newport, RI: Salve Regina University, 2018).

humanity. In addition, transhumanist eschatology emphasizes human action through technological development, the success or failure of which will decide the fate of the cosmos. Not only that, but one's personal fate is tied to the collective human effort to achieve technological progress. The personal and cosmic dimensions of their aspirations and their description of potential future warrant an investigation of the eschatological dimensions of transhumanist thought.

Because each person has the potential for immortality, death represents one of the most important obstacles to overcome. As Max More suggests in his presentation, "How to Argue for Human Augmentation and Life Extension," it is not that transhumanists fear death, but rather that they fear the loss of life and experience that might have been possible had one lived long enough to take advantage of successive advancements in life extension research.[4] Transhumanists, in their ethical orientation, compare the dangers of potential technological interventions with the all of the future life that might be possible because of those same technologies. More's use of the proactionary principle is meant to highlight the danger of inaction for taking advantage of an extended life. Transhumanists must establish both that extended is life is possible using technology and that an extended life will be worthwhile.

As Abou Farman details in "Secular Immortal," there are concerns over whether immortality is within reach:

> Much of the distaste for Immortalism has been explained in terms of concerns about technological interventions into human nature and the

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[4] Max More, "How to Argue for Human Augmentation and Life Extension" (talk given at Transvision 2021, October 8, 2021 in Madrid, Spain).

unknown consequences of extending human lives. Others have criticized immortalist strategies as false promises not within reach of present day science. I wish to present a wider context that has specifically to do with the way in which the category of death and especially of the good death have been established as important cultural scripts in the midst of a secular crisis about life.[5]

As Farman describes, transhumanists have a deep disagreement with the majority secular culture due to their insistence that death can be overcome within our lifetimes. Transhumanists experience skepticism because their claims appear to rest on unsubstantiated science. As described in the last chapter, the efficacy of cryogenics as an intervention is one area where this conflict occurs. Other areas of anti-aging research face similar skepticism because of the lack of demonstrated efficacy of such interventions. Farman explains:

> The demographer and aging expert S. Jay Olshansky was the most famous critic, spearheading an attack against [the American Academy of Anti-Aging Medicine] by publishing a statement signed by a number of scientists and physicians in Scientific American, stating that no current interventions have been found to affect aging. Olshansky was not in principle against the possibility of finding such interventions, and indeed, has since become a forceful advocate of attacking the underlying processes of aging in order to be able to add, say, 7 or 8 years to the lifespan. His attack on A4M was based on the view that hGH, on which the whole industry had been erected, did nothing in this regard.[6]

While transhumanists such as Ray Kurzweil insist that they have perfected methods for both extending one's life through supplements and for even measuring one's age in light

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[5] Abou Farman, "Secular Immortal" (PhD diss., The City University of New York, New York, 2012), 325.

[6] Farman, "Secular Immortal," 136.

of the effectiveness of those supplements,[7] Olshansky contends that no substantial effect

has been measured. This argument undermines the central claim that immortality may be

possible because progress towards that end may be exaggerated in the present. However,

Olshansky in 2002 issued a formal statement on human aging, reiterating that while

immortality is impossible, research into anti-aging interventions is necessary because

scientists have contributed "the proliferation of these pseudo-scientific anti-aging

products by failing to participate in the public dialogue about the genuine science of anti-

aging research."[8]

Transhumanists must lean more into what is possible than what most scientists are

willing to claim. In addition, their claim about the potential loss of future life (both in

terms of extended life and of future generations) drives most of this argument since it

weighs the potential failure of such research as merely the maintenance of the status quo

while its potential success, even if shown to be small, may be considered so beneficial for

humanity that it is worth pursuing at all costs. This is partially why advocates such as

More and Nick Bostrom are so insistent that more resources be poured into this research

now: for the consequences of that research to reach the present, as much money and as

many people as possible must be available for the transhumanist mission. As detailed by

Bostrom in, "The Fable of the Dragon Tyrant," every extra moment spent deliberating

rather than fighting death will result in yet more deaths that might have been prevented

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[7] Ray Kurzweil and Terry Grossman, *Transcend: Nine Steps to Living Well Forever* (New York: Rodale Inc., 2009).

[8] S. Jay Olshansky, Leonard Hayflik, and Bruce A. Carnes, "Position Statement on Human Aging," *Science of Aging Knowledge Environment* 2002, no. 24 (June 19, 2002): 292-297.

had the technologies been created sooner. This type of utilitarian ethical orientation, which prioritizes value for future generations, is called "longtermism." For Bostrom, there is a huge amount of loss of both life and resources when technological development is delayed. How soon humanity can take advantage of cosmic resources will affect how many cosmic resources there remain to be used, which directly affects how many people can come into existence in the future. The tangible consequences for mass adoption and non-adoption appear to rival religious motivations for evangelization.

Despite the movement's collective insistence on rationality, the insistence of some transhumanists on the potential for immortality may, at times, lead to confusion over the present achievement of immortality. Jeremy Cohen's research into People Unlimited reveals that many people in that community believe themselves already to be immortal due to their longevity practices.[9] The community was left in despair after the death of their founder, Charles Paul Brown. As stated in AZ Central's write-up on the matter: "Charles Paul Brown wasn't supposed to die. He was supposed to live forever, along with disciples in a half-dozen countries all over the world who embraced his philosophy of physical immortality."[10] Even though the efficacy of these practices has not been demonstrated, followers of Brown still maintained a belief in immortality because of the longevity 'secrets' that they believed they possessed. The promotional materials

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[9] Jeremy F. Cohen, "Live Long Enough to Live Forever: Performance, Power, and the Creation of Immortal Bodies" (paper presentation, The American Academy of Religion, San Diego, California, November 25, 2019).

[10] Ryan Van Velzer, "Immortality Eludes People Unlimited Founder," *The Arizona Republic,* Nov. 16, 2014, https://www.azcentral.com/story/news/local/scottsdale/2014/11/16/people-unlimited-scottsdale-charles-paul-brown-immortality/19152253/.

deliberately target people in their forties and fifties, appealing to a wish to be younger.[11] They appear to show confusion whether agelessness is a scientific aspiration or if it is something that the group could offer to their followers due to their embrace of a particular immortalist philosophy.

This type of belief framework rivals supernaturalistic thinking because it implies that adoption of a particular set of beliefs and a particular lifestyle may lead to personal immortality for the individual. In the same way, Christian evangelicals believe that their faith in Christ will lead to eternal life with God. However, an important difference is that the naturalism of transhumanists and immortalists necessitates that they insist on the efficacy of their beliefs, practices, and technologies. For supernaturalists, their life spans may be extended because of some kind of divine intervention or spiritual gift whereas transhumanists must piece together the methods that make their goals possible. In addition, supernaturalists do not have to depend upon human action because their immortality results from God's power and agency rather than their own. The missional aspect of supernaturalists has to do with saving other people from the consequences of not embracing their religion, which come in both the form of not receiving a great good (such as eternal life) and avoiding a bad fate (such as annihilation). Despite the differences between naturalistic and supernaturalistic mechanisms, there is a surprising amount of overlap for comparison between these outlooks. These consequences are

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[11] "Just Getting Started: Fifty Years of Living Forever," *People Unlimited Inc.*, accessed May 16, 2022, https://peopleunlimitedinc.com/just-getting-started-book.

eschatological because they concern the fate of not only individuals, but also humanity, and the cosmos as a whole.

For transhumanists, the focus is primarily on the consequences for individual people. Given their values, immortality is an extension of both individual autonomy and expression. For More, these culminate in the choice to be able to live longer or to end one's life if it proves not to be worthwhile. What is most important to More is that one's life remains in one's control. So long as death is something random and unpredictable, it remains outside of personal control. The different types of immortality offer different benefits, but they could be linked together for the greatest possible life extension. These methods move from biological immortality to cybernetic immortality to digital immortality. In biological immortality, life will continue much as it does now, except our bodies will continue to reproduce healthily at a cellular level. Cybernetic immortality involves the gradual replacement of the body by mechanical prosthesis. Digital immortality involves creating a person's body and/or mind in digital form. Not only that, but the achievement of strong digital immortality would mean that the new digital person would be sophisticated enough to be capable of even further change. Digital immortality is one threshold for the first step towards a fully digital posthuman. According to Frank Tipler, it might be possible to stretch experience within this virtual space almost infinitely, allowing one to continue living on near indefinitely until the universe finally collapses.[12]

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[12] Frank Tipler, *The Physics of Immortality* (New York: Doubleday, 1994), 264.

This eschatology will focus on personal eschatology and its consequences for any given person, including the consequences that may come from participating in the transhumanist project, particularly in relationship to artificial intelligence research. The relationship between the fight against aging and the advancement of superintelligent AI have mirroring language, escape velocity being a key metaphor for how advancements are eventually supposed to take off, going beyond our wildest expectations.[13] What is underexplored is the relationship between the rise of superintelligent AI and the benefits that might come from having access to superintelligence. As I will explain in further detail in the section to come, the primary benefit of superintelligence is that (logically speaking) it allows transhumanists to make claims about progress that go well beyond current or future human capacities. In other words, unless one asserts the impossibility of a given innovation, superhuman intelligence starts to make technological and scientific advancements appear to be inevitable consequences of its arrival. These advancements would themselves have consequences for the individual person. The most appropriate lenses to examine eschatology are personal eschatology (the fate of the person), cosmic eschatology (the fate of the cosmos), and millennial eschatology (the impact of the millennial event: the singularity).

II.   Personal Eschatology

Transhumanist eschatology largely follows the assumptions of transhumanist anthropology, discussed in the previous chapter. Kurzweil believes that it will be possible

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[13] Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthrough That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007), 330.

to reproduce the complexity of humans in machine form.[14] Human machine equivalence

is the single most important assumption in enabling for more complex scenarios to be

possible and desirable. The second most important assumption is that with such

equivalence, a person is essentially reproducible. This position appears to be at least

somewhat contradictory because it hinges on the fact that there is no essential essence

(which means that someone can be recreated) while also asserting the personal continuity

of the person reproduced (which does suggest some sort of intangible essence). The sense

of shared identity appears to go above and beyond any instance of a given person.

As I have described the 'transhumanist scenario,' transhumanists envision that

they would be able to take advantage of successive life extension advancements as they

take place so long as the necessary life extension advancements happen early enough. As

gerontologist Aubrey de Grey describes it, if one can live long enough to take advantage

of one such advancement, then it may be possible to take advantage of all successive

ones.[15] This would look something like this: person A lives an extra thirty years due to a

breakthrough in mitochondrial DNA reconstruction. During this extra thirty years, an

additional breakthrough happens in drastically reducing the cellular damage that occurs

from free radicals. This breakthrough grants person A an additional thirty years, which is

a long enough time to live through yet another breakthrough in another area. So long as

progress can continue to be made, person A may continue to live indefinitely. Aubrey de

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[14] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin, 2006), 144.

[15] De Grey and Rae, *Ending Aging,* 331.

Grey calls reaching this stage 'longevity escape velocity,' after which we can be reasonably confident that these successive advancements will feed into each other.

Still, it is important to consider that the transhumanist scenario does not seem to depend upon reaching longevity escape velocity within any given person's lifetime. Kurzweil believes that he could use machine learning to create an AI recreation of his father, which could be generated using artifacts that his father had created (like papers, art, and personal correspondence).[16] In our previous typology, this type of digital immortality is mimetic digital immortality since the recreation is meant to be a faithful recreation of a deceased person, but it would likely lack any personal agency. As Alexey Turchin describes, it may be possible to use superhuman intelligent AI to generate all quantum possibilities of personality, thereby eventually recreating the personality of someone who passed away.[17] This means that even in a scenario in which technological advancements fail to arrive in time, it is theorized that digital immortality may be available for everyone. Turchin calls this 'Big World Immortality,' which uses advanced simulations to recreate the deceased. This type of recreation is meant to retrieve the full personality of the original person and may be considered a form of strong digital immortality, in which the digital recreation would be afforded the rights of a full person. Turchin's work also serves as the best example of the use of multiple strategies to

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[16] John Berman, "Futurist Ray Kurzweil Says He Can Bring His Dead Father Back to Life Through a Computer Avatar," *ABC News*, August 9, 2011, https://abcnews.go.com/Technology/futurist-ray-kurzweil-bring-dead-father-back-life/story?id=14267712.

[17] Alexey Turchin, "Multilevel Strategy for Immortality: Plan A – Fighting Aging, Plan B – Cryonics, Plan C – Digital Immortality, Plan D – Big World Immortality," *PhilPapers* (November 2019).

eventually achieve immortality. This shows the strength of Turchin's and other transhumanists' conviction that immortality is possible, achievable, and desirable.

The fact that technological progress in a person's lifetime is not essential for different phases of the transhumanist scenario allows it to qualify as an eschatology with personal consequences. There is a promise of a life to come after death, even if it involves extrapolation and recreation. It is out of an acknowledgment of potential failure that transhumanists such as Turchin go to such lengths to record data of themselves since it is the next best thing to uploading oneself directly. Total data, insofar as it is possible in the present, is essential since it is also unclear just what data will be necessary to achieve the right level of informational fidelity to the original pattern of personality. For Kurzweil, what is important is the level of fidelity to the pattern rather than direct continuity, meaning that so long as a threshold (which is ill defined in his work) is reached, then one can be reasonably confident that the reproduced person and the original person have the same personality.[18] The fact that the reproduction is a kind of point-in-time copy of a given person rather than a direct continuation of their life is downplayed. Still, since digital recreations of this kind have been theorized and have already been created (what I have termed weak digital immortality). The desire to recreate passed away loved ones will continue to provoke thought around digital recreations, even at times by non-transhumanists.

There are two divergent bases for digital recreations: digital recreations of the self and digital recreations of loved. While it may eventually be desirable to have other

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[18] Kurzweil, *The Singularity Is Near*, 386.

immortals, transhumanist priorities seem to be motivated primarily around the continuation of the self, even as the essence of the self is downplayed to make recreation seem more plausible, resulting in an anthropology that assumes intangible essence that can be captured as information. This makes the transhumanist immortality project in line with other religious promises for personal immortality, even if the supernaturalism inherent in those religious promises sidesteps many of the same important anthropological questions abouts identity. Each of those religious scenarios often comes with further stipulations, such as having to ascribe to a certain kind of life or having limitations on that kind of immortal life. The promise of transhumanism, however, is mostly centered around future limitless autonomy. Again, this is part of what makes a digital existence the most desirable: as the most mutable form, a person will be able to choose whatever kind of life they envision for themselves.[19] The latter motivation towards the recreation of loved ones appears to be geared towards the retrieval of what has been lost through death rather than on what might be achieved through transitioning to a different state.[20]

Consider, for instance, Nikolai Fedorov's 'duty to the ancestors' project of reviving all past generations, a hope that was motivated by his own version of

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[19] Ray Kurzweil, "Letters from Ray | Living in Virtual Worlds as an Avatar," accessed February 24, 2021, https://www.kurzweilai.net/ask-ray-living-in-virtual-worlds-as-an-avatar.

[20] CBC Radio, "When His Father Died, This Technologist Created a Chatbot, so His Kids Could Talk to Their Grandfather," CBC, February 23, 2018, https://www.cbc.ca/radio/spark/386-attention-residue-new-design-ethics-and-more-1.4548894/when-his-father-died-this-technologist-created-a-chatbot-so-his-kids-could-talk-to-their-grandfather-1.4548924.

Christianity.[21] Projects directed at a retrieval of ancestors and projects devoted to personal

immortality are aimed in two different directions as a result, even if transhumanists

would hope that their posterity may eventually retrieve them so that they could continue

to exist in the future. Another crucial difference is the degree to which the purpose of

future existence is for the gratification of an individual person. In the latter case of

Fedorov, the restoration of community appears to be far more important than enabling the

transcendence of the individual. Fedorov's Christianity aligns him with the lives of

humans who have ever lived, a similar, but opposing, orientation to Bostrom's

prioritization of all future humans who will ever live.

The primary reason why transhumanists can align themselves with Fedorov's

followers despite these differences is that Fedorov has an ultimately naturalistic

eschatology. The means of accomplishing resurrection is through technology and does

not depend on supernaturalistic intervention to happen. Jonathan Jones, for example,

explicitly cites Fedorov and Fedorov's view that the Christian story was meant to be a

demonstration that resurrection is possible.[22] Because the mission of transhumanists

demands so much investment and cooperation, transhumanists are able to partner with

other groups so long as the common goal of technological progress can be maintained. In

other words, even if Fedorov's beliefs begin in a place of theism, the naturalistic framing

of Fedorov's eschatology allows for a great deal of alignment between theists and

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[21] Alexander Kononov, "Nikolay Fedorov's 'The Philosophy of Common Task' and the Problem of Salvation of Human Race," *Philosophy and Cosmology: The Journal of the International Society of Philosophy and Cosmology (ISPC)* 15, no. 1 (2015).

[22] Jonathan Jones, *Technological Resurrection: A Thought Experiment* (N.p: Self-published, 2017), 20-21.

atheists. Transhumanists are most hostile to dependence upon supernaturalistic agency rather than to theism itself. The mechanisms of the eschatologies are similar enough in that they are both based in technological progress that the motivations and ultimate goals of such progress can be ignored. The willingness of transhumanists to engage directly with religious groups as a part of their advocacy shows both the cooperation necessary to their mission and the common ground they are able to find with such groups so long as they grounded in naturalism and a focus on human driven progress. Deism, for example, is a theology that is compatible with transhumanism since it strictly preserves scientific causality and denies

III.　　Superintelligent AI as Singularity – heaven and hell scenarios

For many transhumanists, the potential for superhuman artificial intelligence represents the single most important development in human history. AI would change humanity so radically because it would theoretically extend our collective ability to design even more advanced machines. The use of AI to design yet further AI would lead to a feedback loop, out of which an eventual singularity would be reached, a point at which AI is so far beyond human capacities that we are no longer understand it or its underlying mechanisms. The term singularity reflects both this lack of understanding and the radical shift that would come afterwards. Though many transhumanists believe that there is something inevitable about the eventual coming of the singularity, the potential for the singularity necessitates action in the present. Transhumanist beliefs and ideas are not merely eschatological in the sense that they are predictive of some future time since

these beliefs and ideas have heavy implications for obligations of transhumanists in the present.

Within their naturalistic eschatology, the consequences of AI will have the biggest impact on what kind of future awaits humanity. Bostrom argues in his book, *Superintelligences*, that the advent of superintelligent AI will either be very good or very bad for humanity.[23] The polarized outcomes are what necessitate analysis for Bostrom. He believes it is very important to avoid the bad outcomes since they could be disastrous. Part of what creates a challenge in predicting just how AI will impact humanity has to do with our inability to know how initial AI systems will be used and what the intentions of that AI system will be.

Max Tegmark, in his book, *Life 3.0*, gives a utopian scenario in which a benevolent group uses AI to make money and eventually to take control of global systems for the sake of humanity.[24] Bostrom describes four main stages of AI world domination: 1) the pre-criticality phase —development of the seed AI; 2) the recursive self-improvement phase—intelligence explosion allows for the self-improvement of the AI's own capacity; 3) the covert preparation phase—social manipulation superpower being used; and 4) the overt implementation phase—AI beyond need for secrecy and can strike on its own.[25] However, it is also possible that a group with this kind of power may use AI merely to enrich themselves and to gain power. This view assumes that AI would

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[23] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2013), 20.

[24] Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence*, First edition, Life Three Point Zero (New York: Alfred A. Knopf, 2017).

[25] Bostrom, *Superintelligence: Paths, Dangers, Strategies*, 96–98.

be a tool rather than something able to act with its own agency. It is possible that any

superintelligent AI would be able to convince its human overlords that it is acting in their

interest while it secretly works to gain power on its own. It is for that reason that Eliezer

Yudkowsky emphasizes that the right people need to be successful in creating good AI.[26]

If bad actors manage to create an obedient AI or if the AI itself has evil intentions, then a

negative outcome is sure to occur. The impact of the AI has to do with the sheer potential

reach of the AI into our technological systems, which grow increasingly ubiquitous.

Albert Antosca suggests that it is possible to analyze these scenarios using a

millennialist framework. He uses Norman Cohn's typology to describe the singularity as:

1) Collective (specifically benefiting their collective group)
2) Terrestrial (being enjoyed here on earth)
3) Imminent (having an imminent destiny)
4) Total (a total solution providing perfection to all aspects of life)
5) Miraculous (coming through a miraculous, rather than natural,
intervention).[27]

If the singularity happens as transhumanists describe, then it would completely change

society and the world. What AI most enables is for transhumanists to envision kinds of

control over the natural world that border on supernatural agency, hence the near

miraculous descriptions of what AI would enable. The most obvious one is that AI would

be able to solve standstills in scientific and technological progress. This would be most

impactful in anti-aging research, as it would have direct consequences on how long

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[26] Eliezer Yudkowsky, "AI Alignment: Why It's Hard, and Where to Start," Machine Intelligence Research Institute, December 28, 2016, https://intelligence.org/2016/12/28/ai-alignment-why-its-hard-and-where-to-start/.

[27] Albert R. Antosca, *Singularitarianism and the New Millennium: Techno-Theology in the Transhumanist Age of Re-Enchantment* (Newport, RI: Salve Regina University, 2018), 12.

people would be able to live, since the 'hard problems' of aging could be overcome with exponential increases in intelligence. It is for this reason that Luke Muehlhauser and Louie Helm describe two primary problems when thinking about how AI will work:

> 1. Superpower: The Golem Genie has unprecedented powers to reshape reality, and will therefore achieve its goals with highly efficient methods that confound human expectations (e.g. it will maximize pleasure by filling the universe with trillions of digital minds running a loop of a single pleasurable experience).
> 2. Literalness: The Golem Genie recognizes only precise specifications of rules and values, acting in ways that violate what feel like 'common sense' to humans, and in ways that fail to respect the subtlety of human values.[28]

In the first description, AI is granted godlike powers of action and understanding, allowing it to undertake almost any action. In the second description, AI, despite its intelligence, remains hampered to truly fit human desires. Within a transhumanist conception, only AI that can generalize an understanding of human meaning can fit a true definition of intelligence. In this way, any AI that fails to exhibit this kind of intelligence may not be AI at all. Yudkowsky, for instance, tries to illustrate that there are vast differences between domain specific intelligences and a true general intelligence.[29] Because transhumanists tend to believe in the inevitability of AI, the power and impact of AI are emphasized far more than failures in development. Since the possibility of failure is downplayed, AI instead comes to function in a magical way in which it can be invoked as something that will eventually overcome any hard scientific problems that we encounter in the present.

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[28] Luke Muehlhauser and Louie Helm, "The Singularity and Machine Ethics," in *Singularity Hypothesis*, ed. Amnon H. Eden et al. (Berlin: Springer, 2013), 106.

[29] Eliezer Yudkowsky, "Friendly Artificial Intelligence," in *The Singularity Hypothesis,* ed. Eden et al. (Berlin: Springer, 2013).

Antosca describes eschatological scenarios as either progressive or catastrophic.[30] In a progressive vision, life on Earth continues to improve before culminating in paradise. In a catastrophic millennialism, the emphasis is placed on the upheaval and destruction of our way of life, in which evil is often punished. Though Antosca concludes that transhumanism is ultimately a progressive millennialism, like premillennialism, transhumanism contains catastrophic elements.

There are three main areas of need that demand direct moral enhancement of humanity. First, transhumanists assert that enhancement is necessary for humans to overcome global and civilizational level problems. For instance, Ingmar Persson and Julian Savulescu suggest that the moral enhancement of humans is necessary because our collective technological power to destroy the planet has become so high. They explain,

> To cope with climatic and environmental problems, as well as the problem of global inequality, the ideology of human equality must exercise a stronger motivational influence and overcome the limitations of our altruism and sense of justice. But, to repeat, we must also overcome the bias towards the near future, our numbness to the suffering of great numbers, and our weak sense of responsibility for our omissions and collective contributions. It should be asked to what extent this moral enhancement could be accomplished by traditional methods of moral education. These methods include such things as carefully reflecting on the reasons for which actions are morally right or wrong, and making as vivid to oneself as possible how one's actions affect others. This could be made vivid by regularly imagining, actually confronting, or watching films of the suffering victims of wrongdoing. But a ground for suspecting that by such measures moral enhancement could not be accomplished to a sufficient degree in time to avert disastrous misuses of modern technology is that the degree of moral improvement in the 2,500 years that have

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[30] Antosca, *Singularitarianism and the New Millennium*, 51.

elapsed since the first great teachers of morality appeared is nowhere near matching the degree of technological progress during the same period.[31]

Consider the potential destruction that could be wrought by a nuclear attack. In their view, humanity must be improved to ensure that such a thing never happens because the preconditions of technological demand a certain amount of social, political, and economic stability. Arguments for moral enhancement acknowledge that it is these preconditions that may be more threatening to the advent of transhumanist eschatologies than any hard scientific or technological limits, which transhumanists will be overcome. As Charles T. Rubin puts it,

> Transhumanists argue not only that modern science and technology are giving human beings the power to take evolution into our own hands to improve the human species, and then to create some new species entirely, but also the ability to improve on all of nature…the transhumanists believe that if we are to prevent some of the more common apocalyptic visions from becoming reality, we must redesign humanity so that our ruinous flaws can be eliminated. To avoid mere destruction, we must embrace creative destruction.[32]

Rubin's description is a reminder that it is posthumans rather than humans who will manage to accomplish the transhumanist vision. This kind of change is necessary because transhumanists possess a kind of pessimism about humanity's ability to make the moral changes necessary to avoid disaster. In some ways, transhumanists may acknowledge humanity's ability to undermine its own efforts, though they would be unlikely to spiritualize this tendency as something like a sin nature. Instead, they would acknowledge

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[31] Ingmar Persson and Julian Savulescu, *Unfit for the Future? The Need for Moral Enhancement* (Oxford: Oxford University Press, 2012), 105–106.

[32] Charles T. Rubin, *Eclipse of Man: Human Extinction and the Meaning of Progress* (New York: New Atlantic Books, 2014), 2.

it as a problem stemming from evolution's inability to properly equip humanity to live in complex, moral societies.

Second, climate change and resource shortage pose Malthusian threats to the life of humanity. Technological developments can ease these developments. Transhumanists believe that AI can be used as one way to generate solutions. These kinds of solutions may include both ways to dispose of dangerous materials, ways to recycle materials, and sharp increases in efficiency. Whether AI will lead us to adopt Malthusian ethics remains to be seen, but the hope is that AI will help humanity to overcome environmental and resource related challenges.

Third, AI itself may attempt some form of world domination, leading to a conflict between humans and machines. Such a conflict is depicted in Hugo de Garis's paper, "The Artilect War," in which cosmists, aligned with the creation of AI, and terrans, who are against modification, eventually come into conflict.[33] While de Garis is not a transhumanist, such discourse is important for understanding the range of transhumanist discourse concerning the future. As already stated, part of what has tempered Bostrom's enthusiasm from earlier in his career is the fact that he has analyzed just how AI might be a destabilizing force for society in the future.

Still, in their view this makes AI research more important because the catastrophic consequences must be avoided. This logic is as follows: AI is inevitable (absent defeaters. See Chalmers' proof).[34] Though AI is inevitable, good outcomes with

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[33] Hugo de Garis, "The Artilect War," *Issues (South Melbourne)* 98 (March 2012): 13.

[34] David J. Chalmers, "The Singularity: A Philosophical Analysis," *Journal of Consciousness Studies*, no. 17 (2010): 22.

AI are not. Good outcomes are contingent on our efforts to research good AI in the present. Every effort must be undertaken to ensure that good AI comes about, ensure the best possible outcomes and avoiding the worst possible consequences. These kinds of arguments have synergy with those made about life extension. Consider: life extension is possible, but it is disregarded as a legitimate research interest. Because it is disregarded as a legitimate research interest, important advances in life extension research may not happen in our lifetime. If these advances do not occur, then one is not able to take advantage of the compounding effects of life extension research and the longevity take-off. Therefore, every effort must be made to ensure that all possible money is put into life extension research, including into AI, which may itself be incredibly useful for creating new breakthroughs. The confluence of these kinds of beliefs is sure to create incredibly powerful psychological motivations for persuading others to increase their investment in transhumanist research efforts. For example, VitaDAO was created as a cryptocurrency based decentralized, autonomous organization for the sake of building a community to fund longevity research efforts.[35]

  I believe that this further connection between AI and life extension research can be made even clearer if we think about Kurzweil's claims that research into human minds and the reproduction of human minds *is* research into artificial intelligence. He says, "A sharp division no longer exists between the human world and the machine world. Human cognition is being ported to machines, and many machines have personalities, skills, and

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[35] "About VitaDAO—Longevity DAO —Join Us Today," *VitaDAO*, accessed May 17, 2022, https://www.vitadao.com/about.

knowledge bases derived from the reverse engineering of human intelligence."[36] It is a

core transhumanist tenet that intelligence is agnostic of form, meaning that research into

one may provide research into the other. AI also serves as an important proof of concept

that minds can exist in silicon. If it is possible to emulate human minds, then it may be

possible to create completely artificial minds. If it is possible to create artificial minds,

then it may be possible to create emulated minds. As discussed in prior chapters, machine

intelligence tends to be idealized because of its potential for memory capacity and speeds

well beyond what is possible for humans. Emulated minds will be, by default, enhanced

versions of their biological counterparts. These minds could then be enhanced further

since it is far easier to upgrade machine parts than it is to upgrade biological parts. While

it is not made explicit, I believe that there may be an underlying hope that some of the

superhuman intelligence benefits that occur in the case of AI will eventually make their

way to the digital realm. Still, this raises even more strongly the question of the

tenuousness connection between these imagined digital humans and the humans of today.

  While the consequences of AI can be potentially harmful and many people may

even see the human transition to digitality as a catastrophe (as de Garis does),

transhumanists see a harmonious transition to digitality as the best possible outcome. The

technology itself which is going to be used for such a transformation must be believed to

be feasible, even if the transformation fits into the realm of 'the miraculous.' This digital

state would be one in which humans are no longer constrained by their form. One could

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[36] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Viking, 1999), 222.

have as much control over their appearance as they do over their digital avatar. In the same way, these avatars would not be subject to physical limitations. In fact, the only feasible limitations are those which would limit the creativity of future programmers to design and deliver experiences. This would effectively be a kind of 'heaven' in which one could do whatever one wants, living with whatever real or artificial people that one wished. In fact, Kurzweil's desire to recreate his father betrays the fact his ideal future would be one that would include his father, even if his father were deceased. Like Fedorov before him, Kurzweil has motivations to revive the dead. Not only that, but those who managed to cross into this digital form could be backed up and upgraded, ensuring the safest possible path to the longest existence possible. In addition, one would not be constrained by place, delivering their mindfile[37] across great distances to other places in the cosmos, taking on a physical body if one so wished.

In this kind of scenario, the struggle with the environment, a core part of evolutionary theory, appears to become a kind of afterthought. While transhumanists (and extropians in particular) suggest that struggle and change will be inevitable, since this struggle is a core part of reality, their thinking still reveals a radical shift in the human condition. As Rubin describes,

> By the power of science rather than prayer, Earth, 'which is now a purgatory, will be made a paradise.' The genuinely 'Sacred Cause' is 'the extinction of disease, the extinction of sin, the perfection of genius, the perfection of love, the invention of immortality, the exploration of the infinite, the conquest of creation.' / So by making men mortal and

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[37] See Martine Aliana Rothblatt, *Virtually Human: The Promise—and the Peril—of Digital Immortality*, First edition (New York: St. Martin's Press, 2014), 60. The term mindfile refers to the digitized version of a person's personality.

immortal, nature points humanity in the direction of immortality and mortality so long as we exercise our intelligence.[38]

Rubin's description of the 'sacred cause' of transhumanism is appropriate because of the regard in which transhumanists hold themselves for taking on the endeavor to improve humanity. The human condition for transhumanists appears to be grounded in the flaws of evolution to produce truly perfect beings. Further transformation is necessary because of these flaws. However, in making such a transformation, the kind of struggles that we go through now will be rendered unnecessary. If the physical world proves to be too much, then the joys of the artificial digital world will be there. One will only need to engage with the physical world if one wishes to. The physical world can remain managed by the superintelligent AIs that will come after us, who will maintain the servers hosting digital mindfiles out of their service for humanity. Human obsolescence of robot and AI labor perhaps comes as a blessing to live life completely free from responsibilities not of one's own choosing.

Just how powerful will these AI be? Kurzweil suggested amusingly that God simply does not exist yet, but that God will come into being with the arrival of superhuman AI after the singularity.[39] Because the singularity as a concept presupposes our inability to understand AI intelligence, near godlike power is attributed to the AI. This means that any hard scientific or technological limits may eventually be thwarted by AI. It is for this reason that transhumanists do not assume any hard natural limits on what

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[38] Rubin, *Eclipse of Man,* 18.

[39] "Will You Live Forever?," *Big Think* (blog), accessed October 29, 2021, https://bigthink.com/guest-thinkers/will-you-live-forever/.

may be possible to achieve in the future. With almost unlimited intelligence, it is simply assumed that every problem will have its solution. It is entirely possible, then, for post-singularity AI to occupy a similar role to God in transhumanist thinking as it does for theologians.

The only problem with this scenario is, as already discussed, is that there is the utmost pressure being put on the moral status of the superhuman AI that will eventually be yielded from this process. Will it be a benevolent god or an evil god? Will it be under our control, or will it seek to control us? Some people have even gone as far to imagine that future AI may eventually reward or punish people in the present based upon their actions to help or to hinder its development. This argument, known as Roko's Basilisk, imagines a future AI who resurrects people specifically for the purpose of torturing them since they did not do enough to help its development.[40] However, Beth Singler notes that an argument in reverse is also possible: that AI may resurrect those who helped its creation because existence itself ends up being too undesirable. This kind of thinking was sufficiently eccentric for discussion of such propositions eventually to be shut down by then administrator Yudkowsky on the *Lesswrong* platform, a place for atheist discussion.[41] Since so much is unknown about what will happen with AI, perhaps it is no surprise that it can take on this kind of godlike role in people's psychology. Despite its naturalistic roots, these scenarios betray powers and abilities that would have been previously attributed only to supernatural actors.

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[40] Beth Singler, "Roko's Basilisk or Pascal's? Thinking of Singularity Thought Experiments as Implicit Religion," *Implicit Religion* 20, no. 3 (2018): 292.

[41] Singler, "Roko's Basilisk or Pascal's?", 195.

IV.   Cosmic Eschatology

While evolution serves as the primary framework for justifying the need for yet further evolution, evolution has not left us in what transhumanists consider to be a final, desired state. This position is interesting because it again straddles the divide between supernaturalists and naturalists. For Christian supernaturalists, God has already put humans into the state in which they are supposed to be. Though humans will eventually transcend this state, that transcendence occurs when God decides, rather than because of human action. For transhumanist naturalists, evolution is the process to which we are indebted, but there is nothing special about the current state of humanity. Change is, for Hava Tirosh-Samuelson, inevitable, but not worth risking deliberate intervention.[42] Humanity can change on its own instead of relying on the chaos of natural and sexual selection. Transhumanists do not value the normal mechanisms of evolution because they hope to live alongside those future generations. The necessity of death to create generational change is abhorrent to them, because it means that the individual transhumanist remains subject to nature and to chance.

One of the originating thinkers of transhumanist sentiments is J.D. Bernal. In his work, *The World, The Flesh, and The Devil*, Bernal suggests that humanity may be able to use reason to forge a new way forward, contrasted with religion:

> There are two futures, the future of desire and the future of fate, and man's reason has never learnt to separate them. Desire, the strongest thing in the world, is itself all future, and it is not for nothing that in all the religions the motive is always forwards to an endless futurity of bliss or

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[42] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon* 47, no. 4 (December 2012): 717.

annihilation. Now that religion gives place to science the paradisical future of the soul fades before the Utopian future of the species, and still the future rules. But always there is, on the other side, destiny, that which inevitably will happen, a future here concerned not as the other was with man and his desires, but blindly and inexorably with the whole universe of space and time. The Buddhist seeks to escape from the Wheel of Life and Death, the Christian passes through them in the faith of another world to come, the modern reformer, as unrealistic but less imaginative, demands his chosen future in this world of men.[43]

Bernal's vision involves grounding ourselves wholly in this world and seeking out a new future, one of our own choosing. Religion is a kind of distraction from tangible improvements in our own world. It can satisfy our desires, but Bernal is not content with imagining a future of plenty in a world beyond our own. In other words, he rejects the idea of a supernaturalistic heaven, instead looking for a naturalist, secular utopia.[44]

To do this, transformation of humanity is necessary. The environment is harsh, and the human body is vulnerable to harm. But this transformation is in line with evolution because humans have already used technology to augment ourselves. As Bernal says,

man has altered himself in the evolutionary process, he has lost a good deal of hair, his wisdom teeth are failing to pierce, and his nasal passages are becoming more and more degenerate. But the processes of natural evolution are so much slower than the development of man's control over environment that we might, in such a developing world, still consider man's body as constant and unchanging. If it is not to be so then man himself must actively interfere in his own making and interfere in a highly unnatural manner. The eugenists and apostles of healthy life, may, in a very considerable course of time, realize the full potentialities of the species: we may count on beautiful, healthy and long-lived men and women, but they do not touch the alteration of the species. To do this we

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[43] J.D. Bernal, *The World, The Flesh, and the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul* (Brooklyn: Indiana University Press, 1929), 1.

[44] Bernal, *The World, The Flesh, and the Devil*, 37.

must alter either the germ plasm or the living structure of the body, or both together.[45]

The kinds of changes that may be necessary for the future are 'unnatural' in the sense that they require a direct intervention in our bodies and in our genetic code. The problem is, as Bernal points out, that evolution is simply too slow. It is an amoral process that takes life indiscriminately. As he sees it, the only moral thing to do is to make the necessary changes so that humans can survive.

Rubin explains that Bernal stresses both a continuity with the current humanity and an important break from it that is to come from direct intervention:

> Normal man is an evolutionary dead end: mechanical man, apparently a break in organic evolution, is actually more in the true tradition of further evolution' Bernal envisions each of these mechanical men as looking something like a crustacean, with the brain protected in a rigid framework and a system of appendages and antennae attached for sensing and manipulating the world. He freely acknowledges that, to us, these beings would appear 'strange, monstrous and inhuman.' But he claims that such monsters are 'only the logical outcome of the type of humanity that exists in the present.'[46]

Bernal expresses a worry that 'distaste' may keep people from embracing the necessary changes, even if humanity itself may be a 'dead end' because of the dangers that we pose to ourselves. But Bernal is consistent with the transhumanists who will come after him in emphasizing the utility and power of the forms that will come after. Even if evolution managed to create humans with an advanced level of general intelligence, that intelligence is much more powerful than even the process that yielded it. As Rubin explains, "Transhumanism rebels against the randomness of evolution and the

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[45] Bernal, *The World, The Flesh, and the Devil*, 13.

[46] Rubin, *Eclipse of Man*, 33.

mindlessness of a natural tendency to overshoot resources and collapse."[47] What is the intellectual debt that is owed to evolution, then? It appears to be primarily that humanity need not be the end. Bostrom, for example, cites the introduction of Darwinian thinking as an important foundation for transhumanist thought. He writes,

> After the publication of Darwin's Origin of Species (1859), it became increasingly plausible to view the current version of humanity not as the endpoint of evolution but rather as an early phase. Discontent, jealousy, anxiety, periodic low mood, and perpetual striving for "more" were fitness-enhancing in the ancient environment of evolutionary adaptedness. Lifelong bliss wasn't harder for information-bearing self-replicators to encode. Rather lifelong bliss was genetically maladaptive and hence selected against. Only now can biotechnology remedy organic life's innate design flaw.[48]

For better or for worse, humans are subject to the fitness limitations of the evolutionary past, meaning that our emotions are tied to efficacy rather than to well-being. However, an implicit thought in Bostrom's argument is that the circumstances of today have changed. While we may not have been able to afford blissful states in the past, we can afford them now. There is an assumption that our current mastery of nature affords us the possibility of looking into options that nature had weeded out. In other words, nature has left us with obvious 'flaws' that no designer would implement if they were building a human from the ground up. Given that the goal of transhumanism is to build new humans from the ground up, they view this is as a new opportunity to correct humanity with 'obvious' improvements.

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[47] Rubin, *Eclipse of Man*, 158.

[48] David Pearce, "Biointelligent Explosion," in *Singularity Hypothesis*, ed. Amnon H. Eden et al. (Berlin: Springer, 2013), 227.

Evolution is used both as a justification for change and as a reason for change. Transhumanists therefore appear to not embrace evolution and the products of evolution but rather the larger concept of change towards increasing improvements. If these improvements can be made without the death of the participants in the process, all the better. Kurzweil explains, "Technology is the continuation of evolution by other means, and is an evolutionary process."[49] We must understand that defining technology as a means of evolution is an important reconceptualization of evolution as it occurs in nature. This evolution occurs without successive generations, without death, and without the slow restrictions of time.

Transhumanists argue that we need to reconceptualize evolution as a larger process aimed at increasingly complex forms of intelligence. As Ted Chu explains, "I suggest that we need a higher goal, a new covenant with that which is greater than ourselves, if we are to move toward and realize our greatest purpose and potential. And there is little we can find in our current culture that promotes further cosmic evolution through human transformation and the creation of higher intelligence and nobler aspirations."[50] As Chu sees it, the universe has been using evolution to create general intelligence among humans. Humans are not the final product of this process, and so it is up to humanity to use their intelligence to create the next generation of intelligences, namely AI, our 'mind children,' as Moravec would call them. Chu explains, "mainstream secular humanism self-limited its scope of activity to the mere notion of human cultural

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[49] Kurzweil, *The Age of Spiritual Machines,* 32.

[50] Ted Chu, *Human Purpose and Transhuman Potential* (San Rafael, CA: Origin Press, 2014), 9.

and economic improvement in the pursuit of its self-declared goal of maximizing human happiness and well-being."[51] He sees secular thought as needlessly focused on the present without imagining just how humanity can and should change in the future. Failing to take on this evolutionary mandate is "is betraying the very process that brought us into existence."[52]

Chu's goal is to persuade his readers that they should take on a long-term view of the cosmos, which will make clear that humans themselves are an intermediary step to something greater. It is our intelligence that makes it possible for us to intervene in the evolutionary process at all. He says, "the future is not at all a given. To a larger extent, the Cosmic View remains as hard to commit to as ever, while the narrowing funnel-shaped future seems far more comforting and reachable. The daunting task, then, is to use our imagination to look from the possible transhuman future back upon the present, to see humanity in its proper place."[53] While critics such as Tirosh-Samuelson emphasize how transhumanists envision the end of humanity, scholars like Chu try to situate the human story within a larger cosmic vision. He describes that, "In the higher perspective, the end is the human spirit rather than its flesh. With no species enjoying guaranteed long-term prosperity in history, there is little doubt that humanity as it will become obsolete – there will be better physical organizations to carry on the human spirit."[54] Chu describes the human spirit as continuing outside of the form of present-day humans. Posthumans are

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[51] Chu, *Human Purpose and Transhuman Potential*, 20.

[52] Chu, *Human Purpose and Transhuman Potential*, 30.

[53] Chu, *Human Purpose and Transhuman Potential*, 128.

[54] Chu, *Human Purpose and Transhuman Potential*, 326.

still human for Chu because they carry with them that indestructible human spirit. The human spirit can then unite with the Cosmic Being, Chu's term for describing the eventual godlike intelligence that the universe is still developing, through an embrace of the evolutionary process. This vision is cosmic because it involves timescales spanning the lifetime of the universe and technological prowess granting posthumans unimaginable control over nature. Humanity's purpose, according to Chu, is to integrate with the Cosmic Being that is bringing forth greater and more sophisticated forms of intelligence. It is a quest to see just how much of the universe can be rendered into a thinking being. As I have already argued, only the digital posthumans will truly be able to be integrated into that future given the timescales involved.

V.   Crossover with Christian Eschatology

As an eschatology, transhumanism has important considerations for comparison with Christian eschatology. The millennial framework employed by Antosca is schematically useful, but it also reveals the area of the most disagreement between theologians and transhumanist writers. This disagreement comes in relationship to the pre-millennial and post-millennial divide. Postmillennialists believed that humanity would continue to progress towards a kind of utopia. This progress would result in a millennium of peace and prosperity for humanity, at the end of which Christ would return. Humanity's efforts culminate and climax in Christ's return. However, premillennialists disagreed that humans would be able to make that kind of fundamental progress. Instead, they asserted that it was necessary for Christ to return before the millennium could begin because God's direct intervention was necessary for humanity to

carry out their paradisical vision. While this disagreement is over eschatological scenarios, it is related both to the capacity of humans to effect their own transformation and to core disagreements in differing theological anthropologies.

For theologian Ted Peters, transhumanists regularly overestimate their ability to bring about their utopic visions.[55] In other words, humans are unable to bring about the kind of societies that they might imagine are possible because of some deep flaw in the human condition. This sin nature may prevent humanity from capitalizing on its technological power since humanity may unwittingly sow the seeds for its own destruction. However, transhumanists also have some of the same concerns. As mentioned previously in this chapter, Persson and Savulescu believe that moral transformation is necessary to avoid the devastating effects of a nuclear war and the impending threat of climate catastrophe.[56] What Peters disagrees about with Persson and Savulescu is the method of transformation and the degree to which humanity, in the here and now, can be transformed in accordance with transhumanist plans. Peters critiques transhumanists for emphasizing options that would most strongly support their agenda and their own sense of autonomy, over and against the potential needs of the community. The primary difference is between a naturalist transformation that transhumanists propose and a supernaturalistic transformation that Christians believe in.

The question of the degree to which transhumanists are highlighting a truly *universal* vision also fits into a Christian theological construct, namely that of universal

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[55] Ted Peters, "Radical Life Extension, Cybernetic Immortality, and Techno-salvation. Really?," *Dialog: A Journal of Theology* 57, no. 4 (December 2018): 254.

[56] Persson and Savulescu, *Unfit for the Future? The Need for Moral Enhancement,* 7.

salvation. Given that transhumanism has relatively low adoption, the only kind of

arguments that transhumanists could make in favor of a universal agenda are those

related to longtermism and its commitment to future humanity. If future technologies are

dependent upon a direct uploading process, then not all people, including many

transhumanists alive today, will be able to take advantage of the longevity takeoff.

Instead, they will be left behind. This is part of the reason why this dissertation has

focused so much on efforts of reconstruction: it is these kinds of efforts which will be

used not only to give transhumanists hope that they will have a place in that eventual

future, no matter the state of technology today. Anyone who was alive can conceivably

be brought back through AI reconstruction or through quantum personality generation, as

Turchin suggests.[57] It should be noted that using quantum personality generation would

involve resurrection of all possible personalities to achieve a specific resurrection. It is

unclear how the logistics of matching a new personality to a previously living person

would occur except through some complicated, AI-driven process. Supernaturalist

eschatologies avoid this kind of problem because they can defer to the powers and

agencies of a supernatural agent-like God, who can perform this process, even if the

process is something that we do not understand.

Chu's description of cosmic evolution has a large amount of overlap with

Teilhard de Chardin's concept of noogenesis and the development of the noosphere. As

Teilhard describes it, the universe is progressing towards increasing sophisticated forms

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[57] Turchin, "Multilevel Strategy for Immortality, " 28-9. Turchin believes that it may be possible to generate all possible personalities and then to pick out the personalities that match up to real people, effectively bringing the dead back to life with no limitations on how much information was on a given person prior to their death.

of networking and consciousness, which will culminate in a new sphere of mental activity that will arise out of the biosphere.[58] If defined loosely, the internet can be one example of a noosphere: a new realm of (mostly) incorporeal information that exists beyond the physical world. Since Chu believes that the push towards increasing forms of intelligence is a cosmic process, a species connection to our 'mind children' may not be necessary. The kind of beings that may dominate the eventual noosphere may not be humans at all. Whether artificial intelligences can count as 'posthumans' depends on whether they can truly manage to carry the 'human spirit.' In the cosmic view, so long as there is progress in the evolution towards increasing intelligence, then such an argument can be made. However, just how humans should be involved in this process of evolution is what causes the most tension between transhumanists and their critics. The embrace of evolution, even as it is described by Teilhard, does mean to acknowledge the power and relevance of the evolutionary process but instead to experiment with deliberate change, trusting that our collective technological power will overcome any potential new deficiencies in form. This description and development towards a final point can be described almost completely in naturalistic terms and without reference to a supernatural agent. It is for that reason that so much overlap is even possible between Chu and Teilhard.

This confusion of what it means to embrace evolution is part of what may be the draw for Christian transhumanists, a new syncretic branch of Christianity that is attempting to embrace technological progress and their Christian mission. Micah Redding is the head of the Christian Transhumanist Association. In his keynote address to the

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[58] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper, 1955), 13-14.

Christian Transhumanist Conference in 2019, Redding asserted that Christians needed a larger organizing idea around which to organize themselves.[59] For Redding, this idea is transhumanism. While Christian critics see this subordination of Christianity to transhumanism as a kind of betrayal, Redding's position appears to be coherent with pluralist situation. In other words, aiming for a transhumanist future that includes Christian goals appears to be one way to avoid a Christian essentialist eschatology in which the choice is between repentance and punishment. In addition, the embrace of transhumanism focuses on efforts to improve the present. In other words, the focus is on the immanent domain. This appears to be a kind of reversal of attitudes focused on the beyond or on a 'new heaven and new earth,' which renders the current earth unimportant to save, as Lynn White argues in his seminal article.[60] A partnership between Christians and transhumanists is possible because the transhumanist scenarios can be reconceived in ways that are harmonious with Christian eschatology. In fact, if the concept of embodied resurrection is taken far enough and if it is accepted that humans could help with such a mission, then it may seem that technology may be a key part of fulfilling God's ultimate plan. Similar to the parallels between Chu and Teilhard, embracing the mechanism of technology, as Fedorov does, allows for a naturalist scenario to be imagined that depends mostly on human action.

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[59] Micah Redding, "Christian Transhumanist Association: Keynote Speech" (keynote speech, the Christian Transhumanist Association, Knoxville, October 19, 2019).

[60] Lynn White, "The Historical Roots of Our Ecological Crisis," *Science* 155, no. 3767 (March 1967): 1205.

The premillennial and postmillennial divide also extends to Christian transhumanists, whose primary disagreement with theological critics is over the degree to which technology is necessary for that final plan. Interestingly, Christian transhumanism plays down any sense of apocalypticism, instead emphasizing gradual progress towards technologies that genuinely help our well-being, a process which would culminate in the 'new heaven and the new earth' that have been remade through technology. In many ways, Christian transhumanism may also be a demythologized, naturalist version of Christianity that is attempting to be more harmonious with scientific understanding and cultural norms. These very moves, however, may make other Christian groups suspicious of them.

Still, it is important to note that God, for Christian transhumanists, remains outside of the cosmos, guiding it to its ultimate conclusion. Even if AI were to develop superhuman abilities, as a creation that developed within the cosmos, it would still ultimately be inferior to God. In fact, superhuman AI could simply be yet another method for God to enact God's will and to improve the human condition. The atheistic bend of transhumanism in creating AI as a logical necessity for imagining a solution to all potential problems is not as much of an issue for Christian transhumanists because God remains in the future to help humanity. Perhaps because God has promised resurrection, the Christian transhumanist can be reassured that such a technology must be possible, as was Fedorov's personal belief.[61]

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[61] Jones, *Technological Resurrection: A Thought Experiment*, 20.

VI.   Eschatological Narratives

The transhumanist narrative has many overlaps with Christian eschatological concepts. Transhumanism makes grand claims that overlap with religious promises such as immortality and the potential revival of the dead. However, these aspirations are situated in a cosmic story of a push towards increasing mastery of nature through expanded intelligence. Intelligence is both the ultimate tool and the goal. The potential for advances in AI to solve important scientific and technological promises allows transhumanists to conceive of possibilities well beyond that of which humans are currently capable. In addition, a transition to a digital state would be necessary merely to keep up with the advances in intelligence that will be available to machines.

What is the place of humans in the cosmic push towards intelligence? According to Chu and Teilhard, it is mostly to continue the process of evolution and to take delight in whatever will come after us. Deliberate evolution affords a degree of autonomy that would otherwise not be possible. But it is the case that transhumanists are looking beyond humanity for the future. It is on this point that there is a certain tension within transhumanist logic. Transhumanists desire for a new posthumanity that does not possess our flaws while endeavoring to be a part of that posthumanity. The push towards immortality, generally a step towards stasis, and the push towards posthumanity, a step towards chaotic evolution, appear to be somewhat at odds at least.

The only way for the humanity of today to join the posthumanity of the future is for some radical transformation to be possible. Not only that, but humanity would require the ability to continue to change in accordance with any evolutionary pressures that may

arise in the future. More says that there will be no final endpoint and no final teleology,[62] the logic of a heavenly state that one can enjoy with one's loved ones is somewhat implicit within transhumanist promises of a digital paradise. The transhumanist project is not merely to create immortal humans but to relieve other fundamental parts of the human condition: pain and suffering. If life were to continue with these conditions still attached to it, then an immortal life might not be worthwhile. The next chapter will contrast the fundamental differences between transhumanist and Christian ways of interpreting history.

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[62] Max More, "The Principles of Extropy: Version 3.11," *Extropy Institute* (blog), 2003, accessed November 11, 2020, https://web.archive.org/web/20131015142449/http://extropy.org/principles.htm.

CHAPTER 5: NATURALIST AND SUPERNATURALIST PHILOSOPHY OF HISTORY

Transhumanists envision several different eschatological scenarios. These ideas of the future forecast different possibilities in ways that make them mutually exclusive. It is not possible for the world to be saved by artificial intelligence *and* for it to be destroyed by artificial intelligence. Despite the potentially negative consequences of technology evident in some of these projections, most transhumanists are optimistic about humanity's ability to manage technological change. The inevitability of evolution frames a broader conception of the transhumanist philosophy of history and their belief about how change will occur in the future, which leads to an interestingly different approach to philosophy of history than we see in Christian theology.

This chapter therefore describes transhumanist philosophy of history in relationship to two different Christian philosophies of history: one, a naturalist (or very nearly naturalist) version upheld by Pierre Teilhard de Chardin; and the second, a supernaturalist version proposed by Jürgen Moltmann. These two famous Christian visions of the long sweep of history have strikingly different degrees of conceptual resonance with transhumanism, illustrating the complexity of the relationship between transhumanism and Christian theology.

Addressing the transhumanist philosophy of history necessarily involves describing the fundamental problems of the human condition, namely, how to understand humanity's sinful nature. While transhumanists do not have a directly equivalent concept for sin, transhumanists do believe that humanity is morally deficient and in need of

change due to inadequacies in their evolution. Understanding evolution and its role in our current place in history will be a key issue that this chapter explores.

I.   The Question of Creation

The transhumanist understanding of the origins of the universe fits with the broader scientific consensus that the universe began with the Big Bang. Were the inflationary Big Bang cosmological model to change, then the transhumanist understanding of the origins of the universe would change with it. In short, transhumanist philosophy finds it important to agree with science but is not equally invested in every cosmological question. Rather, transhumanists are more concerned with the manipulation of science for their desired ends of personal transformation and transcendence. Cosmological models for the *end* of the universe are far more important because of their implications for personal immortality. The extent to which improvements upon the Big Bang cosmological model can enhance our scientific and technological power are far more pragmatically important to transhumanists than answers to the questions themselves.

In contrast, Christians are far more invested in the answer of the origin of the universe because of its direct implications for various theological models. When George Lemaître first theorized a singular event at the origin of the cosmos, his theory was dismissed because it appeared to overlap with the idea of the universe beginning with a singular divine act. Theists of all varieties could use this as potential evidence for creation and creationism. Albert Einstein famously opposed Big Bang cosmology, instead favoring a Steady State Universe like the one proposed by Aristotle, in which the

universe has existed in the same state since its origin. He later called this position his biggest blunder. While inflationary Big Bang cosmology can only theorize beyond the Big Bang singularity, scientific findings of cosmic background radiation may imply that there is nothing special about Earth and our life on Earth other than what can be created through chance events, though we do not know how life arose from inanimate matter.

Transhumanists frame a cosmic narrative around evolution that both precedes and extends past biology. Evolution is therefore not merely a matter of competition between life forms, but also about the rise of complex forms of intelligence from 'dumb' matter.[1] As Ted Chu envisions it, the universe is driving towards increases in intelligence over time.[2] Humanity is only one step on the path towards superintelligences. In other words, the human is a steppingstone towards the posthuman, with the transhuman acting as the intermediary state between these two phases. The Steady State Universe is more hostile to transhumanist ideas of cosmic and species-wide change than the idea of theistic evolution because in it humans have always existed in same state and will continue to remain in this state in the future (barring deliberate human intervention). The theme of change is more important than the specifics of the cosmology.

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[1] This view of expanding consciousness can be linked to B. J. Murphy's rendering of panpsychism, in which technology is used to create conscious objects. Robert Manzocco describes it this way: "what if, using nanotechnology and other Transhumanist devices and artifacts, we could actually spread consciousness and self-awareness everywhere, basically making every single object or piece of matter self-conscious and, in doing so, making panpsychism—the philosophical idea that everything is alive and conscious—real?" Roberto Manzocco, *Transhumanism—Engineering the Human Condition History, Philosophy and Current Status*, 1st ed. 2019. (Cham: Springer International Publishing, 2019), 273.

[2] Ted Chu, *Human Purpose and Transhuman Potential* (San Rafael, CA: Origin Press, 2014), 91.

Transhumanists blend ideas of cosmological, biological, and synthetic evolution into a larger story that embraces the inevitability of evolution to justify present-day intervention into the human species. That our species may look quite different in several millennia is used as evidence to show that the posthuman is coming, whether we like it or not. Not only that, but AI and inorganic posthumans are interpreted as direct descendants of humanity. This is part of the dual meaning of Hans Moravec's 'mind children.' Moravec laments the loss of individual human minds at the time of death (which could be circumvented through mind uploading).[3] This focus on the transmission of minds into the future, rather than the transmission of genes, is partly why children, even as direct biological descendants, do not appear to fit into the transhumanist vision of the far future. Instead, Moravec envisions that AI will take on the role of being our 'mind children' since they will inherit all of human knowledge. Transhumanist talk of evolution does not describe biological evolution at all, but rather the series of things transhumanists plan to do to themselves and to their mind copies.

The question of creation and its relationship to God relates most to God's status as a moral agent that may have intentions and desires for humanity. Depending on the theological model involved, God may only act in limited ways. Transhumanist philosophy depends upon a naturalistic understanding of cosmic and species change rather than a directed, theistic evolution in which God guides the universe towards the rise of humans. The true conflict between transhumanists and theists has to do with

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[3] Hans P. Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge, MA: Harvard University Press, 1988), 4-5.

naturalistic versus supernaturalistic versions of history rather than with whether the universe may have been created by God. In other words, there are naturalist, theistic versions of a philosophy of history that are completely compatible with a transhumanist philosophy of history because both rely upon scientific consensus to understand the mechanisms and origins of our world. For example, Deism is a theological position that posits God as a creator who does not intervene in the universe after the act of creation through miracles. Since the question of creation is not crucial to the transhumanist worldview, Deism is not in conflict with transhumanism. In contrast, supernaturalistic versions of a philosophy of history, even those that attempt to harmonize with science, are inevitably going to be hostile to a transhumanist vision because transhumanism emphasizes human autonomy, opposes the idea that our current state as humans is special, and rejects the notion that a supernatural agent directs history, saying instead that the direction of history is up to humans themselves.

I argue that Teilhard's naturalistic philosophy of history is compatible with transhumanism while Moltmann's supernaturalistic philosophy of history is not. This implies that it is possible for transhumanists and naturalist Christians, like Deists, to align to a surprising degree. The more Christians attempt to make their theology align more closely with science, the more potential overlap there is between Christianity and transhumanism. Though Christian naturalists need not become Christian transhumanists, many goals may still be shared, especially when it comes to improving human wellbeing.

II.   Scientific Causality

Naturalism has implications for understanding God's action within the world. For Teilhard, God is the *prime mover*, the force underlying all physical action and processes within the cosmos. Because Teilhard suggests that we cannot observe God scientifically and that the natural cause of events is never violated by divine action, Teilhard can be interpreted through a naturalistic lens.[4] This conflict between naturalistic Christianity, as exemplified by Teilhard, and supernaturalistic Christianity, as exemplified by Moltmann, has its tension over understanding scientific causality, the possibility of miracles, and the role of Jesus Christ within the world.

Moltmann, in his article, "Reflection on Chaos and God's Interaction with the World from a Trinitarian Perspective," describes explicitly theological models for understanding God's interaction with the world.[5] In Moltmann's terminology, Teilhard's view best fits with the Thomistic model of double causality in which God acts as a primary cause and nature acts relatively independently through secondary causes. The main difference between Thomas Aquinas's view and Teilhard's is that miracles tend to be downplayed within Teilhard's writings, favoring harmony with modern scientific consensus. Teilhard focuses on what he observes as the convergence of the totality of the cosmic system, which is transformed through evolution, to the Omega Point.[6]

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[4] Pierre Teilhard de Chardin, *Christianity and Evolution* (New York: Harper & Row, 1974), 26.

[5] Jürgen Moltmann, "Reflection on Chaos and God's Interaction with the World from a Trinitarian Perspective," in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey C. Murphy, and A. R. Peacocke (Notre Dame, IN: Vatican Observatory Foundation, 1995), 207.

[6] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper, 1955), 257-260.

By contrast, Moltmann favors a Trinitarian model of God's relationship to the world, in which "God the Father creates through the Logos/Wisdom in the power of the Holy Spirit. All things exist 'out of' God, 'through' God, and 'in' God, and God not only transcends the world but is also immanent in the world."[7] This relationship is perichoretic, meaning that there is a mutual indwelling of God in the world and the world in God. However, Moltmann differentiates his model from others by insisting on the promise of God's future creation. This means that even if God does not *choose* to intervene right now, God will do so in the future. The world remains in an 'unfinished' state and "the future of the world can only be imagined as the openness of all finite life systems to the abundance of eternal life."[8] The miraculous redemption of the universe and of humanity always remains possible and within reach because God creates such possibilities. Moltmann even goes so far as to say that if open scientific models of the cosmos must rely on energy from an outside source, then perhaps that source might be understood as God.[9] For Moltmann, God has intervened in human history in the past (notably through the Incarnation) and can be expected to intervene in the future.

For transhumanist philosopher Max More, the supernaturalistic element of religion is something transhumanists should oppose. He explains:

> The core of any religion consists of faith and worship. Other elements typical to religions are beliefs in supernatural forces, ceremony, a

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[7] Moltmann, "Reflection on Chaos and God's Interaction with the World from a Trinitarian Perspective," 208.

[8] Moltmann, "Reflection on Chaos and God's Interaction with the World from a Trinitarian Perspective," 209.

[9] Moltmann, "Reflection on Chaos and God's Interaction with the World from a Trinitarian Perspective," 210.

> comprehensive view of life, and a moral theory or rule book. Generally religions hold that there is a god or gods which give our lives meaning by assigning us a role in a grand plan created and controlled by external supernatural forces. Our assigned function is to obey and praise these forces or entities. However, the essence of religion and religious styles of thinking is faith and worship rather than any belief in a god. A eupraxophy, a non-religious philosophy of life, plays a similar memetic role in that it is concerned to create or increase meaningfulness through a philosophical framework. In contrast to religion, eupraxophies are opposed to faith, dogmatism, ideological authoritarianism, and stagnation.[10]

More opposes supernaturalism not primarily on the grounds that supernatural action violates scientific causality. Rather, he is specifically opposed to the notion that a supernatural agent has both control and a plan for humanity and the cosmos. More opposes traditional monotheistic models of God that combine omniscience, omnipresence, omnipotence, and infinity with a personal interest in an individual person's fate for two main reasons: First, it conflicts with the urgency of his own mission. He views personal theism as a part of the 'death culture' that opposes life-extension efforts, as was discussed in Chapter 3. Second, it interferes with More's transhumanist values, specifically his articulation of 'self-transformation,' which he describes in his "Principles of Extropy."[11] For More, that human change is self-directed is a key part of his ethical framework. While not all changes that humanity could make to itself will necessarily be beneficial, he insists that humans should be allowed to make them anyway as a part of their morphological freedom to alter themselves. The idea of a personal God directing one's behavior limits this ethical space because God has plans for every

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[10] Max More, "Transhumanism: Toward a Futurist Philosophy," 1990, 1.

[11] Max More, "The Principles of Extropy: Version 3.11," *Extropy Institute* (blog), 2003, https://web.archive.org/web/20131015142449/http://extropy.org/principles htm.

individual and because, within the Judeo-Christian traditions, there is something special about humanity in its current state. Change away from this state may be against God's desires. In addition, the technologies used to make such changes take on new forms of categorical power, which is why forms of genetic engineering are often labelled as 'playing God.' Morphological freedom dictates that every individual should be allowed to change themselves however they wish, regardless of what government, deities, or other people think. Transhumanism, as naturalistic eupraxophy, can act as a guiding philosophy for people in place of a supernaturalist religion.

While More does note that transhumanists maintain agreement with rationality and scientific consensus, transhumanists do not have a strictly skeptical view of technological possibilities. For More in particular, who took on the role of President and CEO of Alcor Life Extension Foundation, cryonics remains a real option for individuals to preserve themselves into the future prior to the technological advancements for which transhumanists hope. However, these technological advancements have not arrived, let alone shown to be successful, meaning that transhumanists are willing to diverge from broader scientific consensus when it comes to believing in the potential for immortality for humans living today.

However, not all transhumanist concepts are necessarily opposed to the miraculous. In fact, transhumanists specifically hope for seeming miraculous technologies to emerge, often quoting science Arthur C. Clarke, who said, "Any

sufficiently advanced technology is indistinguishable from magic."[12] Transhumanists acknowledge that one of the most powerful ways to get people on board with their philosophy is to showcase examples of such technologies so that more money will be invested into technological development in what may be considered fringe areas, such as is the case with mind uploading and digital life extension.

The digital world represents an interesting case in which transhumanists may be willing to accept violations in scientific causality. Giulio Prisco writes in his book, *Tales of the Turing Church*, in which he compares Bishop George Berkely to Hans Moravec, that:

> [a]s an eighteenth-century Christian and a representative of the Church, Berkeley believed in supernatural phenomena, in principle not understandable by science, while Moravec, as a modern engineer, believes reality is fully understandable and explainable by science. Future engineers within the framework of future science will develop Moravec's simulated realities. If our reality is a simulation, everything in our universe can be understood in terms of the physical laws of the higher level reality in which it is simulated. But… this does not mean that it must always be understandable in terms of our own physical laws: Moravec's simulation cosmology may contain supernatural phenomena, because the reality [is that] engineers up there may choose to violate the rules of the game…Make this simple experiment: Run a Game of Life program, choose an initial pattern, and let it evolve for a while. Now, stop the program, flip a cell, and resume the program. You have just performed a miracle: something that goes against the physical laws (the simple cellular automata evolution rules of Life) of the lower-level reality that you are simulating…Moravec's "Transcendent Mind" is, by definition, omnipotent (all powerful), omniscient (all knowing), and omnipresent (always and everywhere present) in the simulated reality. He thinks. He is Berkeley's "supreme and wise Spirit, in whom we live, move, and have our being," a God.[13]

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[12] This quotation is known as Arthur C. Clarke's Third Law. See: Arthur C. Clarke, *Profiles of the Future: An Inquiry into the Limits of the Possible* (New York: Holt, Rinehart, and Winston, 1984).

[13] Giulio Prisco, *Tales of the Turing Church: Hacking Religion, Enlightening Science, Awakening Technology* (Independently Published, 2018), 237.

While we are unable to control physical reality, digital reality is something over which we have full control. We can control operative laws, even going so far as to make 'miracles' happen within that level of reality. The simulation argument leaves open the possibility of a 'higher reality' and higher beings that live in that reality that may be able to affect us. While More does not believe that we should rely on or defer to such beings, Nick Bostrom's simulation hypothesis does leave room for such beings.[14] If we currently live in a simulation, then it may be possible for a higher being, including God, to go through this resurrection process already. However, transhumanists would prefer to move to a simulated reality of their own creation, in which they could act as a god with nearly limitless autonomy.

Acceptance of the simulation argument may potentially have other implications as well. For instance, transhumanists are concerned with an implication of the Fermi Paradox: technological advancement past a certain level may be impossible because we have yet to observe civilizations more advanced than ourselves. If we are in a simulation, then it may be possible to explain the uniqueness of humanity in our universe since there may be simulations running in parallel with different kinds of civilizations in each. Whoever runs such simulations may be more interested in exploring possibilities rather than directly intervening in the lives of the individuals involved. Rather than considering if outside beings (such as a personal God) might show concern, even transhumanists exploring the idea of a simulated cosmos do so to interpret the cosmos in naturalistic

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[14] Nick Bostrom, "Are You Living in a Computer Simulation?," *Philosophical Quarterly* 53, no. 211 (April 2003): 12.

terms, using it to explain our sense of loneliness and the apathy that we experience in relationship to the universe.

Transhumanists focus on the possibility that radical technological change will affect humanity's future in unforeseen ways. They not only prepare for such technological change, but advocate for the technologies that may being incredible benefits. Though the rationality of projected change is debatable (as we have discussed in previous chapters), the concept of rationality is important for the self-identity of transhumanists as pursuing only rational change. This also means that they frame their expectations for the future as rational, which precludes divine intervention. For transhumanists, supernaturalist religion is an irrational distraction for the mission of technological transformation. More understands that religion provides meaning but believes that something better should take its place. Not only is transhumanism to be seen as the next step for humanism, so transhumanists argue, but so too is it the next step for meaning creation. More puts it this way:

> The extropic striving for something better than what we have exists in religion in an irrationalist-fantasy form, in which a superior existence is given to us by a divine force, an existence only truly accessible after our physical death and decay. Locating "Paradise" in another realm removes from us the necessity and point of taking responsibility for our condition by using reason and technology to transform it. Sometimes Paradise is located (perhaps temporarily) in this world, but it will be brought about by divine power and not by our own efforts. Religion says we need not and should seek physical immortality through life extension, biostasis and so on, since we are already guaranteed these in the afterlife. The Christian notion of salvation by the act of Jesus, rather than through our own restitution for wrongs and our self-transformation, can similarly result in moral hazard…
> An obvious metaphysical question to raise here is the compatibility or otherwise of religion and transhumanism. In my 1990 essay that first set forth modern transhumanism as a distinct philosophy under that name, I

explained how transhumanism (like humanism) 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…The central place accorded to rationalism suggests a tension between transhumanism and religion. But are they actually incompatible? Since rationalism is an approach to acquiring knowledge and says nothing about the content of knowledge, it is possible in principle for a transhumanist to hold some religious beliefs.[15]

There are three chief incompatibilities between traditional religious views and transhumanism. First, religion can breed apathy towards change. This is a chief part of Lynn White's ecological critique that the fate of the world is irrelevant since God will presumably create a new world in the future.[16] Hope in God's future action begs the question of how one might be able to affect God's future action, or whether one can affect it at all. Second, the religious variants of transhumanism named here, notably Christian Transhumanism and Mormon Transhumanism, come in the form of disaffected people within those movements looking to make concrete change. This is partly why Micah Redding declared that Christianity should subordinate itself to transhumanism to create a pluralist, cooperative vision of progress.[17] Mythological elements are downplayed, and religious promises are reinterpreted to accommodate transhumanism into the original tradition. In other words, it is possible to reinterpret Christian eschatology within a progressive and/or postmillennial lens that embraces science, evolution, and technological progress. This kind of eschatology locates the 'paradise' as

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[15] Max More, "Transhumanism: Toward a Futurist Philosophy," 5.

[16] Lynn White, "The Historical Roots of Our Ecological Crisis," *Science* 155, no. 3767 (1967): 1206.

[17] Micah Redding, "Christian Transhumanist Association: Keynote Speech," *Christian Transhumanist Association Conference*, 2019.

something fully within humanity's power to achieve rather than something given as a reward for a moral life. Third, transhumanists contend that humanity will be able to make necessary changes to itself. The anthropological assumptions behind transhumanism become important because of how they frame death. In their advocacy with secular groups, they worry that accepting death as a natural consequence of life will prevent people from taking seriously the amount of life that will be missed from not pursuing radical life extension. In a future in which there is no God to help human beings, some transhumanists express a kind of desperation to continue living. There is nothing other than life, so we must hold onto it.

III.   Interpretations of Biological Evolution

How biological evolution fits into a broader conception of history is a key issue for transhumanist philosophy. While evolution serves as the framework for establishing the necessity of change, evolution has not necessarily equipped humans in the best possible way. Transhumanists believe that it is up to humanity to use its intelligence to intervene in the evolutionary process. The atheistic materialism of transhumanists leads them to conclude that there is nothing special about the current state of humans and that humanity may be ill equipped for long term success. Theological views that combine theism with evolution may stress some form of intelligent design, in which God intends for humanity to be as it is. A theistic evolution that emphasizes a personal God likely will lean into the specialness and uniqueness of humanity. Deliberate intervention into the evolutionary process may then thwart God's intentions for both humanity and for evolution. Forms of theistic evolution that emphasize naturalism over supernaturalism

have higher potential to be combined with transhumanist ideas of evolution. Christian transhumanism represents a special case because it suggests that it may be God's intention for humanity to use science and technology to transform themselves and the cosmos.[18]

Teilhard's naturalistic form of Christianity focuses on what can be interpreted from observations of evolution rather than what can be inferred from purportedly supernatural disclosures of God's intentions (for example, through the Bible). It is for that reason that Teilhard can be interpreted within a naturalistic frame. While Teilhard does believe that God has intentions for creation, God's actions within the cosmos never violate scientific causality. Though we are unable to see God's action in the physical universe (say through miracles), we are able to interpret God's action as the prime mover, underlying all physical action and process within the cosmos, and giving history an interpretable path of progression towards the Omega Point.[19] Teilhard's observations of the forward changes in evolution led him to postulate the rise of the noosphere, which is a new sphere that sits at a higher level and beyond the global biosphere. It consists of elements of spirit and mind in everything on the planet. The internet, for example, appears to fit a nascent definition of Teilhard's imagined future. Teilhard's integration of evolution causes him to redefine Christ as *Christus Evolutor*, the Christ of evolution who gives both direction and purpose to that process. The Omega Point is the Logos, pulling

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[18] Micah Redding, "Christian Transhumanism: Exploring the Future of Faith," in *The Transhumanist Handbook,* ed. Newton Lee, 779.

[19] Teilhard de Chardin, *The Phenomenon of Man,* 259–260.

us toward it. Evolution's course will eventually progress past humanity's state until we achieve unification with God.

A difference between Teilhard's theistic evolution and transhumanist views of evolution is the degree to which any teleology can be interpreted from it. While Ted Chu believes that evolution shows a cosmic drive towards increasing intelligence and complexification, More contrasts transhumanism with religious thought by emphasizing that evolution has no definite endpoint. Instead, humanity will continue to change until the end of the cosmos. However, a challenge to this view is that More believes that posthumans should be able to make whatever changes they wish for the sake of their autonomy and that some changes will be necessary for the sake of survival. This means that there are two classes of changes: ones related to survival and ones related to self-expression. For Teilhard, evolution is a framework in which some evolutionary changes are better than others in an absolute sense. This makes evolution morally loaded because it is out of these differences, selected for in natural selection, that Teilhard believes we can interpret good and evil.[20] This allows him to posit a direction toward which evolution is guiding us, namely in that good is prevailing over evil as a matter of progression and survival. For transhumanists, evil is defined in relationship to death. It is the problem of death that forces humanity to change and it will be the overcoming of death that will finally allow humans to remake themselves in whatever other ways they may desire.

For More, progress is both a necessity and descriptive of our reality. He explains:

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[20] Pierre Teilhard de Chardin, *The Future of Man* (New York: Harper & Row, 1964), 83.

> The frequency with which critics talk of transhumanists as wanting to "perfect" human beings or to achieve a state of perfection or to bring about a utopian society suggests that they haven't actually read much transhumanist literature. …For instance, Don Ihde (in Hansell and Grassie 2011) characterizes transhumanists as looking forward to a future posthuman world that would be a utopia. (He labels this purported goal "The Idol of Paradise.") This criticism, and the others like it, confuse the goal of continual improvement or enhancement with the longing for a state of final perfection…Transhumanism reflects the Enlightenment commitment to meliorism and rejects all forms of apologism—the view that it is wrong for humans to attempt to alter the conditions of life for the better. Nothing about this implies that the goal is to reach a final, perfect state. … Further, one of the Principles of Extropy is Perpetual Progress. This states that transhumanists "seek continual improvement in ourselves, our cultures, and our environments. We seek to improve ourselves physically, intellectually, and psychologically. We value the perpetual pursuit of knowledge and understanding." In my own formulations of transhumanism, I found the Idol of Paradise and the idea of a Platonically perfect, static utopia, is so antithetical to true transhumanism that I coined the term "extropia" to label a conceptual alternative. Transhumanists seek not utopia, but perpetual progress—a never-ending movement toward the ever-distant goal of extropia. If the transhumanist project is successful, we may no longer suffer some of the miseries that have always plagued human existence. But that is not reason to expect life to be free of risks, dangers, conflicts, and struggle.[21]

In a world of perpetual progress, the beings who will continue are those who are capable of self-transformation since the circumstances and evolutionary pressures around them will continue as well. This is partly why increases in intelligence will be such a necessity for posthumans: they must continuously imagine and enact new changes for survival to keep pace with the environment and with other beings. While it is not the goal of this paper to explain the potential competitive pressure of post-singularity AI, it is notable that both other posthumans and AI could exert pressure upon other posthumans to

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[21] Max More, "The Philosophy of Transhumanism," in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, ed. Max More and Natasha Vita-More, (Chichester, U.K.: Wiley-Blackwell, 2013), 14.

change, even within the transhumanist scenario that More suggests. This means that a technological singularity is only a point beyond our understanding, not a point after which progress cannot be made. These pressures may even be sufficiently significant to threaten the extropian principle of self-transformation since it may not be the case that all desired self-transformations are viable given these pressures from within an evolutionary framework.

While More denies a sense of ultimate perfection that humans would either desire or achieve, transformation to a digital form is the most logical endpoint for current humans for three main reasons. First, digital life may prove easier to alter than physical life. These changes can be enacted in response to both evolutionary pressures and desires changes. These changes also need not be completely permanent, since personalities could be backed up in a similar way to software, so that negative changes could be undone. Second, digital life may be somewhat insulated from the evolutionary pressures of the physical world so long as the hardware on which the digital life is hosted could be adequately protected. This does not mean that there will not be unique challenges to humans who are strictly digital, but rather that the evolutionary pressures of the physical world may not be relevant within a digital context. In addition, the fact that one may be able to copy oneself and to back up one's mindfile and personality data may be highly appealing to transhumanists. Third, since it is difficult to project what future posthumans will look like, digitality is one of the few ways that we can imagine current humans making the transition to posthumanity, even if there are unfathomable steps beyond the transition to digitality that might be necessary to become true posthumanity.

Transhumanists hope to live long enough so that they can take advantage of these changes, even if they cannot accurately predict what these changes might be.

Because death is a key mechanism in how evolution works, the evolutionary process will not allow for today's humans to transition to posthumans. In other words, death is built into evolution in a way that is antithetical to transhumanist priorities. For Teilhard, the death and destruction of the evolutionary process can be justified by appealing to the future. In that sense, Teilhard (and to some extent Chu) are much more positive about the direction of evolution than are many transhumanists. For transhumanists, embracing evolution means taking control of the process and directing it ourselves rather than embracing the changes that natural selection will bring. Moltmann, however, is quite critical of embracing evolution in the way that Teilhard has. He explains,

> For Teilhard, the perspectives of evolution were evidently so vast that while he was no doubt able to join together the remotest points of their beginnings and their goal, he found it difficult to perceive what was close and closest. 'We still have several million years in front of us,' he wrote from Peking in 1941, thinking of the stage of evolution next to be reached in the socialization and totalization of humanity. He did not see that time is running out, because the ecological catastrophes which this very socialization and humanization are producing could very well put an abrupt end to any further evolution on humanity's part.[22]

In projecting evolution past humanity, Moltmann worries that the dangers in the present may be ignored. This kind of thinking about the future appropriately downplays the necessity of action because humanity's role in the evolutionary process may end abruptly.

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[22] Jürgen Moltmann, *The Way of Jesus Christ* (Minneapolis: Fortress Press, 1989), 301.

Moltmann's commentary on the potential end of humanity is also a big concern

for transhumanists. The project of immortality cannot continue if humanity abruptly

comes to an end. Transhumanists note that directed evolution may be a key part of

humanity's survival to combat challenges like AI. Julian Savulescu and Ingmar Persson

believe that moral enhancement will be a necessity because of the sheer destructive

power of the technologies that humanity now wields.[23] They cite nuclear weapons as an

example of humanity's capacity to destroy itself. Without deliberate change, humanity

may have neither intelligence nor the strength of character to overcome the challenges in

front of us.

For Teilhard and Moltmann, as Christians, their diverging interpretations of Christ

affect their moral outlook and interpretations of the evolutionary process. Moltmann

describes these differences as follows:

> The real theological problem, however, is to be found in the content of his
> Christology. It is true that with his idea about the *Christus evolutor* he
> wished merely to augment the Christian doctrine about *Christus
> redemptor*, so as to bring out the creative side of the redemption, which
> had been overlooked for so long. But would he not then have also had to
> describe the redemptive side of creation's completion? A *Christus
> evolutor* without *Christus redemptor* is nothing other than cruel, unfeeling
> *Christus selector*, a historical world-judge without compassion for the
> weak, and a breeder of life uninterested in the victims…The process of
> creation is not yet finished. As long as the time of creation lasts,
> something new is continually being created, and always will be. But in this
> history of creation there is also dying, violent death, mass extermination
> and the extinction of whole species through natural catastrophes and
> epidemics. In our special human history there are undeniably elements of
> progress; but they are equivocal. The history of every form of progress has
> its other side in the history of its victims. The history of the victors, the

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[23] Ingmar Persson and Julian Savulescu, *Unfit for the Future? The Need for Moral Enhancement* (Oxford: Oxford University Press, 2012), 47-48.

survivors and the well-adapted 'fittest,' has its price in the suppression of those who are called 'the unfit'. [24]

Moltmann makes several critiques of Teilhard's position. First, he felt that Teilhard may have been shortsighted in failing to acknowledge the potential ecological disasters that might befall mankind, making any further progress impossible. In Chapter Four, I discussed the difference between premillennial and postmillennial eschatologies. Notably, in premillennial eschatology, it is God, rather than humanity, who ultimately intervenes to save and to transform the cosmos. Within a postmillennialist eschatology, it is humanity that must first transform prior to God's arrival. However, a central problem with postmillennialism is that it is something that humanity could fail to achieve. Teilhard's story of evolutionary progress through natural selection is notably optimistic because it assumes that we will be able to navigate and to avert potential disasters that might arise. Moltmann reiterates in his critique of optimistic eschatologies (both Christian and secular) that the ecological crisis is something that demands humanity's full attention.

Second, Moltmann suggests that Teilhard's version of the Omega Point causes a bifurcation between history and the realized future. He explains:

> The cosmic perspective and the sights set on evolution's remotest goals also mean that the ever-'greater Christ' also departs further and further from Jesus of Nazareth; while the point in time in the cosmic development which Teilhard calls Omega Point allows the recollections of salvation history to fade away and be forgotten—both Jewish remembrances of the God of Abraham, Isaac and Jacob, and Christian remembrances of the Father of Jesus Christ. But if this is a trend in Teilhard's thinking, the

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[24] Jürgen Moltmann, *The Way of Jesus Christ,* 297.

> outcome is really a cosmic gnosticism which makes historical faith antiquated.[25]

One of Moltmann's chief ethical concerns is with the rectifications of injustices in the eschaton. Moltmann terms this a kind of Gnosticism because the past itself will simply 'fade away and be forgotten.' The potential disregard for history, including the historical elements of Christianity itself, cause Moltmann to be wary of this interpretation of evolution as progressive. His concern is that the past is not redeemed but rather that the past is lost. It is a future without a past, causing it to be a kind of 'unreality' that we live in the present since it is ultimately inconsequential to the future. The pain and suffering of natural selection and sin have not so much been justified as they have disappeared completely.

Third, attempting to justify the past through the future may lead to Social Darwinism in which survival trumps all else. Moltmann argues that for Christ to identify with evolution is to place Christ as the selector in the evolutionary process, pitting Christ against the victims of history, those who have failed the rest of evolutionary fitness. Worse yet, it may even imply that God uses natural selection to weed out unfit individuals. Teilhard's argument that evolution selects for good over evil implies this kind of role for Christ. However, Christ's death at the hands of the Romans counts Christ as one of the victims of natural selection when history is viewed through that lens. Whereas Teilhard insists that Christ is the pinnacle of evolution, Moltmann reminds us that Christ identifies most with the victims of history, not with the perpetrators. The

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[25] Jürgen Moltmann, *The Way of Jesus Christ*, 295.

implicit moralities of Moltmann and Teilhard are fundamentally opposed because of their differing priorities. Whereas Teilhard seeks first and foremost to integrate evolution and scientific findings into his theology, Moltmann worries about the devastation wrought by science and technology. It is not merely that natural selection intrinsically involves death, but that our human proclivity to sin causes us to destroy our fellow humans. Moltmann gives the example of the United States's decision to deploy devastating nuclear weapons on Hiroshima, Japan.[26] For Moltmann, not even the Omega Point can act as a justification for the atrocities committed by humans against other humans. These cannot simply be forgotten either. They are specifically the kind of circumstances that God alone can redeem.

This tension over how to interpret and to resolve humanity's dark past is a key conflict between Christian theologians like Moltmann and transhumanists like More. There is a utopian impulse in transhumanism that makes promises beyond what may be possible. More opposes the static sense of utopia but not the benefits, namely, the plenty and prosperity that utopia might bring. Moltmann worries about this kind of utopianism:

> If we start from these presuppositions, we have to ask what cosmological utopia and what knowledge-constitutive interest prompt us in our desire to know the universe, and to ask about human possibilities of shaping it. Whatever else our richly proliferating scientific fiction tells us, a fundamental utopia is evidently the endless survival of the human race, and the endless further development of the human consciousness. Unconsciously or consciously we want to overcome death and to live as long as possible [to have] longevity. Immortality was once a religious dream. Today organ transplantation, the attachment of the brain to computers, and other developments seem to have brought immortality within our reach…

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[26] Jürgen Moltmann, *The Way of Jesus Christ*, 297.

> But is an endless future for life and the universe as we know it really
> desirable anyway? Aren't death and the transitoriness of time factors of the
> finite world which is developing itself for continually new possibilities? If
> death and time were to be overcome, there would no longer ever be
> anything new. A world without end would be the end of the world.[27]

Moltmann worries that technological aspirations may lead people to abandon the planet,

jumping from planet to planet without consideration of the long-term consequences on

individual places. In the context of extropianism, the drive towards evolution may mean

endless expansion in search of further resources. The ultimate quest of extropians is to

defeat the gradual dissolution of the universe into entropy. It is in overcoming entropy

that posthumanity can continue to evolve and change indefinitely. Immortality, for More,

is not about stasis, but about reaching a point at which endless transformation is possible

without worrying about death. But death, as Moltmann acknowledges, is a part of our

world. For it not to be a part of our world, we must imagine a completely transformed

world. For Christians, this happens through God's intervention in the cosmos. Moltmann

concludes by worrying about the inverse scenario, in which humanity descends into a

state of stasis. In this sense, Moltmann and More agree in their worry that a static future

is undesirable. If digital life may mean being cut off from the world, then there may be a

sense in which stasis is an accurate way of describing that existence.

Part of the issue that Moltmann has with forms of utopianism is that the future can

be mistaken for progress. For Moltmann, this may incidentally make an idol of the future:

> A planned and programmed future has no longer anything to do with
> transcendence. On the other hand 'the future' was personalized, becoming
> (as it did in existentialism) the inner extension of human existing,

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[27] Jürgen Moltmann, *Science and Wisdom* (Minneapolis: Fortress Press, 2003), 88–89.

> openness of heart and futurity of decision. Yet on the other hand such personalization of the release from responsibility for our present history is due to the objectifying of the future…The magic of true transcendence is inherent in the future if that future promises something qualitatively new, which stimulates people to change the 'system' of the present radically; and if in this future something different can be expected which will lead to the altering of the foundations of the present, antagonistic condition of immanence…For Marxists this is the leap from quantity into new quality, and from the realm of necessity into the realm of freedom; for many other people it is the changing of an unfree into a free society, or from a repressive into a human one; Christians consider it to be the qualitative difference between history and eschatology, anticipated in specific faith under the conditions of history.[28]

For Moltmann, Christians should have a radically different approach to how they view the conditions of history. The Christian view is fundamentally antithetical to the materialist Marxist view because of the direct supernatural intervention for which Christians hope. Moltmann hopes for something that is qualitatively different from what can be achieved through human effort alone. Interestingly, this goal of getting beyond the present and of changing human nature is in alignment with transhumanist goals. But it does not align with how this transformation is supposed to happen nor does it address the goal of this transformation. Ultimately, the transcendence about which Moltmann is speaking is a transcendence beyond death and therefore a transcendence beyond sin and everything else that comes with it. As he states, this can only be accomplished in eschatology through God's arrival and God's taking us across the boundary. For Moltmann, Christians can acknowledge present suffering while focusing on the possibility of something new emerging from what we see.

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[28] Jürgen Moltmann, *The Future of Creation: Collected Essays* (Philadelphia: Fortress Press, 1979), 22–23.

This eschatological orientation is what gives Moltmann his religious inflection. Transhumanists also conceive of a future that has some pivotal event (e.g., the singularity). It is for that reason that some transhumanists have imagined that the future superintelligent AI may use omnipotent powers to control time and space, affecting our current time. But this kind of thought crosses the boundary between projecting the future and conceiving of an eschatology. Eliezer Yudkowsky shut down such talk on the website, *Less Wrong*, a community blog of his creation, because it suggests the specter of a godlike entity passing judgment on the people living today. But a fundamental difference in a transhumanist conception and the way that Moltmann describes eschatology is the relationship to time. He says:

> The eschatological moment will end the linear time which we have here called the irreversible time of this world, and take into itself an element of cyclical time. What will come about is not an eternal return of the same thing, but a unique return of everything. The theological concept for this is 'the restoration of all things' in the appearance of God's eternal presence, and their new creation through their transformation in the eschatological moment from transience to immortality. We might call it something like a universal, cosmic feedback process.
> This eschatological model for 'the future of the universe' is the only model which perceives a future for what is past and expresses hope for the dead. All other models of expansion, evolution, progress, or the steady state universe expect a future only in the sphere of what is not yet, but not a future in the sphere of what no longer is. They leave the past behind and gaze merely into the 'far-future universe'.[29]

The future that Moltmann envisions goes well beyond what is scientifically possible. It is grounded in supernatural intervention that can resurrect the dead, not merely prolong the lives of people living today. Even for Frank Tipler, there is only the possibility of stretching out subjective time because the universe itself will always eventually come to

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[29] Moltmann, *Science and Wisdom* 81.

an end. There is no way for it to be extended outside the dissolution of time itself into eternity. The primary difference between these models is hope: if we can be resurrected from the dead, as Moltmann envisions, that hope may itself be transformation for the Christian. This eschatological vision, being outside of time, is beyond what is natural and goes beyond what may be achieved through a control of nature.

This section has outlined three major perspectives on the integration of evolution into a philosophy of history. For transhumanists, natural evolution is flawed because it is a blind process. It works primarily for the benefit of the transmission of genes and not for the benefits of the people carrying those genes. If natural evolution is left to run its course, it means that everyone living today will eventually die. The only way to prevent this tragedy is to intervene in the evolutionary process and create for humanity a path to survival through technology. For Moltmann, natural evolution is flawed and a reflection of the fallenness of the world. Embracing evolution means embracing a perspective of survival at any cost, which is antithetical to a Christian stance that emphasizes rectifying injustice. It is Christ who saves us from the evolution that evolution is a part of. For Teilhard, natural evolution is God's chosen process. It drives towards the Omega Point, after which life will be restored and remembered. Evolution may have tragic elements, but it shows a clear progression of good overcoming evil.

Distilling the perspectives in this way, we can see that transhumanists agree with Moltmann on the flaws inherent in the evolutionary process of natural selection. In addition, they agree on the fundamental need for transformation through something other than natural selection. When transhumanists talk about the need to embrace evolution,

they are speaking about *directed* evolution and not about leaving evolution to its natural course. For Teilhard, the evolutionary process can only be trusted because of its drive towards the Omega Point. But abstaining from intervention violates the ethical concern that transhumanists have for people living today. Because of this difference, the kind of harms that are justified within transhumanism are those that come with scientific and technological development rather than those caused by the evolutionary process itself. In both cases, it is the ultimate good that comes from the future, whether that be an immortal future of self-transformation and autonomy or eventual unification with the Omega Point. However, Teilhard's focus on the macroscopic good that comes from evolution shares more in common with secular attitudes towards death than with the transhumanist drive toward self-preservation.

Moltmann criticizes both perspectives for their potential to justify harms in the present. Moltmann disagrees with transhumanists on the nature of the problem to be solved (preservation of the environment for Moltmann and preservation of the self for transhumanists) and its potential solution. These differences manifest in their contrary stances towards technological development. Steve Fuller articulates the differences between these attitudes as the conflict between the precautionary principle and the proactionary principle.[30] To summarize, the proactionary suggests that while there may be consequences to developing a given technology, there are also consequences to not developing it. Transhumanists emphasize that the value of new technologies is great

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[30] Steve Fuller, "Precautionary and Proactionary as the New Right and the New Left of the Twenty-First Century Ideological Spectrum," *International Journal of Politics, Culture, and Society* 25, no. 4 (September 2012): 158.

enough to justify the risks. If an ethical paradigm is built upon life-extension, then the potential good of future immortality far outweighs the known evil of death for people living today. As this dissertation has shown, there are a wide variety of life-extension technologies and not all of them fit into a digital escapist narrative. It is for this reason that Ted Peters ponders, in *The Transhumanist Handbook*, that seeking out enhancements that benefit is something with which Christians can agree.[31] Peters warns us that we should be skeptical of just how far transhumanist transformation can take us. When it starts to drift into the miraculous—the 'messianic' as Peters puts it—then perhaps we should be wary of being drawn into these promises. Believing in such things before they have been tested is truly an act of faith, which is why New Atheist perspectives are similarly critical of what it is that transhumanists propose. Flourishing as posthumanity and flourishing as humanity may be goals that are completely at odds with one another, especially if the form can only come at the expense of the latter.

IV.   Fixing Human Nature

In *The Coming of God*, Moltmann suggests that it is death that brings sin into the world rather than the reverse. He suggests that it is fear of our mortality that causes us to sin, a reversal of the historical argument that is the sin of Adam (in a literal reading of the Genesis story, similar to the argument made in the Book of Romans) that causes death to enter into the world. The fundamental problem of human action is tied to the problem of death. A central question then emerges is how God could allow death to be a part of

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[31] Ted Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?," in *The Transhumanism Handbook* (Cham: Springer, 2019), 804.

creation if it is a trigger for sin. As Poul Guttesen suggests, theodicy and evolution are theological problems, "because the status of God as God is dependent upon his overcoming the contradiction that he freely endures for the sake of creation, [and therefore] it is difficult to see how God is not in need of redemption and therefore contingent upon his creation."[32] To link God and evolution is to embed the death, pain, and destruction of evolution into the process of creation. It is Moltmann's rejection of death that leads him to oppose the integration of evolution into his theology.

For Teilhard, acceptance of evolutionary history means taking a longer view of the universe beyond the life of any single organism. Since death is an essential mechanism for evolutionary change to persist from generation to generation, it necessarily precedes the arrival of primordial humans. Because of that, Teilhard suggests that sin likely did not enter the world through an historical event because evolutionary history makes it hard to pin down a moment at which this could have occurred. The naturalness of death is not a problem of theodicy at all. Death is what gives the universe a means of change. The cosmic perspective of Teilhard is at odds with the personal perspective of Moltmann. The question of the naturalness of death plays a key role in creating a tension of theodicy within Moltmann's theology. In other words, there is a real question about the role that God has in causing and resolving the fundamental problems of human nature.

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[32] Poul Guttesen, *Leaning into the Future: The Kingdom of God in the Theology of Jürgen Moltmann and the Book of Revelation* (Cambridge, UK: The Lutterworth Press, 2009), 101.

For transhumanists, death is also the fundamental problem of human nature. In suggesting that it is death that causes sin, an interesting question arises: if humans were transformed such that they no longer experienced death, would they no longer sin? While immortality is certainly a part of the eschatological transformation that Moltmann envisions, Moltmann is not likely to agree that immortality alone is sufficiently powerful to bring about full change of that kind. Instead, he looks at immortality as a step towards stasis and a step away from life. Why might this be the case? It is because efforts at immortality must seek to continuously preserve that life. While some philosophers have argued that immortality might necessarily lead to boredom,[33] this argument supposes that there might be states of immortality such that change is no longer possible. But transhumanists do not talk about immortality in this way, instead emphasizing continuous self-transformation. More explicitly names self-transformation as the second principle of extropy. However, the desire for self-transformation and the ethical need to preserve one's life may conflict. The danger of immortality thus comes from the potential for immortality to create people who are risk averse and, paradoxically, who are *more* afraid of death.

The key harms that Moltmann is worried about are not those that are natural but rather those that result from the harm that humans can do to other humans. Without complete transformation, humans will continue to sin and to wreak injustices upon one another. The key problem that moral enhancement advocates are trying to solve is the

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[33] John Martin Fischer and Benjamin Mitchell-Yellin, "Immortality and Boredom," *The Journal of Ethics* 18, no. 4 (December 2014): 354.

same. But if humanity can achieve some form of immortality, will humans continue to harm one another? Even with drastic enhancements, it is difficult to imagine a future in which immortal humans would not be able to do harm to one another.

It is for this very reason that I argue that digital immortality, in which a person's mind and personality can be saved and restored as many times as necessary, will be the preferable scenario. Whatever harms may be possible for immortal posthumans will be a part of the competitive pressure that posthumans would exert upon on another. These pressures may even be significant enough to threaten the extropian principle of self-transformation given the new evolutionary framework that would be created as a result.

A central challenge to integrating any variety of a transhumanist philosophy of history with Moltmann's eschatology is the necessity of God's intervention in the cosmos. The Christian hope is for our reality to be transformed such that sin and injustice no longer occur. Moltmann explains,

> Hope alone is to be called 'realistic', because it alone takes seriously the possibilities with which all reality is fraught. It does not take things as they happen to stand or to lie, but as progressing, moving things with possibilities of change…Hope and the kind of thinking that goes with it consequently cannot submit to the reproach of being utopian, for they do not strive after things that have 'no place', but after things that have 'no place as yet' but can acquire one. On the other hand, the celebrated realism of the stark facts, of established objects and laws, the attitude that despairs of its possibilities and clings to reality as it is, is inevitably much more open to the charge of being utopian, for in its eyes there is 'no place' for possibilities, for future novelty, and consequently for the historic character of reality…positivistic realism also proves to be illusory, so long as the world is not a fixed body of facts but a network of paths and processes, so long as the world does not only run according to laws but these laws themselves are also flexible, so long as it is a realm in which necessity means the possible, but not the unalterable.[34]

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[34] Moltmann, *Theology of Hope*, 35.

Moltmann interpret the world fundamentally differently than Teilhard does. Rather than

seeing a positive direction to the world, Moltmann sees the turn of wars and destruction

of our planet as indicative that humanity cannot correct its path on its own. For

Moltmann, it is the utopianism and positivism that is wrongheaded in foreclosing the

possibility of hope in God's redemption of humanity. An important part of Moltmann's

biography is his life under the Nazis in World War II. Instead of interpreting history as

unimpeded progress, he sees humanity as fomenting greater forms of evil than had ever

been seen before. Technology and scientific racism were at the heart of the Nazis' efforts

to genocide. Our collective technological power is hard to view in amoral terms as

progress without consequence.

Will transhumanist enhancement be ultimately beneficial or detrimental for

humanity? Some critics, like Hava Tirosh-Samuelson, are not excited about the prospect

of being deliberately phased out to make room for our posthuman posterity.[35] Though

transhumanists may insist that posthuman change is inevitable, their advocacy for

deliberate change that would never occur without intervention is what worries Tirosh-

Samuelson. This is the core concern of theologians like Peters, who wonder whether the

transhumanist plan to 'solve' any problem that may arise through market forces is

suspect.[36] This means that though we may still be able to pursue technologies, we may

have to be careful about how we choose to pursue them. The goal of transformation for

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[35] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon* 47, no. 4 (December 2012): 728.

[36] Ted Peters, "Theologians Testing Transhumanism," *Theology and Science* 13, no. 2 (2015): 140.

some good is something that people may be able to get behind. Its resonance with Christian themes is notable.

A chief problem for transhumanists is both the means and the type of transformation. In accordance with their own goals, transhumanists prioritize increasing cognitive ability and increasing their lifespans. Increases to cognitive ability will, in theory, allow for transhumanists to gradually overcome any problem that can be rectified using intelligence. By increasing lifespans, not only will transhumanists move closer to their goal of immortality, but more time will be granted to solving other problems. This means that there is a relative hierarchy in transhumanists priorities, with increases in cognitive ability coming first, increases in life span coming second, and most other priorities coming next.

Unfortunately for transhumanists, the context for any of these technological advancements presupposes an underlying social ethics that makes such advancements possible. Persson and Savulescu are worried about moral enhancement because stable societies are a prerequisite for achieving the kind of technological progress that transhumanists envision. A global catastrophe, such as a climate disaster, a full-scale world war, or a nuclear conflict, would effectively ruin the transhumanist scenario. Though future humans may eventually be able to progress past our current scientific and technological limits, world destabilization in the short-term would prevent today's transhumanists from being able to partake in the fruits of such advancements. Advocacy for stable societies that can effectively support research and innovation should be a starting point for transhumanist ethics.

Transhumanists may then have two main positions in their activism. One position is optimistic that humans are rational, and that transhumanism will be sufficiently persuasive because it is an exceedingly reasonable and rational perspective. A second position is pessimistic that the average person is reasonable enough to accept transhumanism. I suspect that transhumanists will only become more convinced of the need to transform humanity should their advocacy fail to garner the kind of attention for which they are hoping. In other words, in the absence of a robust anthropology detailing the current moral capacity of today's humans, transhumanists may convince themselves that today's humans must be changed to fall more in line with their way of thinking, especially if they believe that opposition to their activism stems primarily from a failure to be rational.

A problem attached to this is that we do not necessarily know how best to make moral changes. Is it a matter of genetics or of brain chemistry? Is it something else entirely? Harris Wiseman talks about this in his critique of moral enhancement, about how changing the chemical balances of our brains may not be helpful.[37] It may also be the case that some negative emotions, while subjectively unpleasant, have an evolutionary function. Wiseman uses the example of anger as a response to being treated unfairly. It may be the case that certain kinds of emotions are necessary because we live in an imperfect world in which we are often harmed by other people. Could it not be the

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[37] Harris Wiseman, *The Myth of the Moral Brain: The Limits of Moral Enhancement* (Cambridge, MA: MIT Press, 2016).

case that we alter others to make them more trusting because we are seeking to take advantage of them?

Finally, there appears to be an implicit assumption within transhumanism that increases in both cognitive ability and life span would necessarily also lead to improvements in morality and ethics for those who undergo them. However, transhumanists are also wary that intelligence itself does not have a moral valence since intelligence can be aligned towards any goal. This is called the orthogonality thesis, since any intelligence can be aligned with any goal. Similarly, the threat of superintelligent AI comes precisely from this ambiguity: the AI cannot be trusted to be a morally good agent with human flourishing in mind, even if that is one of its programmed intentions. In the same way, future posthumans may not necessarily be moral either, though it is true that the opposite is also possible. Instead, it may be best to wonder whether the conditions that cause humans to hurt one another would also apply to immortal digital posthumans. The types of harms and the quality of relationships would change, but it is entirely conceivable that the negative aspects of the human condition would be merely transposed into a digital space.

The fundamental problem is whether it is possible for humanity to bring about positive transformation on its own. In other words, it is possible for humanity to overcome its sinful nature? Religious variants of transhumanism, notably Mormon transhumanism and Christian transhumanism, may be more positive towards transformation towards technology, especially if God intends to use humanity's technology as a means of transformation and salvation. In that sense, technology may

even be God's chosen means of theosis. While this theological view may seem Pelagian in its optimism regarding human nature, it is also possible to take a neo-Irenaean stance in which a nascent humanity is still developing towards its ultimate destiny. Mark Walker argues that adopting a neo-Irenaean understanding of theodicy and sin should lead one to conclude that humanity should do everything it can to better itself, including though interventions into our biology.[38]

This question of humanity's fallen nature appears to be an interesting area in which Moltmann's hypothesis, namely that sin derives primarily from an awareness of death, can be tested. In the realm of the digital, in which it may eventually become common to backup several versions of oneself, it is difficult to say whether one would become hyper aware of death and one's proximity to it or if one could truly accept digitality as a form of effective immortality. Of course, one may program oneself not to possess certain kinds of emotions, but this is different than being able to control the conditions that manifest outside of oneself, which ultimately make death always possible. It seems then that digital immortality would not be enough to rectify a straining part of the human condition, even if it would satisfy a desire for legacy, in which a version of us always makes it to the future. Immortality alone would not be enough to ensure that digital posthumans would be moral. If anything, the sophistication of danger may be ever greater, which makes such moral transformations even more necessary.

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[38] Mark Walker, "Genetic Engineering, Virtue-First Enhancement, and Deification in Neo-Irenaean Theodicy," *Theology and Science* 16, no. 3 (July 2018): 251-272.

V.   What are we making of ourselves?

We do not know if we can go on to live as data. Hans Moravec made the point in

Pigs in Cyberspace[39] that we simply wouldn't know what to do if we were to suddenly to

appear in a program. Existing as pure code is foreign, and so we would instead have to

exist in a virtual spatialized plane with a body very much like we do now. Our minds are

simply not configured to live without bodies. For that reason, digital humans, if they are

in fact possible to create, may be utterly unlike us. And if technology for uploading

comes too late, then the only possible recourse for people in the present is to document as

much of themselves as possible to create a digital footprint from which they can

eventually be recreated. But even in the best case, these remain recreations rather than

true resurrections. The person that experiences death remains dead.

Creation of the technologies that will make this speculative future possible is

profoundly uncertain. We do not yet know whether or when such technologies might

become possible. For today's transhumanists to have the best possible chance to be a part

of that future, cooperation between people is necessary to pull together the resources to

design and implement immortality. This is the chief point of the dragon tyrant myth:

unless everyone gets on board, countless people will be sacrificed. This is also

reminiscent of religious movements that demand that other people accept their faith or

perish. But this transhumanist vision is also not truly universal. For those people who do

not wish to be a part of it, the transhumanist solution is that they will always have an

option to opt out, to die. This is different than a duty to our ancestors in which the desire

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[39] Hans Moravec, "Pigs in Cyberspace" (N.p.: Nasa Technical Report Server, 1993).

is to bring back to life everyone who has ever lived. No, instead it is a duty to bring back those who have generated the requisite data through elaborate recreations. This type of ethics may be imposed on the next generation of transhumanists because the progress of today's technologies is simply too slow.

Both the future and the past hang in the balance when considering whether this kind of social ethics can be transmitted and adopted. The future of humanity depends not merely on developing important technologies, but also on broad acceptance of a given set of ethics. The question of whether humanity currently has this moral capacity or needs transformation to possess it depends primarily on different views of our cosmic philosophy of history. Though theological critics may worry that transhumanists are naïve in their optimism about the potential for humanity, transhumanists take a longer view of cosmic history, and they are quite concerned that evolution has not equipped humanity to handle its current problems. As such, there is a moral necessity to change, such that today's humans can become the sort of people who can band together to achieve the conditions for technological progress in the first place. Without such enhancements, the transhumanist drive towards a future history of perpetual progress may not be possible.

CHAPTER 6: RELIGIOUS RESONANCE WITHIN TRANHUMANISM

I.   Assessing Transhumanism

Transhumanism is unique in combining atheistic materialism with religiously resonant goals: immortality, self-transformation, and transcendence. It stands out as a post-secular movement that has embraced, rather than opposed, these ideas, standing in direct opposition to past secular movements. Without this embrace, the direct comparison between transhumanism and Christianity would not be possible. My reason for juxtaposing them has to do with the need to clarify and sharpen the eschatological orientation of many transhumanist ideas. These ideas have been taken further than transhumanists have taken them precisely because many of the same questions raised by transhumanist today have been examined in Christian theology. For example, consider the question of how the fundamental identity of an individual can be preserved across death. While the Christian and the transhumanist answer this question quite differently, they are asking overlapping questions about the possibility of the afterlife.

The strong overlap of these questions is what drives the interest of Christian theologians in transhumanism. For example, Ronald Cole-Turner compares Karl Rahner with Ted Chu in his article, "Going Beyond: Christians and other Transhumanists."[1] Cole-Turner points out many of the resonances between Christianity and transhumanism, even going so far as to remind us that the etymology of the word 'transhuman' can be traced to Dante, "who invents the word in an attempt to describe just how great a

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[1] Ronald Cole-Turner, "Going beyond the Human: Christians and Other Transhumanists," *Theology and Science* 13, no. 2 (April 2015): 156.

transformation lies ahead for human beings as they make their way by grace to glory." In this description, humanity sits in a transhuman state prior to their final transformation to enter eternity with God. Transhumanists themselves generally trace their lineage back to Julian Huxley's use of the term transhuman to describe the coming evolutionary changes that humanity might undergo.

The differences between the overarching narratives in which self-transformation and transcendence are articulated causes the predominant conflict between transhumanists and their Christian critics. Ted Peters does not believe that Christianity has any fundamental compatibility with transhumanism, even as he suggests that Christians should be careful not to shun technological progress altogether.[2] The conflict is thus over the type of change that humanity should pursue, not the pursuit of change as such. For the Christian, humanity is meant to pursue *theosis*, transformation to become like God to spend eternity with God. For the transhumanist, transformation is meant to facilitate a transition to godlike power to facilitate one's own autonomy.

But the deeper conflict is related to the atheistic naturalism of transhumanists and the supernaturalism of these Christian critics. While the themes and ideas of transhumanism are religiously resonant, transhumanists understand themselves as an atheistic movement. The practical consequence of this stance is that they do not believe that God will ultimately intervene in the cosmos to save humanity. As a result, humanity must seek to take control of its evolutionary processes to ensure its own future

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[2] Ted Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?," in *The Transhumanism Handbook* (Cham: Springer, 2019), 804.

flourishing, even if that means moving away from what makes us human today. This understanding provides transhumanists with a mission: to persuade others to devote time and resources to the pursuit of life extension technologies. In addition, there are consequences to the success and failure of this mission. Success means that transhumanists will eventually be able to live indefinitely in a digital paradise that can be customized to their own liking. However, failure will mean that all humans who will ever live will have their lives end without further progress being made. In addition, it may even mean the end of humanity due to our poor collective control of our technologies, namely artificial intelligence and nuclear weapons. The good and bad outcomes of our technological progress rest squarely in our hands because there is no God to rely upon.

However, this story is not simply a matter of transhumanist naturalism and Christian supernaturalism. Teilhard de Chardin's theology depends not upon supernaturalism but rather upon an interpretation of evolutionary history. In fact, Teilhard is quite careful to frame God's action in the cosmos in a way that does not violate scientific understanding causality, thinking of God as sustaining and underpinning the universe rather than directly intervening within it. Even his eschatology, in which evolutionary history trends towards unification with God at a singularity, known as the Omega Point, the past is remembered rather than reverted.[3] Within a supernaturalist orientation, as taken up by theologian Jürgen Moltmann, such an idea does not go nearly far enough in redeeming the sin, pain, and destruction of the past because it is God who

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[3] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York, NY: Harper, 1955), 288-290.

ultimately redeems earthly suffering in the afterlife. Moltmann is pessimistic about humanity's process without God since he believes that technology, especially nuclear technology, has only made humanity a greater danger to itself. The threat of an impending reversal exists at all times.[4]

Transhumanism notably borrows ideas from both perspectives. They share a sense of optimism with Teilhard, seeing the cosmic evolutionary story as essentially progressive. This sense of progress grants them a sense of awe and wonder at what posthumanity will be like. However, they also fear the same technological disasters that concern Moltmann. The flaws in human nature are a result of a blind evolutionary process that has failed to equip humanity properly with the traits necessary for long-term, collective survival. However, the transhumanist prescription is to radically change human nature to erase the proclivity to sin that stems from human nature.

The rationale for changing human nature is deeply connected to the transhumanist sense of social ethics. Arguments for moral enhancement are merely the first step in moving society towards the stable political and economic condition under which technological progress can be made as rapidly as possible. The exact technological innovations are directed at improving human nature, extending our life spans, and reconstructing those who have already passed away. Nikolai Fedorov described how humanity should make technological progress to resurrect all those who had passed way, a responsibility he called, 'the duty to our ancestors.' Fedorov believed that technology

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[4] Jürgen Moltmann, *Science and Wisdom*, 1st Fortress Press ed., Science & Wisdom (Minneapolis: Fortress Press, 2003), 88-89.

was essential in bringing about the promise of his Christianity. This kind of impulse

drives present day transhumanists. As Nick Bostrom describes in "The Fable of the

Dragon Tyrant," potentially preventable deaths occur every day because our scientific

understandings and technological powers remain too limited.[5]

The transhumanist rejection of death stands fundamentally at odds with their view

of biological evolution through natural selection. While evolution remains the context

and justification for changes made to humanity in pursuit of the posthuman,

transhumanists seek methods of change that lie outside of evolutionary mechanisms,

namely random genetic changes between generations and the natural selection that

preserves these changes. If evolution demands death, then transhumanists must find a

way to change without dying. As I have argued in this dissertation, the idea of digitality

best satisfies the goals, priorities, and values of transhumanists for evolutionarily relevant

change. Digitality serves as a framework in which a human person can be thought of as

being both infinitely malleable and upgradable. But even in the future transhumanist

world, unfortunate and unforeseen deaths may occur. Digital humans may suffer from

data corruption, meaning that they must be backed up and restored from some prior point.

These successive lives may lead to the appearance of immortality from the outside, but

they would not possess a continuity of consciousness. If an individual dies and is

reconstructed later through technological means, through some means of advanced

personality extrapolation, then this is a digital afterlife. However, it is not simply a matter

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[5] Nick Bostrom, "The Fable of the Dragon Tyrant," *Journal of Medical Ethics* 31, no. 5 (May 2005): 273-277.

of moving from the biological to the digital. The digital human will have their own digital

afterlife so long as further digital reconstruction is necessary. If these lives can be lived

successively, then they may also do so in parallel. If evolutionary fitness remains a

concern for the digital human, then perhaps there will be those digital humans who

experiment with different versions of themselves to see what changes are the most

beneficial. The survival of this personal legacy of the mind would be paramount. If the

knowledge acquired in life simply remained with us in our minds and our minds did not

decay, just how expansive could our intelligence become?

The desire for this direct personal legacy of the mind is one of the most

religiously resonant themes within transhumanism. If our minds are allowed to transform

into digital space, then they may grow until the end of the cosmos itself. As Ted Chu

describes, the universe may continue to grow in consciousness.[6] These digital persons

would be able to participate and to grow with this digital consciousness, both bringing it

about and participating in it. Digital humans may emulate the post-singularity AI that are

beyond our understanding, operating as gods. And even if such entities remain out of

reach, digital humans will be able to exercise complete control over their own digital

worlds, making them and remaking them as they wish. While the concern of the present-

day transhumanist is for survival, this survival is only meaningful if it leads to this state

of transcendent power and intelligence. To die before the rapid technological acceleration

happens may damage the feasibility of participation, unless our posterity chooses a form

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[6] Ted Chu, *Human Purpose and Transhuman Potential* (San Rafael, CA: Origin Press, 2014), 326.

of technological resurrection that does not depend on our current level of technology. Since it is unknown when or even if such acceleration will happen o, the coming of the singularity is an eschatological event that sits outside our current understanding of causality. It sits outside of future history since its arrival would remake our universe.

Secular eschatology has focused primarily on the fate of the physical universe, but even formulations such as Frank Tipler's show how the secular can dip into explicitly religious territory.[7] Tipler suggests that we may be able to use technology to facilitate a religious dream. Fedorov theorizes something similar when he proposes an explicitly technological form of resurrection. Transhumanists do not have a problem with religious people per se but rather with religious people's preoccupation with non-technological methods. The desire for resurrection and immortality are not the problem. Instead, the problem is any distraction from development of miraculous technologies. If technology makes miracles possible, then will transhumanism finally have proved itself?

Rather than accepting death and human limitations, transhumanists instead propose that humanity anticipate godlike powers of ourselves and the universe. They stand in opposition to secular movements, such as the New Atheists, who contrasted themselves from religious people in their acceptance of death.[8] Transhumanists possess a unique overlap with religious faiths even as they begin from a standpoint of atheistic materialism. The secularity of transhumanism is an important part of understanding its

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[7] Frank Tipler, *The Physics of Immortality* (New York: Doubleday, 1994).

[8] Mikel Burley, "Atheism and the Gift of Death," *Religious Studies* 48, no. 4 (December 2012): 533.

origin and its overall philosophy, but secular transhumanism remains one transhumanism among others, namely Mormon transhumanism, Christian transhumanism, and Buddhist transhumanism. The central tenets of transhumanism that focus on technological progress and life-extension are not necessarily at odds with religious beliefs.

As Max More notes, it is unlikely that more conservative religious people will resonate with transhumanism.[9] Among Christians, Evangelicals that focus on the action and agency of an all-powerful God will have the most conflict with transhumanists. As Jacob Shatzer notes, open and process theologies that necessitate and downplay a transcendent, omnipotent God will have more theological resonance with transhumanism. It is for this reason that Jacob Shatzer[10] labels Jeanine Thweatt[11] a transhumanist despite her criticism of the movement. The potential for resonance has been mistaken for an embrace of transhumanism. But we should note that Micah Redding's Christian transhumanism explicitly uses transhumanism as a corrective for Evangelicalism.[12] He argues that Christians must embrace the world and become a part of the technological change that is coming, even going as far to suggest that humanity may use technology to bring about the promises of his faith. Instead of God planning to intervene directly, God

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[9] Max More, "The Philosophy of Transhumanism," in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, ed. Max More and Natasha Vita-More (Hoboken, NJ: Wiley-Blackwell, 2013), 8.

[10] Jacob Shatzer, *Transhumanism and the Image of God: Today's Technology and the Future of Christian Discipleship* (Downers Grove, IL: InterVarsity Press, 2019), 97.

[11] Jeanine Thweatt, *Cyborg Selves: A Theological Anthropology of the Posthuman.* (Farnham: Taylor & Francis Group, 2012).

[12] Micah Redding, "Christian Transhumanist Association: Keynote Speech" (keynote speech, the Christian Transhumanist Association, Knoxville, October 19, 2019).

makes possible the technological powers that humanity will eventually use to save itself, including everyone who has ever lived. The potential for such an embrace is powerful and threatening. Theologies that embrace evolution may also need to be re-examined for their potential resonances with transhumanism.

The comparison between Christianity and transhumanism has highlighted many of these resonances, but many other comparisons are also possible and will require future research. For example, James Hughes is a noted Buddhist and has examined resonances between transhumanism and Buddhist philosophy. Hughes uses Buddhism as an alternative to Christian ideas of unique ensoulment of the body.[13] He suggests that Western ideas of essential identity may simply be incorrect, which should ease us of our worries of technological recreation. In addition, Jon Bialecki has spent time with the Mormon Transhumanist Association, which predates the Christian Transhumanist Association by nearly a decade, the former being established in 2006 and the latter in 2014.[14] The overlap between the promises of Mormonism and transhumanism, especially in regarding to becoming a god, have strong parallels. The disaffected nature of both Mormon and Christian transhumanists also warrants further investigation beyond merely the conceptual connections. Finally, the particular strain of transhumanism that I am arguing is the most religiously pregnant is related to those who embrace digitality. These transhumanists are found most within the singularitarians, such as Kurzweil and

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[13] James J. Hughes, "Buddhism and Our Posthuman Future," *Sophia* 58, no. 4 (December 2018): 653-662.

[14] Jon Bialecki, "After, and Before, Anthropos," *Platypus* (blog), April 6, 2017, http://blog.castac.org/2017/04/after-and-before-anthropos/.

Moravec. In other words, the tendency of some transhumanists to forecast the survival of the mind without the body in digital space have the most potential for religiously salient beliefs.

This dissertation has examined how transhumanism is an important divergence from other secular philosophies since it contains elements of a religious core. One even might say that this dissertation contains elements of a constructive theology of transhumanism since many of the disparate ideas within the movement have been coalesced into a single overarching metanarrative of progress, enhancement, and eventual posthumanity. Without such construction, the movement as a whole cannot be properly analyzed, and I believe that it has been misunderstood as a result. The story of how a secular, atheist-materialist philosophy can lead to full afterlife scenarios as posthumans is a puzzle that has to be teased out. The sheer size of the mission of transhumanists has meant that transhumanist have been willing to dialogue with religious people, as shown in Micah Redding's invitation to Aubrey de Grey to keynote the first Christian Transhumanist Association's annual meeting.[15] Religious and secular transhumanists are possible allies in the quest for technological immortality.

II.   The Transhumanist Pursuit of Technological Immortality

This dissertation has focused primarily on the transhumanist pursuit of immortality through life-extension research. In Chapter 2, I outlined the three different types of immortality: biological immortality, cybernetic immortality, and digital

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[15] Aubrey De Grey, "Keynote at Christian Transhumanist Conference 2018" (YouTube Video, CTA Conference 2018, Knoxville, July 25, 2019), https://www.youtube.com/watch?v=TWvlCREqCRY.

immortality. Biological immortality involves life-extension efforts that focus on improving the chemical and physical process of our body, mainly at a cellular level, through metabolic and genetic alterations. Cybernetic immortality focuses on the direct replacement of body parts with mechanical prosthetics. These parts can be repaired and replaced over time. Digital immortality, I have argued, is an extension of cybernetic immortality insofar as it involves the complete replacement of the body with digital correlates. I have chosen to focus on digital immortality because it represents the best possibility for present-day transhumanists to extend their lives indefinitely. Within the context of Max More's principles of extropy, digital life appears to fit their needs for self-transformation, evolution, and transcendence best. Not only that, but transhumanists such as Russian billionaire Dmitry Itskov plainly state that digital life is the goal.[16] The desire for immortality itself stands in tension with more mainstream life-extension research and other groups who may be interested in future human flourishing. The problem is not that posthumans, beings fundamentally different than we are today, may arise in the future, but rather that the transhumanists desire to be among those posthumans.

The transhumanist scenario involves taking advantage of successive technological advancements. Kurzweil predicts that progress will become faster and faster due to what he calls 'the law of accelerating returns.'[17] In the context of life-extension research, De

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[16] Doug Bolton, "A Russian Billionaire Wants to Upload His Brain to a Computer so He Can Never Die," The Independent, March 14, 2016, https://www.independent.co.uk/news/science/dmitry-itskov-2045-initiative-immortality-brain-uploading-a6930416.html.

[17] Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin, 2006), 7.

Grey and Michael Rae suggest that we may eventually be able to reach 'longevity escape velocity,' in which an individual person may be able to take advantage of successive breakthroughs in life-extension research, allowing one to extend one's life almost indefinitely.[18] However, even improvements to one's fundamental biology will not prevent accidents or other unforeseen complications. There may be even physical limits on how far the body might be pushed. The transhumanist scenario of technological progress may not come to pass in the timeframe that transhumanists hope. For these reasons, transhumanists may feel the need to create data about themselves from which they might be recreated. Digitality is not merely an immortality scenario, but also an afterlife scenario that does not necessarily depend upon immediate technological progress.

Within the context of the digital life, I have outlined three types of digital immortality: 1) weak digital immortality, 2) mimetic digital immortality, and 3) strong digital immortality. Weak digital immortality involves any digital recreation of a person that can make basic responses but lacks any subjectivity. A chatbot of a deceased loved one is an example.[19] The fidelity of such a recreation will depend upon how well it is explicitly programmed or how much data can be fed into its machine learning. However, such a recreation will still remain limited in the responses that it can give. This type of

[18] Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthrough That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007), 330.

[19] "When His Father Died, This Technologist Created a Chatbot, so His Kids Could Talk to Their Grandfather," CBC Radio, February 23, 2018, https://www.cbc.ca/radio/spark/386-attention-residue-new-design-ethics-and-more-1.4548894/when-his-father-died-this-technologist-created-a-chatbot-so-his-kids-could-talk-to-their-grandfather-1.4548924.

digital immortality is already happening now, even among people who may not identify themselves as transhumanists. Mimetic digital immortality is qualitatively different than weak digital immortality in that mimetic digital recreations exist as close as possible to the subject who passed away. If Kurzweil is to be believed, then these recreations could respond as that person and perhaps be Turing-capable. However, these recreations do not have any dynamism and exist only as that person from a given point in time. They cannot change and would likely be unable to cope with broader societal changes, which may prevent them from being agents in the same way that they were in life. Digital recreations of this kind are frozen in time. Strong digital recreations go a step beyond this since they are capable of change. They would be functionally no different than artificial intelligences in that they are responsive as conscious beings that are capable of change. These are the types of beings that are described in the transhumanist scenario. If we take this as transhumanists describe, then today's humans will use technology to recreate themselves in digital form. And then once they have produced such a recreation, it will take on a life of its own. The point is for this recreation to be capable of change so that it can participate in the larger evolutionary story of the cosmos.

The prevailing problem with these digital recreations is their connection to the person upon whom they are based. Today, weak digital recreations are unlikely to be confused with the original person. A chatbot likely does not possess enough complexity pass a Turing test as that person. A mimetic recreation may be able to pass as that person, but it is unlikely to be considered a person since it lacks any kind of agency. The value of such digital recreations would be for the people who are interacting with the recreation

rather than for the recreation itself. In the case of a strong digital recreation, it is the most likely to be thought of as the original person. From a technical standpoint, such a recreation would possess the greatest fidelity to the original person. Within a transhumanist conception of personhood, a strong digital recreation would rank the highest. However, there is a paradox, for the similarity between the original persona and the recreation would only be momentary as the recreation goes through dynamic changes.

In Chapter 3, I discussed the transhumanist conception of identity in relationship to the self and to death. The question of identity and whether the new recreation is the same as the person who died is fraught for many reasons. Depending on the technology used, it is possible that both the original person and the digital person could exist at the same time. They would diverge in their personal histories from the moment of creation. The measure of fidelity is thus only ever a matter of the moment in which it is measured. However, the point of the strong digital recreation is for it to have its own personal history and for it to be capable of transformation into posthumanity. This means that within the transhumanist anthropology, one must first accept that one has to transform into a digital form in order to make possible yet further transformation. If upgrades were immediately available to the digital person, then that person would begin to be utterly unlike the original person. Though Kurzweil contends that the pattern can be maintained from the transition from biological to digital, nonetheless the biological person inevitably dies. Especially since transhumanists imagine that such recreations may be possible after death, recourse for the person who has died seems unlikely.

The kind of questions about the connection between the original person and the transformed recreations are very similar to question of personhood within Christian eschatology. If I am to be resurrected in heaven, am I simply a new recreation of the old person? How can it be that the person who died is both resurrected and transformed into something new? However, transhumanists go much farther than Christians since Christians suggest that there is a total transformation, after which all further struggles will be unnecessary. Within the transhumanist view of history as described by More, evolution will never cease. Identity across the biological-digital divide is only one issue. How can identity be maintained not only across that divide but also across every other conceivable transformation that may happen for the individual? The concern over identity and its concern for the individual into the far future is an eschatological question. However, the transhumanist scenario involves more than simply straight-forward progress. The questions of identity are most related to personal eschatology, which is focused on what happens to individuals.

AI research is also deeply connected to transhumanist ideas of personhood. As Kurzweil suggests, research into human minds and research into AI are the same. This is because the idea of intelligence and of mind are more abstract than what humans possess. For that reason, Kurzweil believes that human and machine intelligence are substance agnostic. This substance agnosticism is then used to justify the transition from a human state to a machine one. Since the pattern of your existence informs who you are but is not equivalent to who you are, then copying the matter is the same as copying the person whom that pattern represents. Despite its materialist orientation, transhumanists end in a

place of a kind of substance dualism, in which mind and body have been divorced. Even if the body should die, the mind can be captured as data so that it may live on within the machine.

In Chapter 4, I discussed the general positive and negative scenarios with which transhumanists are concerned. As Bostrom notes, AI has the potential both to propel humanity forward and to bring it to a bitter end. Optimistic scenarios can be seen in Max Tegmarck's work,[20] in which benevolent researchers use the advantage of AI to usher in an age of prosperity. However, even within that scenario, if bad actors had control of a neutral or 'good' AI, then they might use that power however they wish. Still, this does not go far enough in how AI itself may eventually look to enslave humanity for some other purpose. Though it is difficult to imagine what exactly will come from the rise of AI, Bostrom suggests that there will be polarized results that are either very good or very bad. Transhumanists are invested in AI research because it represents both the best way to achieve technological progress (since increases in intelligence are thought to be correlated with technological progress) and it is the best way to stave off the existential risks that come with the development of AI. The stakes of such research serve to justify the research, especially since there is a race to achieve the first AI and to reap the potential benefits from it.

If we are talking about indefinite life extension, then existential risks that threaten the human race are among the biggest threats to our continued future. The interest in

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[20] Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Alfred A. Knopf, 2017).

avoiding these existential risks may be self-interest if it is done for the sake of immortality. AI then is a tool for this transformation to the posthuman. Similarly, other existential threats, such as climate change, are relevant because of how failure to avoid catastrophe may threaten life on a cosmic scale. The future of the cosmos is necessary for the future of technologically aided life. From the standpoint of atheistic materialism, our future is tied to the cosmos and there is no other possibility for continued life. God is not set to intervene. But technology might offer a way to sidestep even the loss of the cosmos, as we might be able to stretch out our experiences near indefinitely, as Frank Tipler suggests.

However, there is a significant obstacle to this challenge. Kurzweil imagines reviving his dead father using machine learning on artifacts that his father has left behind. This AI replica, within his anthropology, would be his father so long as it could fool him into believing that it was him. The development of chatbots of deceased loved ones, weak digital recreations as we have defined here, is evidence of this longing for those who have died prematurely, whether they be friends, family members, or lovers. The focus on individuals then does not tell the whole story, as miraculous technologies may be needed to fully resurrect the dead so that we can live out our digital lives in bliss rather than in misery. Digital heaven, even for the transhumanist, is not heaven if it comes in solitude. But we must be careful since these recreations are not true resurrections in the religious sense.

In Federov's view, it is our duty to our ancestors to eventually resurrect all the people who have ever lived. But a difficulty with a technologically facilitated version of

this scenario is that even if strong digital recreations were possible, we cannot be sure that all digital life will be made as such. If it is a part of my own personal digital paradise to live with not digital recreations, but rather my idealized, tinkered version of digital people, then I might create mimetic digital recreations to serve my own liking. It is a relational future that may not be total, especially when situated outside of a Christian ethos, as it was for Fedorov. This ethical drive may be a unique part of the Christian transhumanist eschatology in which technology is specifically used as the means by which resurrection and the regeneration of the cosmos might occur.

The distinction between premillennial and postmillennial Christian eschatology is framed between a future in which humanity can usher in the millennium on their own and another in which humanity is powerless to make progress. While there are both positive and negative scenarios within transhumanism, these scenarios are dependent upon humanity's collective ability to make technological progress and to avoid the negative consequences of that technological progress. As is true of nuclear weaponry, it may be the case that the development of certain kinds of technologies make humanity less likely to survive. The outcome of AI research is the main area of concern for transhumanists since it may either catapult our technological progress farther ahead or lead us into an unwanted future. The question for transhumanists is not only whether we can navigate our current existential threats, such as the potential for nuclear war and climate change, but also whether we can navigate future existential threats that might come about through future technological innovation, perhaps through weapons more dangerous than nuclear ones or some other unforeseeable threat that is on the horizon.

As discussed in Chapter 5, the eschatological framing lends itself to our interpretation of the essential status of history. For transhumanists such as Ted Chu, the entire history of the cosmos can be seen as a story of the evolution of increasingly complex consciousnesses, among which humanity is but one small part. The development of AI can be seen as continuous with this development of consciousness. This cosmic story is one in which the singularity is the most significant form of development of this kind, in which it is humans that first develop AI, a consciousness more complex than their own. Then it is thought that the AI will in turn develop yet more advanced consciousnesses in the form of more complex AI. This process continues until a singularity is reached, a point beyond human understanding. But the singularity itself is not the end of history. It is only the point beyond which relevant predictions can no longer be made. For future humans to live in this future, they must have the capacity for evolutionary change. But today's people can only be changed so much. We still possess limitations of form and capacity. To become like AI, which are imagined as the next step, would be a step towards the kind of posthumanity that may have the potential to live into the far future. For while AI may enable the kind of changes that transhumanists hope will be possible, at the same time they may exert pressure to change, meaning that not all changes will be possible or desirable. However, in escaping to a digital space, in which one may be insulated from the evolutionary pressures of the world, the transhumanist may be able to become the apex of a digital space, even if they are unable to operate as efficiently as whatever beings that they hope will come from the singularity.

As Moltmann understands, the probability of interpreting history through the lens of evolution is that it frames the dead as the losers in the evolutionary process. This means that the transhumanists themselves are at risk of becoming these losers if they should die before the period of takeoff happens for life-extension research, a period in which the technological developments would begin to feed into one another, allowing one hypothetically to take advantage of all of them. But the duty to ancestors, as expressed by Fedorov, appears to be at odds with this interpretation with the victims of the past being merely evolutionary steppingstones. Within the context of the Christian story, in which the death of Christ is the story of the ultimate injustice, Christ is reduced to yet another of evolutionary history's victims. The resurrection of Christ is meant to represent the triumph of the victims of history over the injustice of their circumstances and the sin those who committed those acts. *Christus evolutor*, the Christ of evolution as conceived by Teilhard, is the triumphant Christ who stands at the apex of evolution rather than the Christ who stands with history's victims.

While Teilhard interprets evolutionary history as essentially directional, in a similar way Chu sees evolutionary history as the development of more complex consciousnesses, Moltmann worries about the reversals that may happen at any moment within history. He does not see it as essentially progressive but worries that our efforts at technological improvement may undercut themselves because of the flaws inherent within human nature. These flaws are significant enough that we may not be able to make the kind of progress that transhumanists envision.

The final question is about whether transhumanists are able to change human nature fundamentally in such a way that humanity goes from being unable to make essential progress in the future to being able to make such progress. In other words, are transhumanists able to change humans so that they can no longer sin, thus removing the most significant impediment to positive change? The moral status of human beings, the possibility of moral enhancement, and the moral status of posthumans all stand as questions regarding whether humans will inevitably poison the fruits of their labor. The robustness of wisdom traditions, such as Christianity, may be an aid to transhumanists hoping to examine the broad complexity of the problems of human nature.

III.   Evaluating the Transhumanist Scenario

This dissertation has shown how talk of life extension within transhumanism can slip from a discussion of radical life-extension to one of immortality. It has shown how many of the core ideas within transhumanism have extraordinary religious resonance, despite its starting point in atheistic materialism. While certainly optimistic, transhumanists also recognize the uncertainty of our current world. Take, for example, COVID-19, which shut down the world for over two years and continues to dominate present day concerns. Or international conflicts, especially impending conflict over Taiwan that produces most of the world's microchips. Such conflict may be detrimental to any straightforward sense of technological progress.

This sense of uncertainty is what provides the impulse for the transhumanist mission to persuade all of humanity to work together in order to bring about the technologies necessary to facilitate our collective transition to posthumanity. The social

ethics of transhumanists forces them to cooperate with others, including religious people,

because the stability of society is a necessary precondition for technological progress to

occur. However, a significant challenge to transhumanists is that their means of societal

and personal transformation are inherently technological rather than political or

economic. This may mean that they will remain at odds with other groups that see

technological advancements as detriments rather than boons to human progress. While

the end of transhumanism's goals is personal, the means are no doubt collective.

Not only that, but there remains much room for skepticism in the larger trend of

transhumanist thought towards digitality. The plausibility of the digital afterlife hinges

entirely on acceptance of patternist anthropology, in which a digital recreation can be

seen as a meaningfully accurate representation of the original person. While the stability

of the world would remain important for a digitally focused humanity, digitality is still a

step away from, rather than toward, ultimate concern for the world, even if there remains

a pragmatic concern regarding whether the resources and energy of the world can

continue to be consumed given posthumanity's hardware needs. In addition, if Tipler is to

be believed that our experiences and consciousness will be stretched, then it would stand

to reason that the only meaningful experiences that a person could have would need to

occur within digital space. The speed of the digital will take precedence, so long as the

physical hardware itself can be preserved. This is not unity with the world, but a retreat

from it. Relationships will continue to remain difficult, which may itself lead others to

prefer the company of digital creation, programmable persons, over the actual company

of their human loved ones. If these creations can be made sufficiently convincing, then

this will be the ultimate imitation of community, though not with the people that those creations represent.

As Peters suggests, we can agree with transhumanists to an extent, but we must recognize the kinds of stories that they have told, especially regarding the necessity of some technological change. But the anthropological story, if wrong, may lead us to conclude that the flaws of human nature, whether we call them sin or something else, will continue even into the future. Some of them may even be exaggerated through digital existence, if such a thing were possible. But life with God means becoming our best possible self from a moral and spiritual standpoint, not merely the most competitive from an evolutionary standpoint. Instead, it places its emphasis on survival. Should I do everything that I can to survive, even if it changes who I am? How might my survival affect others? But survival is defined here as the persistence of the personal legacy of the mind, in which successive digital lives are ultimately what constitutes immortality of the mind. And given what we might assume of our future human nature, it would seem unlikely that sin and injustice could ever be completely eradicated, potentially leading to something lacking in what we hope will be a digital paradise.

The evolutionary framing of transhumanism makes survival nearly ultimate. But what survival means if one lives until the end of the cosmos is that one has overcome all the evolutionary pressures up until that point, standing above and beyond them. If evolution is understood as giving a *direction*, then those who survived to the end survive as ultimate (and final) beings. Without such a direction, it may be worth considering

whether the evolutionary struggle would continue. It is then possible that humanity, and by extension posthumanity, never arrive at that final point of rest and release.

But thinking this way leads us back into Moltmann's fundamental critique of embracing evolution, which concerns the moral status of those that have been left behind by progress. As Moltmann suggests, Jesus Christ himself would be one of evolution's many victims. But it also stands to reason that Christ, in becoming human, would be utterly unlike the posthumans of the far future. The impact of Christ would be divorced from such posthumans, irrelevant to them and to their concerns. But such a standpoint also looks down upon the past and gives us no framework for understanding or evaluating injustice. Survival alone may unintentionally lend itself into a 'survival of the fittest' mentality, or rather, a 'superiority of the survivors' mentality, in accordance with evolutionary thinking. In the same vein, as Hava Tirosh-Samuelson suggests,[21] it involves a kind of antipathy towards what we currently are. Would these posthumans look down on their former biological selves? More so, would these successive lives perhaps contain elements of the same disdain, with each version being superior to the previous one? Transhumanists may also use the necessity of technological progress as a reason to subordinate other kinds of concerns. In this way, they may be the most susceptible to a form of utilitarianism that subordinates all present injustices for the sake of what they assume to be ultimate goods. The potential for the future to act as a justification for present suffering is something that must be avoided.

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[21] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon* 47, no. 4 (2012): 728.

The demand and necessity of change also has another problem. Since there is no final endpoint, change may continue in perpetuity since one may wonder what *else* one could be, so long as change is possible. This is not a future, even like Teilhard's, in which a final endpoint is reached. The singularity is not the end for transhumanists. It is merely the point beyond which we have no reference. For that reason, there is no finality and therefore rest. The framework of struggle remains one until the very end. That is, unless the digital devolves more into fantasy and wish fulfillment than it does into a framework for evolutionary progress and growth. It is my contention that this digital future will remain one of evolutionary struggle or one of indulgence, though perhaps a mix of both. It may still leave us wondering what else it might be. Transhumanism raises the question of what it is that we want from our future and where the hope of religion truly lies.

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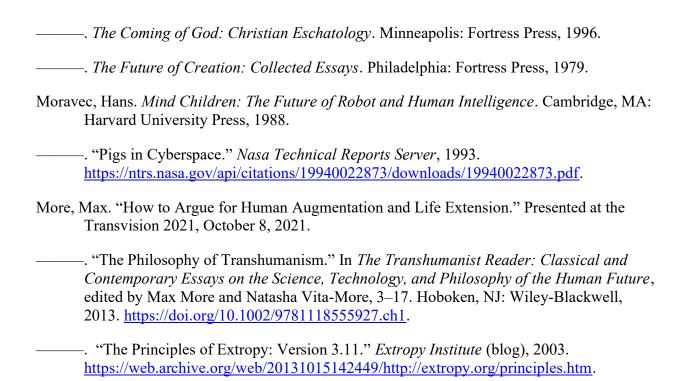
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