

The Daring and Disappointing Dreams of Transhumanism's Secular Eschatology

MICHAEL BAGGOT, L.C.
Pontifical Athenaeum Regina Apostolorum
Rome, Italy
Catholic Institute of Technology
Castel Gandolfo, Italy

Introduction

Although it is a largely secular movement, contemporary transhumanism borrows heavily from both Christian orthodoxy and heresies to construct a vision for human happiness. This article traces the roots of transhumanism's soteriology and eschatology and then examines the underlying anthropological problems that drive the hoped-for salvation through digital immortality. Unfortunately, the admirable desire to extend life sacrifices an appreciation for the integral harmony of the human person's animal and spiritual dimensions. Since human actions manifest the person's intrinsic corporeality, attempts to detach the human personality from the body through digitalization would produce replicas of the dead without achieving true immortality. The surprising quasi-religious thrust of contemporary transhumanism's secular eschatology presents an opportunity to rediscover the Catholic patrimony's reflection on authentic divinization through the transhumanizing effects of divine grace. The article thus concludes with a Thomistic theosis-centered reorientation of secular transhumanism's eschatological aspirations for immanent immortality toward true human flourishing.

The Secular Eschatology of Contemporary Transhumanism

The leading transhumanist philosopher, Oxford University professor Nick Bostrom, thinks that his movement will provide real solutions to the perennial problems of humanity that traditional religions have tried and failed to address:

While not a religion, transhumanism might serve a few of the same functions that people have traditionally sought in religion. It offers a sense of direction and purpose and suggests a vision that humans can achieve something greater than our present condition. Unlike most religious believers, however, transhumanists seek to make their dreams come true in this world, by relying not on supernatural powers or divine intervention but on rational thinking and empiricism, through continued scientific, technological, economic, and human development.¹

Yet, for all its protests against antiquated creeds, secular transhumanism frequently tends toward quasi-religious expressions. For instance, Meghan O’Gieblyn finds striking parallels between the evangelical and transhumanist worldviews she has embraced and abandoned during her life.² Her writing explores her harrowing transition from Christian fundamentalism to transhumanism and her eventual disillusionment with the techno-movement. Bible school had taught her about the various epochs of salvation history and her position within the “dispensation of grace” that marked the final preparation for the longed-for “millennial kingdom.” As an adult, she spurned the false promises of organized religion and sought a more rational organization for her life. Later, a book recommendation plunged her into the thought of Google guru Ray Kurzweil and his narrative of evolutionary eras pointing toward an imminent “singularity” in which intelligent machines would emerge from an informational explosion. Such advanced robots would bring digital immortality through mind uploads and a nanotech new earth

¹ Nick Bostrom, *The Transhumanist FAQ: A General Introduction*, version 2.1 (World Transhumanist Association, 2003), section 5.3.

² See Meghan O’Gieblyn, “God in the Machine: My Strange Journey into Transhumanism,” *The Guardian*, April 18, 2017, theguardian.com/technology/2017/apr/18/god-in-the-machine-my-strange-journey-into-transhumanism. For a book-length treatment of the religious imagery in transhumanism, see Robert M. Geraci, *Apocalyptic AI: Visions of Heaven in Robotics, Artificial Intelligence, and Virtual Reality* (New York: Oxford University Press, 2010).

that would put Eden to shame. Through his projects, Kurzweil purports to continue the Enlightenment tradition of empirical science and rational rigor. Similarly, many transhumanists tend to follow their Enlightenment predecessors in chiding traditional religion for obscurantist opposition to scientific progress. Nonetheless, O'Gieblyn discovered that the very movement that pretends to supplant the superstitions of the old-time religion is itself "a secular outgrowth of Christian eschatology."³

The Christian-trained author could not help but detect familiar religious themes in the technocentric movement. Before it spread through the offices of Silicon Valley, the term "transhuman" first appeared in Henry Francis Carey's 1814 version of Dante's *Paradiso*, where the poet pilgrim recognizes that not even his own genius can describe the joy of risen life when he writes, "words may not tell of that transhuman change."⁴ Recent efforts to substitute supernatural resurrection with technological advancement find antecedents in the thirteenth-century friar Roger Bacon's quest for an elixir of life. Later, the nineteenth-century Russian Orthodox philosopher Nikolai Fedorov claims humans should use technology to control Darwin's unguided evolutionary process. Similarly, the twentieth-century Jesuit paleontologist Pierre Teilhard de Chardin predicted a global machine network that would merge consciousnesses worldwide and prompt the Omega Point of transphysical union with the divine.

The Eugenicist Julian Huxley strips such notions of their religious trappings to present a secular transhumanist project that will "overcome limitations...to arrive at fuller fruition."⁵ The extropians developed the secular project in the 1980s and prepared the way for Kurzweil's rise to mainstream success with his 2012 appointment as director of engineering at Google. The ersatz religious longings are focused on a moment of singularity in which "the merger of our biological thinking and existence with our technology" will allow a human state that "transcends our biological roots."⁶

O'Gieblyn's drift from the Christian faith proved to be a more devastating exodus than expected. She found it difficult to shake a sense of dread in a closed materialist world. Even her self-identity was challenged, as she admits that her "body had become strange to [her]; it seemed insubstantial."⁷ She had to cope with the realization that what she once considered a sacred

³ O'Gieblyn, "God in the Machine."

⁴ O'Gieblyn, "God in the Machine."

⁵ O'Gieblyn, "God in the Machine."

⁶ Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Viking, 2005), 9.

⁷ O'Gieblyn, "God in the Machine."

temple of the Holy Spirit was now a meaningless lump of meat caught up in an “unstoppable process of entropy” without purpose.⁸ During late-night commutes to the Jazz club, she would sometimes experience existential epiphanies which indicated that there was “no difference between your human flesh and the plastic seat of the train.”⁹

Transhumanism’s Terrestrial Paradise

Yet some transhumanists promise that this valley of tears will give way to a new heaven. For example, the World Transhumanist Association co-founder David Pearce looks forward to “a naturalistic, secular paradise of effectively everlasting happiness” that is “biotechnically feasible” and “can be achieved only by the profane application of science.”¹⁰ He promotes lofty dreams that privilege hedonistic pursuits through the nanotechnical or pharmacological stimulation of pleasure centers for deeper delights.¹¹

More frequent and sustained bodily stimulations, however, are not enough. The transhumanist paradise seeks to reduce or even eliminate the role of the human body with its manifold limitations.¹² As transhumanist James Hughes predicts, “nanoneural networks and psychopharmaceuticals will also allow us to modify and enhance sexual and emotional experience, to have orgasms as long and hard as we like,” ideally “without engaging our body or the bodies of other people.”¹³ Disembodiment would help overcome any form of physiological sexual dysfunction and the refractory periods of normal individuals. Independence from another person’s tired or diseased body grants the individual more autonomous control in seeking his self-realization. A fully virtual existence would remove the risks and disappointments entailed in experiencing pleasures as embodied beings.

A clear distinction between happiness and pleasure is needed to advance conversations with those transhumanists who conflate the two aspects of human experience. The former is “an inner condition of joy, of intimate rejoicing,” while the latter is “a bodily sensation of gratification we experience

⁸ O’Gieblyn, “God in the Machine.”

⁹ O’Gieblyn, “God in the Machine.”

¹⁰ David Pearce, *The Hedonistic Imperative* (1995), hedweb.com/hedethic/hedonist.htm; introduction quoted in Giacomo S. Lodovici, “Transumanesimo, Immortalità, Felicità,” *Etica & Politica* 20, no. 3 (2018): 520.

¹¹ See Lodovici, “Transumanesimo,” 519–21. Quotations from the article throughout this work are the present author’s translation.

¹² See Lodovici, “Transumanesimo,” 521–22.

¹³ James Hughes, “From Virtual Sex to No Sex?,” archive.ieet.org/articles/hughes20070228.html, quoted in Lodovici, “Transumanesimo,” 521.

when some bodily need is satisfied.”¹⁴ The one can be had without the other. For instance, the philosopher Giacomo Lodovici notes that a person can enjoy a Michelin star dinner, sip the most refined wines, or reach sexual orgasm without the interior state of joy. Conversely, the interior contentment of happiness might endure even when the painful inconveniences of life infringe upon our bodily pleasure. He also distinguishes between the absence of disturbances and the attainment of joy. Without meaningful relationships, intrinsically social beings are unable to reach fulfillment.

Unfortunately, the love central to such meaningful interpersonal relationships is often neglected in transhumanist thought. The bioethicist Wesley J. Smith speculates that the reductionist materialism of the movement accounts for transhumanism's disregard for love when he writes, “perhaps transhumanists have little interest in the human capacity to love because its full expression transcends carbon molecules and the firing of neurons.”¹⁵ When the movement narrows its focus to gratification, other essential dimensions of human flourishing are forgotten.

In turn, the neglect of loving relationships can lead to distressing isolation. The loneliness that follows such isolation often contributes to a lack of happiness even when other means of pleasure are readily available. Sociologist Mary Eberstadt notes that fear-mongering about future overpopulation, when combined with the spread of the contraception mentality, has led to a demographic winter that has aggravated the problem.¹⁶ She recalls that, in Japan, the situation is so dire that there is now a job market for those in need of work to search out corpses accumulated in apartments of those who have died without anyone's knowledge. Likewise, Eberstadt reports that many in Sweden who once rejoiced in the autonomy birth control brought its citizens are now wondering if having half of its inhabitants in a household of one has contributed to the country's happiness.

Deep communion with others is needed to overcome the plague of loneliness that affects even the materially affluent.¹⁷ In particular, benevolent

¹⁴ Lodovici, “Transumanesimo,” 527.

¹⁵ Wesley J. Smith, “What's Love Got to Do with Transhumanism?,” *First Things*, June 2017, firstthings.com/web-exclusives/2017/06/whats-love-got-to-do-with-transhumanism.

¹⁶ See Mary Eberstadt, “The Prophetic Power of *Humanae Vitae*,” *First Things* 29, no. 4 (2018), firstthings.com/article/2018/04/the-prophetic-power-of-humanae-vitae.

¹⁷ For an extended study of relationality and embodiment, see James F. Keenan, “Roman Catholic Christianity—Embodiment and Relationality: Roman Catholic Concerns About Transhumanist Proposals,” in *Transhumanism and the Body: The World Religions Speak*, ed. Calvin Mercer and Derek F. Maher (New York: Palgrave Macmillan, 2014), 155–71. Like Lodovici, Keenan emphasizes the intimate link between the human

love seeks the authentic good of the other and not just personal-preference satisfaction. This altruistic love directs the individual outside of his own interests, and thus paradoxically brings a personal fulfillment unachievable through the mere self-centeredness. Such love “can transfigure our actions and render them joyful” even when they entail physical sacrifices and challenges.¹⁸ The capacity to find meaning and fulfillment in the burdens of work when offered for one’s family’s livelihood is emblematic of the many ways in which the power of love can transform trials into sources of happiness.

Moreover, such pleasures inevitably decline over time. Activities that release large amounts of dopamine quickly through the brain’s reward pathway (the connection between the ventral tegmental area, the nucleus accumbens, and the prefrontal cortex) are prime candidates for addiction.¹⁹ However, ongoing use of the dopamine providers will not result in unending pleasures, since “pleasure and pain are processed in overlapping brain regions and work via an opponent-process mechanism.”²⁰ In other words, the brain tends to self-regulate to achieve the balance of homeostasis. Scientists have observed that a neuroadaptation occurs whereby repetition of a certain type of pleasure produces briefer and less intense experiences of pleasure over time.²¹ Similarly, the same sources of pleasure will begin to produce longer and more intense after-reactions of pain. When a person continually seeks a more intense emotional shock, he quickly encounters the limits to emotional pleasure. His highs alternate with increasingly painful lows as he continues to strive toward stronger stimulation. Hence, in the development of addictions, users acquire a tolerance to a substance in that they require an increasingly larger dose to experience the level of pleasure previously obtained from a smaller dose. Unsurprisingly, the experience of tolerance motivates the dependent user to find novel and more intense sources of pleasure to recover the same boost once achievable through more modest means.²² Once a person becomes accustomed to the pleasures of dopamine

person’s social nature and his flourishing. In the first footnote of his essay, Keenan thus defines relationality as “our fundamental need and inclination to find human fulfillment by entering into some forms of relationships with other persons, both interpersonally, as in friendship and kinship, and communally, as in social networks of neighborhood and workplace.” In particular, Keenan highlights that the human person’s capacity for relationships with others is experienced through his corporality.

¹⁸ Lodovici, “Transumanesimo,” 529.

¹⁹ See Anna Lembke, *Dopamine Nation: Finding Balance in the Age of Indulgence* (London: Headline, 2021), 49.

²⁰ Lembke, *Dopamine Nation*, 50.

²¹ See Lembke, *Dopamine Nation*, 53.

²² See Lembke, *Dopamine Nation*, 54.

release associated with substances or activities sought to relieve pain, it will become increasingly difficult to set aside such objects due to the dopamine deficit that will result.

The massive consumption of antidepressants and alarming rates of suicide in developed societies suggest how easily the unrestrained pursuit of sensible pleasures can deceive.²³ An exclusive focus on emotional stimulation thus ends in dissatisfaction. An unbalanced emphasis on emotional indulgence leads an individual to become a slave to his own status. Thus, while committed to personal autonomy, the transhumanist project of reliance upon pharmaceutical, chemical, and other forms of mental stimulation ironically leads to the infringement of the human exercise of liberty. Some transhumanists recognize the tension in their own school of thought. For instance, Pearce admits the following:

Pharmacological hedonism would turn us all into junkies. . . . We would lose all personal freedom. . . . This condition might seem almost definitive of addiction. Yet, on a utilitarian metric, . . . if such marvelous states are reliably and universally accessible, then seeking to achieve and maximize them is straightforwardly the right course to take.²⁴

In the pursuit of freedom from the limits of the body, the individual risks profound bondage to his whims.

Finding Meaning in the Transhumanist Paradise

Although it promises pleasure, the transhumanist worldview has difficulty delivering on purpose. The influence of the postmodern suspicion of metanarratives has left transhumanist thinkers hesitant to commit to firm convictions about questions of life's meaning that often implicitly underlie specific enhancement projects.²⁵ Exaltations of autonomy and personal desires fail to guide the use of technology toward constructive rather than destructive ends. Without a clear *telos*, it is impossible to judge well the meaning of any putative progress.

As Hughes explains, "the most common transhumanist cosmology is

²³ See Lodovici, "Transumanesimo," 529–30.

²⁴ Pearce, Hedonistic Imperative, section 4.10; quoted in Lodovici, "Transumanesimo," 531.

²⁵ See Michael Burdett and Victoria Lorrimar, "Creatures Bound for Glory: Biotechnological Enhancement and Visions of Human Flourishing," *Studies in Christian Ethics* 32, no. 2 (2019): 2–3.

that the universe is impersonal and purposeless. The emergence of intelligence is a chance occurrence, with no inevitability or pre-ordained end.”²⁶ Similarly, Pearce argues that widespread genetic defects reflect the absence of any intelligent God in a cruel and chaotic universe.²⁷ The wayward movement is “undergirded by a view of the cosmos without a goal” except those ends invented by its adherents.²⁸ Given Pearce’s own admission that neurochemical reactions carry no objective value, it is difficult to see how an anthropology that reduces the human being to his neurological states could ground life’s purpose in any objective criteria for distinguishing good acts from evil ones or praiseworthy behavior from condemnable behavior.²⁹ The very foundation of society’s legal and criminal system seems to collapse in the neurological reductionism that undergirds transhumanist hedonism. Only external force is left as a limit to each individual’s pursuit of personal preferences of pleasures in such a vision. Without God as the divine author of the universe, the drama of human life has no story it should follow. Each human author weaves a tale subject to constant revision and with no firm hope of arriving at a happy ending. The cosmic orphan is left to set aside the restraints of religion to embrace perfection through his own efforts.

Kurzweil tries to evade despair through his vision of “patternism” according to which our identities are patterns of matter and energy that can be mapped and then reassembled on different platforms, whether on biological clones or nonbiological robots.³⁰ Alternatively, Bostrom takes some solace in knowing that we might be part of a simulation run by benevolent, god-like posthumans who could resurrect or upgrade us to superior states of ongoing life.³¹

However, such a *Matrix*-like narrative of our illusory existence and cybernetic future seems to require more faith than the Christian vision of salvation

²⁶ James Hughes, “The Compatibility of Religious and Transhumanist Views of Metaphysics, Suffering, Virtue and Transcendence in an Enhanced Future,” *Global Spiral* 8, no. 2 (2007), quoted in Ronald Cole-Turner, “Technology and Eschatology,” *Metanexus*, September 1, 2011, metanexus.net/technology-and-eschatology/.

²⁷ See David Pearce, “Interview with Nick Bostrom and David Pearce,” *Cronopis*, December 2007, hedweb.com/transhumanism/.

²⁸ Cole-Turner, “Technology and Eschatology.”

²⁹ Pearce, *Hedonistic Imperative*, section 4.9.

³⁰ See Kurzweil, *Singularity*, 382–286. See also Thomas Fuchs, *In Defense of the Human Being: Foundational Questions of an Embodied Anthropology* (New York: Oxford University Press, 2021), 3–6, 13–16, 24–28, for a critical look at the cultural shift toward reducing the person to information.

³¹ See Nick Bostrom, “The Simulation Argument: Some Explanations,” *Analysis* 69, no. 3 (2009): 458–61.

history. O'Gieblyn confesses that her "elemental hope that the tumult of the world was authored and intentional" and that her "broken body would be restored" found expression in a movement that, for all its techno-jargon, lacked evidential justification for its wild dreams.³² With the melancholy sorrow of her second de-conversion, she acknowledges, "I had disavowed Christianity, and yet I had spent the past 10 years hopelessly trying to re-create its visions by dreaming about our postbiological future—a modern pantomime of redemption."³³ O'Gieblyn suspects that her temporary flirtation with transhumanism may have resulted from her desire to embrace the attractive promise of transcendent transformation under the thin veneer of scientific language. Transhumanism appears to offer an account of the world that is more respectable to the modern age's sensibilities than traditional religion. Yet ironically, the ostensibly scientific system demands more faith in its unfulfilled promises than the ancient religion required. Transhumanism vainly attempts to offer through science the transcendent hope in the very redemption that science's advances have rendered obsolete.

Transhumanism's intriguing wavering between atheistic nihilism and quasi-religious eschatology has prompted the philosopher Michael Burdett to classify the movement as a kind of atheism 3.0 bent on salvaging a sense of shared destiny in a world where belief in God is apparently unreasonable.³⁴

First-wave modern atheists like Ludwig Feuerbach, Karl Marx, and Friedrich Nietzsche critiqued traditional religions as harmful human inventions. The "new atheists" of the early 2000s continued this militant opposition to religious traditions. For these atheists, religious believers are not just wrong; they are dangerous. Faith provides a cover for groundless assertions that countenance fanatical behavior. Moreover, the authoritarian restrictions of religious codes frustrate human well-being. Believers should be refuted and roundly mocked lest they infect future generations with their anti-humanism.

While the first wave of contemporary atheism was seen as a necessary rejection of false ideas and unhealthy lifestyles, the abolition of religion

³² O'Gieblyn, "God in the Machine."

³³ O'Gieblyn, "God in the Machine."

³⁴ See Michael Burdett, "Atheism 3.0? Alain De Botton's 'School of Life' and Transhumanism," *Marginalia*, October 24, 2013, themarginaliareview.com/atheism-3-0-alain-de-bottons-school-of-life-and-transhumanism/. For a more extensive treatment of transhumanism as atheism 3.0, see Michael Baggot, "A Thomistic Assessment of Contemporary Transhumanism as a Postmodern, Secular, Liberal Movement," in *Enhancement Fit for Humanity: Perspectives on Emerging Technologies*, ed. Michael Baggot et al. (New York: Routledge, 2022), 134–36.

seemed to leave a gap in guidance for how to live together as a community. Then, a form of atheism 2.0 pioneered by Alain de Botton arrived to rescue the positive aspects of religion's formative power.³⁵ Atheistic church-like museums and secular sermons could give clear lessons on how to live a satisfying daily life apart from God.

However, the life hacks, home-spun wisdom, and art displays of secular ideals were not quite enough to substitute for the worldview-shaping function of the ancient faiths. The new new atheism still lacked a grand story worth embracing and working toward. Transhumanism thus emerges as an atheism 3.0 that tells a tale of evolutionary origins and a future of transformation. Along the way, the heroes of science valiantly struggle to redirect human evolution through the awe-inspiring technology that will fight off the risks of the global catastrophe that weapons of mass destruction and unchecked climate change threaten. With determination, our ancient foes of sickness, suffering, aging, and death will finally be vanquished. To motivate its followers still trapped in weak sacks of bodily flesh, transhumanist art portrays the glorified posthuman in ethereal rays of light in a fashion not unlike traditional depictions of the Christian transfiguration.³⁶

As a quasi-religious atheism 3.0, contemporary transhumanism not only offers a secular reinterpretation of orthodox Christianity, but also revives and updates old theological heresies to advance its new project. Protestant theologian Brent Waters argues that transhumanism particularly revives two influential early Church heresies.³⁷ First, its radical anthropological dualism harkens back to the Manichean disdain for the body as an obstacle to fulfillment. Waters insists that the warring eschatological visions of Christianity and transhumanism not only raise theoretical questions but also prompt serious ethical considerations. The bare atomized self is left untethered from the mutual dependence and relational responsibilities of vulnerability that arise naturally from our finite embodiment.³⁸ The body is treated as an extrinsic tool of the person, and a weak one at that. It ought to be brought into submission to the individual self-will and drastically altered

³⁵ See Alain de Botton, *Religion for Atheists: A Non-Believer's Guide to the Uses of Religion* (London: Hamish Hamilton, 2012).

³⁶ See Burdett, "Atheism 3.0?"

³⁷ See 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, DC: Georgetown University Press, 2011), 163–76.

³⁸ See O. Carter Snead, *What It Means to Be Human: The Case for the Body in Public Bioethics* (Cambridge, MA: Harvard University Press, 2020), 3–6.

when biotechnological opportunities present themselves. Moreover, a society convinced of the transhuman vision will be disinclined to value the dignity of the human person's corporeality, the meaning of his human sexuality as an expression of interpersonal love, and the procreation of children as the supreme gifts of such love. Doctors will be open to performing mutilating surgeries if they support the life project of the patient.³⁹

Second, the constant striving for perfection through human self-improvement apart from God recalls the Pelagian neglect of humanity's need for grace to overcome sin and grow in virtue. Such neo-Pelagianism fosters a eugenic impulse wherein individuals conscientiously take up their responsibility for humanity's steady improvement. Those who lack the physical and mental characteristics transhumanists prize are treated as burdens. Those who have little prospect of benefiting from the available technological aids become obstacles to a better earth. Waters explains the connection between a theoretical neo-Pelagianism and an ethical neo-eugenics as follows:

Alarming, Pelagians of every age often appeal to medical rhetoric to achieve the perfection they envision. Is it not a concern for public hygiene that inspires eugenic programs to sanitize the race and to inhibit the birth of those who would infect it? If the posthuman exemplifies the triumph of the will, then there is an accompanying and inescapable logic of the necessity of eliminating or preventing that which is judged to stand in the way of its final and perfect culmination.⁴⁰

In a vision in which universal human dignity is the holdover from outdated religious traditions, the physically and mentally disadvantaged will be removed for the good of a manmade, technocentric salvation. Sloppy and unpredictable conventional sexual reproduction will give way to more rationally controllable methods of in vitro fertilization and embryo selection to craft the next generation of children with a better chance of having better characteristics, and hence a better life.⁴¹ The sacrifice of hosts of inferior

³⁹ See Waters, "Whose Salvation?," 171.

⁴⁰ Waters, "Whose Salvation?," 171.

⁴¹ See Henry T. Greely, "Human Reproduction in the Twenty-First Century," *Journal of Posthuman Studies* 1, no. 2 (2017): 205–23; Greely, *The End of Sex and the Future of Human Reproduction* (Cambridge, MA: Harvard University Press, 2016); Julian Savulescu, "In Defence of Procreative Beneficence," *Journal of Medical Ethics* 33, no. 5 (2007): 284–88.

embryos is considered an acceptable price to pay for the increased possibility of a fitter, happier generation.

Perfect bliss might still be out of reach, but maybe, just maybe, our fitter, smarter, kinder curated children will discover how to finally live forever. The secular transhumanist movement thus lives with the hopeful expectation of the yet-unseen singularity of human-machine blending.⁴² Ultimately, digital immortality will bring definitive liberation from the plight of the body and the future glorification that comes with the advent of the posthuman.⁴³ The project for an earthly paradise through progressive disembodiment requires of the movement's adherents the "ultimate leap of faith."⁴⁴ Yet as the bioethicist Paschal Corby notes, "even if many of its imaginative prospects do not eventuate, it demands a response here-and-now, for our hopes and aspirations define who we are."⁴⁵ Such posthuman goals are shaping the hopes of many for the future, and thus guiding the use of large sums of money and energy. No matter how fantastic the ideas may seem, they need to be addressed with philosophical rigor to prevent disappointing dreams from creating real-life nightmares.

A Philosophical Assessment of the Transhumanist Digital Immortality Project

Toward a Thomistic Assessment of Lifespan-Extension Enhancements

A lively debate continues to rage between transhumanists and others interested in lifespan extension regarding enhancement technology's proper role.⁴⁶ Proponents of lifespan-extension enhancements look to build upon

⁴² See Kurzweil, *Singularity*.

⁴³ See Mikael Leidenhag, "Saved through Technology: Exploring the Soteriology and Eschatology of Transhumanism," *Religion Compass* 14, no. 11 (2020): 7.

⁴⁴ Burdett, "Atheism 3.0?"

⁴⁵ Paschal M. Corby, *The Hope and Despair of Human Bioenhancement: A Virtual Dialogue Between the Oxford Transhumanists and Joseph Ratzinger* (Eugene, OR: Pickwick, 2019), xii.

⁴⁶ Dan Ehninger, Frauke Neff, and Kan Xie, "Longevity, Aging and Rapamycin," *Cellular and Molecular Life Sciences* 71, no. 22 (2014): 4325–46; Gilbert Meilaender, *Should We Live Forever: The Ethical Ambiguities of Aging* (Grand Rapids, MI: Eerdmans, 2013); Patrick D. Hopkins, "Why Uploading Will Not Work, or the Ghosts Haunting Transhumanism," *International Journal of Machine Consciousness* 4, no. 1 (2012): 229–43; Almut Nebel and Thomas C. G. Bosch, "Evolution of Human Longevity: Lessons from Hydra," *Aging* 4, no. 11 (2012): 730–31; Nathaniel Rich, "Can a Jellyfish Unlock the Secret of Immortality?," *The New York Times Magazine*, November 28, 2012, nytimes.com/2012/12/02/magazine/can-a-jellyfish-unlock-the-secret-of-immortality.html; Gregory M. Fahy et al., eds., *The Future of Aging: Pathways to Human Life Extension*

previous centuries' accomplishments that have already significantly increased the average age.⁴⁷ The last century's medical and technological developments have reduced infant mortality cases, improved the prevention or treatment of formally fatal ailments, and offered crucial cardiovascular treatments to manage common health complications of later life. Moreover, the general progress in wealth production has expanded access to education, nutrition, and medicine. Thus, many in society have been protected from diseases or injuries that would have ended their ancestors' lives. Transhumanists hope to push these laudable past developments further, even to the point of earthly immortality. Their hopes for such immortality are placed in dramatically enhancing the body's immunity against disease and in eliminating the aging process.

Current efforts to slow and eventually dispense with the aging process are still in their initial experimental phases.⁴⁸ While the prospect of their success is thus still hard to determine, several promising paths to age extension are already under investigation. For example, caloric restriction has been shown to extend lifespans in mice, fish, and other creatures, and might contribute to slowing human aging. Hormonal treatments focusing on testosterone and estrogen increases could maintain muscle mass, and thus offset some of the conditions that result from the usual decline in muscle throughout life. Also, the development of agents against oxygen free radicals might decrease

(Dordrecht: Springer, 2010); Ray Kurzweil and Terry Grossman, "Bridges to Life," in Fahy et al., *Future of Aging*, 3–22; Elisabeth Hildt, "Living Longer: Age Retardation and Autonomy," *Medicine, Health Care and Philosophy* 12, no. 2 (2009): 179–85; Janko Nikolic-Zugich and Ilhem Messaoudi, "Mice and Flies and Monkeys Too: Caloric Restriction Rejuvenates the Aging Immune System of Non-Human Primates," *Experimental Gerontology* 40, no. 11 (2005): 884–93. See also a number of pieces in *Enhancing Human Capacities*, ed. Julian Savulescu, Ruud ter Meulen, and Guy Kahane (Chichester, UK: Wiley-Blackwell, 2011): Gaia Barazzetti, "Looking for the Fountain of Youth" (333–49); Barazzetti and Massimo Reichlin, "Life Extension and Personal Identity" (398–409); John Bond, "Enhancing Human Aging" (435–52); Christine Overall, "Lifespan Extension" (386–97); Larry Temkin, "Is Living Longer Living Better?" (350–667). On the particular contribution of Russian thinkers to developments in earthly immortality projects, see Anya Bernstein, *The Future of Immortality: Remaking Life and Death in Contemporary Russia* (Princeton, NJ: Princeton University Press, 2019). For a summary of critiques of immortality through biotechnical enhancement, see Nelson R. Kellogg, "Cybernetic Immortality and Its Discontents," *Theology and Science* 13, no. 2 (2015): 162–74.

⁴⁷ See Corby, *Hope and Despair*, 59–61, for a summary of the past accomplishments of medical science in lifespan extension.

⁴⁸ See Corby, *Hope and Despair*, 61–63, for a summary of the scientific literature on potential paths to lifespan extension.

the cell and tissue deterioration associated with such oxygen molecules. The metformin drug currently used to treat diabetes might also prove beneficial in slowing aging. Other researchers are attempting to activate the enzyme telomerase to hinder the telomere breakdown linked to aging. Others speculate that the transfer of DNA to humans from long-living creatures like hydras or certain jellyfish might lengthen human life.

Objections to lifespan-extension enhancement tend to focus either on the infeasibility of achieving such goals or on the undesirability of actually achieving radical life extension.⁴⁹ The judgment on the feasibility of many approaches must await further testing. Thus, the secular transhumanist and Thomist alike may view such projects with cautious optimism. Many Thomists come from a larger Catholic tradition that is deeply concerned with the good earthly biological life and supports a complex hospital system committed to employing all the advances of technology to save and preserve human life. Thus, Thomists would not fit into the “deathist” label that is sometimes used by the transhumanists against bioconservative critics of lifespan extension.⁵⁰ Thomists welcome the many elements of medical progress of the past that have extended today’s lifespan and likewise support tomorrow’s developments that could bring about even longer lengths of life. However, Thomists would warn against substituting earthly immortality for transcendent bliss.

*A Philosophical Critique of the Anthropological Dualism That Drives
Misguided Hopes in Digital Immortality*

While many promising paths to life extension merit further research, a problematic anthropological dualism undergirds the transhumanist’s hope in an earthly paradise of disembodied liberty through digital immortality.⁵¹

⁴⁹ See Corby, *Hope and Despair*, 64–65; see also 258–84 for the author’s theological reflections on the differences between the Christian and the secular transhumanist eschatological visions.

⁵⁰ See Nick Bostrom, “The Fable of the Dragon Tyrant,” *Journal of Medical Ethics* 31, no. 5 (2005): 273–77, for an allegorical attack against bioconservative resistance to lifespan extension: “‘Deathist’ stories and ideologies, which counsel passive acceptance, are no longer harmless sources of consolation. They are reckless and dangerous barriers to urgently needed action” (276).

⁵¹ See Liz S. Swan and Joshua Howard, “Digital Immortality: Self or 0010110?,” *International Journal of Machine Consciousness* 4, no. 1 (2012): 250–51. See also Alfredo Marcos and Moisés Pérez Marcos, “Caverna 2.0: Las raíces dualistas del transhumanismo,” *Scientia et Fides* 7, no. 2 (2019): 23–40.

Widespread neglect of human animality misunderstands the body as an extrinsic instrument of a detached consciousness.⁵²

One of the proposed transhumanist paths to immortality, whole brain emulation, can be viewed as an advanced version of the old teletransportation project to transfer psychological states.⁵³ According to Bostrom, "the basic idea is to take a particular brain, scan its structure in detail, and construct a software model of it that is so faithful to the original that, when run on appropriate hardware, it will behave in essentially the same way as the original brain."⁵⁴ Such a vision implies a naturalism according to which one's mental life is ultimately reducible to a set of physical processes, namely, the interaction of neurons.⁵⁵

However, the pretense of preserving human identity through the information of the psychological consciousness is unable to overcome the duplication objection.⁵⁶ Once the beliefs, memory, character information,

⁵² See Patrick Lee and Robert P. George, *Body-Self Dualism in Contemporary Ethics and Politics* (New York: Cambridge University Press, 2008), 4–21. The philosophers summarize their argument in favor of the human person's intrinsic animality on 4:

1. Sensing is a living, bodily act, that is, an essentially bodily action performed by a living being.
2. Therefore the agent that performs the act of sensing is a bodily entity, an animal.
3. But in human beings, it is the same agent that performs the act of sensing and that performs the act of understanding, including conceptual self-awareness.
4. Therefore, in human beings, the agent that performs the act of understanding (including conceptual self-awareness, what everyone refers to as "I") is a bodily entity, not a spiritual entity making use of the body as an extrinsic instrument.

⁵³ For a particularly influential reflection on brain-state transfer, see Derek Parfit, *Reasons and Persons* (Oxford: Oxford University Press, 1984), 199–280. On the relevance of Parfit's teletransporter thought experiment on transhumanist mind-uploading proposals, see Swan and Howard, "Digital Immortality," 246–50.

⁵⁴ Nick Bostrom and Anders Sandberg, *Whole Brain Emulation: A Roadmap*, Technical Report # 2008-3 (Oxford: Future of Humanity Institute, 2008), 7, <https://www.fhi.ox.ac.uk/brain-emulation-roadmap-report.pdf>. For a subsequent reflection on the theme, see Sandberg, "Feasibility of Whole Brain Emulation," in *Philosophy and Theory of Artificial Intelligence*, ed. Vincent C. Müller (Heidelberg: Springer, 2013).

⁵⁵ For an extended analysis of different forms of mind-body dualism, see James D. Madden, *Mind, Matter & Nature: A Thomistic Proposal for the Philosophy of Mind* (Washington, DC: Catholic University of America Press, 2013), 19–87. Madden is careful to distinguish naturalism from materialism (the reduction of all reality to material beings). While the majority of naturalists are materialists, some forms of naturalism admit the existence of nonmaterial realities (such as mental states). However, such nonmaterial realities are ultimately always explicable in terms of exclusively physical causes and processes according to the naturalists (5–6).

⁵⁶ See Calvin Mercer and Ron Cole-Turner, *Religion and the Technological Future: An*

and intentions of subject A are stored, A's psychological state can be moved to various distinct bodies (B and C). If personal identity is reducible to the stored psychological states, then B and C are both the same persons as person A. However, as B and C continue to live their lives after the teletransport process that gave them the information of A, each will acquire distinct beliefs, memories, characters, and intentions that would distinguish B and C. Yet, since both B and C are identical to A, they must also be identical to each other. Supposed identical copies would each develop unique sets of memories, desires, intentions, and traits that would distinguish them as distinct individuals according to the psychological identity theory.⁵⁷ The teletransportation project thus leads to an insuperable contradiction.

In transporting a physical brain or the data gathered from neuronal information (assuming such a procedure is possible), one might convincingly replicate an individual without preserving him in existence. As John Searle has noted, a perfect scientific simulation of the various elements of the photosynthesis process will not actually produce the real sugar found in plants.⁵⁸ In a similar way, the simulation of the material elements involved in human consciousness does not guarantee that such a simulation will successfully function in the ways that humans do. Such transfers produce qualitatively similar copies but fail to maintain a numerically identical personal identity.⁵⁹ The process would offer an intriguing historical compilation of data related to the thoughts and feelings of the departed human without preserving the person himself.⁶⁰

Moreover, the psychological-continuity view of personhood that underlies proposals for immortality through teletransportation entails a rejection of the very notion of the enduring subject in favor of perduring individuals.⁶¹ In other words, the person is no longer a substance that exists fully throughout a process of change. Instead, in the perdurantism view, persons "are extended in time; . . . they are like baseball games or concrete songs,

Introduction to Biohacking, Artificial Intelligence, and Transhumanism (Cham, Switzerland: Palgrave Macmillan, 2021), 172; Fuchs, *Defense*, 73.

⁵⁷ See Mercer and Cole-Turner, *Religion*, 173.

⁵⁸ See Massimo Pigliucci, "Mind Uploading: A Philosophical Counter-Analysis," in *Intelligence Unbound: The Future of Uploaded and Machine Minds*, ed. Russell Blackford and Damien Broderick (Malden, MA: Wiley-Blackwell, 2014), 123.

⁵⁹ See Lee and George, *Body-Self Dualism*, 37.

⁶⁰ See Gualtiero Piccinini, "The Myth of Mind Uploading," in *The Mind-Technology Problem: Investigating Minds, Selves and 21st Century Artefacts*, ed. Robert Clowes, Klaus Gärtner, and Inês Hipólito (Cham, Switzerland: Springer, 2021), 140–42; Mercer and Cole-Turner, *Religion*, 164.

⁶¹ See Lee and George, *Body-Self Dualism*, 27–34.

where an extension in time is part of what they are.”⁶² Patrick Lee and Robert George analyze the example of a traumatic brain injury to illustrate their point. If person X survived a car accident but lost the memories, beliefs, inclinations, and other psychological traits that characterized him, the psychological-continuity view would seem to entail that the “I” of the pre-accident X is not identical to the “I” of the post-accident X. It seems that the advocate of psychological continuity is forced to abandon the notion of an enduring “I” entity in favor of perdurantism, according to which “I” refers to a *series of events* (suitably connected in some psychological way) or to a ‘person-stage’ of the whole series suitably connected.”⁶³ Yet common sense suggests that there is some ground for continuity between the victim who did not die during the traumatic wreck. Lee and George clarify that “genuine survival or persistence of a rational animal across time requires *numerical identity of the psychophysical substance*, not just some degree of psychological continuity together with some degree of biological continuity.”⁶⁴ The hylo-morphic view of the human being’s body–soul union would not deny the distress that such trauma would cause loved ones. However, it would insist that personal identity cannot be reduced to the typical manifestations of the fundamental enduring identity. Thus, the characteristics that reductionists identify with personal identity might be severely impeded without destroying the substance that underlies and unites the manifestations over time.

The very notion of a perduring person that the psychological-continuity approach to personhood entails is fraught with two fundamental philosophical flaws. First, the perdurantism view is unable to account for the person’s temporal extent. If it is posited that the events of “person-stages” have no temporal extent, then no amount of person-stages throughout history could ever produce temporally extended series. There would then be no grounds for connecting the pre-accident X with the post-accident X. Contrary to all appearances, these two are two utterly unrelated beings called X. The first or a continuous X would only seem to have survived the accident. Moreover, there would be no grounds for connecting the various person-stages from before the accident. The person-stages conveniently lumped under person X would in fact be a set of discrete, unconnected events that existed momentarily but have actually faded from history forever.

To avoid a perspective that undermines personal identity itself, the perdurantist would need to argue instead that the person-stage does possess

⁶² Lee and George, *Body–Self Dualism*, 28.

⁶³ Lee and George, *Body–Self Dualism*, 29.

⁶⁴ Lee and George, *Body–Self Dualism*, 34.

temporal extent. Yet the temporally extended series that real personal identity requires itself demands a temporally enduring something to account for it. As the philosophers note, “perdurance presupposes endurance at some lower level.”⁶⁵ They therefore ask, “but if one must admit endurantism at one level, why not admit it at the level that common sense and explanatory practice seem to demand?”⁶⁶ Perdurantism suffers from inescapable philosophical contradictions, yet the psychological view of personhood depends upon such dubious perdurantism. Since the transhumanist project of mind transfer for earthly immortality in turn depends upon the psychological view of personhood, it is fair to conclude that the project is a philosophically impossible endeavor that no degree of technological advance will be able to realize.

Second, perdurantism robs its adherents of any philosophical grounds for justifying the evident experience of change in the world.⁶⁷ Perdurantism rejects the notion of a subject being fully present at a particular moment and instead conceives a set of person-stages. However, “for real change to occur, the same subject must first be characterized in one way and then in another way.”⁶⁸ Change implies that something has endured that once existed in a particular manner and now exists in a new mode. Perdurantism cannot explain simple, obvious examples of change, such as the apple’s alteration in color. The view would hold that a red event simply came after a green event without any enduring reality connecting the two discrete moments. Once again, the perdurantism of the psychological-continuity view of identity undergirding the digital immortality project proves philosophically untenable.

Furthermore, the human experience of sense knowledge brings the person in direct contact with his inescapable animality. The external stimulation of sense organs explains human sensation better than the appeal to mere mental states.⁶⁹ If the knower is ultimately experiencing only interior mental states, then he loses grounds for asserting that he is in contact with exterior objects assumed to cause the sensation. Lee and George pose the epistemological bridge problem of the mental-state view of human sensation as follows: “If what I directly sense or perceive is always only a mental state, then how could I ever have a good reason to believe that there even is an external cause of

⁶⁵ Lee and George, *Body–Self Dualism*, 29.

⁶⁶ Lee and George, *Body–Self Dualism*, 29.

⁶⁷ See Lee and George, *Body–Self Dualism*, 30.

⁶⁸ Lee and George, *Body–Self Dualism*, 30.

⁶⁹ See Jason T. Eberl, *The Nature of Human Persons: Metaphysics and Bioethics* (Notre Dame, IN: University of Notre Dame Press, 2020), 70.

these mental states?"⁷⁰ There seem to be no weighty grounds in such a model to distinguish knowledge of the eternal world from a private hallucination.⁷¹

The experience of passivity in sensation is also best accounted for by the external stimulus of the sense organs. In sensation, the individual receives input that moves him. Only in subsequent stages is there an active selection and interpretation of the sense data received.⁷² The mental-state view of human sensation leaves unexplained how a material being (the external object of sensation) could impact a nonmaterial being (the interior mental state). Yet, "if one holds, instead, in an Aristotelian manner, that the sensible object acts on (or informs) the enlivened (or ensouled) sensed organ, the problem disappears."⁷³

In addition, human perceptions are best explained through the action of bodily organs.⁷⁴ For example, depth perception depends upon two physical eyes aligned closely but separately.⁷⁵ The sensed object is also received as "internally characterized by spatial location" that provides spatial orientation, so that "what is known is the physical effect that the object has on the physical subject."⁷⁶ Further, the experience of the unique "shape, temperature, and texture of an object" that touch provides seems sensory bound.⁷⁷ The perspective entailed in human sensation indicates that the knower encounters neither just the quality of some external object nor a wholly subjective mental experience. Instead, he experiences precisely the sensed object in the relation it creates to him by physically acting upon him. Since sensation is a bodily act, it demands a bodily subject. Thus, human sensation indicates that the person is essentially an animal being and not a mind that happens to dwell in a detachable bodily instrument.

Moreover, the acts of human judgment manifest that the different capacities needed for sensation and understanding are unified in a single psychophysical subject.⁷⁸ A simple affirmation such as "that is a tree" can be analyzed into a subject–predicate pair known by a single knowing person. While the proposition's predicate ("[is a] tree") is a universal concept grasped through abstractive understanding, the proposition's subject ("that") is a

⁷⁰ Lee and George, *Body–Self Dualism*, 13.

⁷¹ See Eberl, *Nature of Human Persons*, 71.

⁷² See Lee and George, *Body–Self Dualism*, 13.

⁷³ Lee and George, *Body–Self Dualism*, 14.

⁷⁴ See Fuchs, *Defense*, 118.

⁷⁵ See Eberl, *Nature of Human Persons*, 70.

⁷⁶ Lee and George, *Body–Self Dualism*, 15.

⁷⁷ Eberl, *Nature of Human Persons*, 70.

⁷⁸ See Lee and George, *Body–Self Dualism*, 15–16.

particular referent (in this case, a particular tree, that is, a concrete instantiation of the universal tree) known through sensation. The “I” (the subject that understands and is self-aware) is the same being who also senses the tree. Since a sensing agent is an intrinsically bodily being, as discussed above, it is reasonable to affirm that the same “I” who also understands is an intrinsically bodily being.

The person’s dependence upon sensation for human cognition also shows the human agent’s essential corporeality.⁷⁹ While the spiritual activity of conceptual knowledge is intrinsically independent of matter, human experience of such conceptual knowledge is always mediated through prior sense knowledge of individuals from which universals are abstracted.⁸⁰ The intelligible pattern of the concept is discovered in sensory experiences that specify what type of conceptual knowledge is possible for a given agent. The sense knowledge specifies and does not merely occasion intellectual knowledge for the human being.⁸¹ This tie between spiritual acts and bodily sensation implies that the spiritual acts’ principle (the spiritual soul) is incomplete apart from the body to which it is intrinsically ordered.

Further, the constant return to the concrete particular in human knowing suggests that the person’s spiritual dimension is intimately connected to his animal aspect.⁸² As noted above, the intellectual act entails the abstract understanding of some feature of a concrete thing that is common to a class

⁷⁹ See Rebecca Konyndyk DeYoung, Colleen McCluskey, and Christina van Dyke, *Aquinas’s Ethics: Metaphysical Foundations, Moral Theory, and Theological Context* (Notre Dame, IN: University of Notre Dame Press, 2009), 34–35; Eberl, *Nature of Human Persons*, 40.

⁸⁰ Thomistic philosophy generally describes activities like human understanding as “spiritual” insofar as they are “performed without bodily organs” (Lee and George, *Body–Self Dualism*, 52). Thus, in this context, “spiritual activities” do not refer to explicitly religious activity or to occult forces. The affirmation of actions that are performed without bodily organs is a philosophical observation that does not rely upon the claims of religious texts or authorities.

⁸¹ See Lee and George, *Body–Self Dualism*, 17–18: “If the sense experience were a mere stimulus for the act of understanding but the act was specified or received its intelligible content elsewhere (as Platonists and innatists hold), then there would be no reason why the sense experience of one thing could not be just as easily the occasion for understanding something quite different—a diagram of a circle could be just as easily the occasion for understanding a triangle as it is for understanding a circle. But this is not the case. Rather, we intellectually grasp the point—when we do so directly—in the presentation of sense. . . . Our acts of understanding are always into sense presentations or concomitant to, or by comparison or contrast with, what we first understand in sense presentations.”

⁸² See Eberl, *Nature of Human Persons*, 27–28.

of beings. Moreover, to understand the universal characteristic as realized in this or that particular being requires sense knowledge (either a perception of the currently present individual or a sense memory of the past individual).⁸³ Therefore, the complete act of understanding external objects demands a psychophysical unity in the person as a knowing subject.

Contemporary studies of embodied cognition corroborate such perennial philosophical insights.⁸⁴ There is also a shift of robotics away from the older ideal of disembodied artificial-intelligence (AI) consciousness.⁸⁵ Research suggests that information processing improves when robots have sensors and movements that grant access to their surroundings.⁸⁶ Moreover, the reduction of mental activity to the brain too simplistically ignores the organ's dependence upon other bodily dimensions of the person. For example, emotions are lived as a holistic experience of the human organism, "which include[s] almost all subsystems of the body: central and peripheral nervous system, hormonal system, heart, circulation, respiration, viscera, facial, and gestural expression muscles."⁸⁷ Neurons are involved in but do not account fully for the lived emotional experiences that permeate the whole person. Calvin Mercer and Ronald Cole-Turner note: "The buzz of activity in the brain entails input–output interaction with processes ongoing in the rest of the body. The 100 trillion bacteria living in our gut can cause depression and anxiety. With neurons, chemical transmitters, and microbiotic entities, we are a surging hormonal package."⁸⁸ The intricate relationship between such processes suggests that the human person cannot be confined to brain information and isolated from his structural unity as a living animal. Instead, consciousness is better understood in terms of the relationship between the whole organism and the world than as some sort of localizable reality.⁸⁹ Further, the burgeoning field of cognitive linguistics also uncovers that

⁸³ For the need to return to sense knowledge to understand universals correctly as concretized in particulars, see Lee and George, *Body–Self Dualism*, 18–19: "All the human intellect by itself can grasp is an intelligible aspect of some thing. But to understand an abstract intelligible aspect of a thing just by itself is not to understand the thing in the manner in which it exists. To understand a thing in the manner in which it exists is to understand an intelligible aspect precisely as an aspect of a thing. But this involves a reference back to sense experience."

⁸⁴ See Victoria Lorrimar, "Mind Uploading and Embodied Cognition: A Theological Response," *Zygon* 54, no. 1 (2019): 191–206.

⁸⁵ See Fuchs, *Defense*, 35–36; Lorrimar, "Mind Uploading," 198–201.

⁸⁶ See Lorrimar, "Mind Uploading," 199.

⁸⁷ Fuchs, *Defense*, 117.

⁸⁸ Mercer and Cole-Turner, *Religion*, 168. See also Fuchs, *Defense*, 115.

⁸⁹ For instance, see Fuchs, *Defense*, 75, 109, 115–19.

universal metaphors which shape human communication are subtly grounded in common embodied experiences.⁹⁰ Our mental life is linked to the concrete fleshiness of the body. In addition, contemporary ethicists are often sensitive to our narrative nature, whereby we form pictures of the good life that attract us to ideals in ways that mere information could not.⁹¹ Yet such pictures are themselves embedded in rituals that constantly engage the body. Once again, the disembodiment ideal that drives transhumanist aspirations fails to account for key dimensions of human existence.

While the spiritual human soul that grounds such acts can survive the decomposition of the material body, such an immortal soul does not, however, strictly speaking, enjoy the status of a complete human person. The philosophical reflection upon the human person's actions and nature traced in this section of the article reveals that he is an essentially bodily organism. His bodily dimension is not an obstacle to his perfection. In fact, his body cannot be dispensed with or overcome through technology without dispensing with the complete human person. The transcendence of the person's animality inevitably comes at the expense of full humanity. Thus, a profound and tragic contradiction rests at the foundation of the mind-uploading project, namely, that the project purports to preserve human beings by acts that deny what is essential to their humanity. Transhumanists are correct to seek humanity's immortality but wrong to expect it through digital means.⁹²

The Spirituality That Grounds the Human Person's Immortality

The above defense of humanity's intrinsic animality against the transhumanist tendency to separate the person from the body as an extrinsic instrument of the conscious self should not be misconstrued as a physicalist reduction of the human being. The commitment to the human's animality does not exclude the possibility of demonstrating philosophically the spirituality that distinguishes humans from other bodily organisms in the animal kingdom.⁹³

The difference in kind between humans and nonrational animals is manifested principally through humanity's conceptual thought and the moral agency of free choice. Conceptual understanding is fundamentally different from sense knowledge. While the latter deals with concrete particulars, the former recognizes the natures common to many individuals.

⁹⁰ See Lorrimar, "Mind Uploading," 194.

⁹¹ See Lorrimar, "Mind Uploading," 201–2.

⁹² See Susan B. Levin, *Posthuman Bliss? The Failed Promise of Transhumanism* (New York: Oxford University Press, 2021), 211–21, for a critique of the informational ontology that shapes contemporary transhumanism.

⁹³ See Lee and George, *Body–Self Dualism*, 50–65.

The linguistic difference between proper and common names reflects the difference between the two types of knowledge. Proper names indicate that which is tied to a certain time and place. On the other hand, common names move beyond the limits of the particular to a class of beings that is potentially infinite in its instantiations throughout time and place. Lee and George distinguish the nonrational animal comparison between singulars with the uniquely human conceptual apprehension of shared natures as follows:

One visual scene may be exactly similar to another—qualitatively indistinguishable from it. But a conceptual content (such as the conceptual content, *organism*) can be instantiated in things that are extremely diverse with respect to vision or any of the senses (say, in an amoeba and in an elephant). Visual (or auditory, olfactory, tactile) similarities are physical relations; by contrast, instantiation, the reciprocal relation of universality, is a strictly logical, nonphysical relation.⁹⁴

Although other animals might see the similarities between a small group of particulars, the human being's conceptual understanding brings him to the natures that unite all instantiations of a class. Such a distinction between the human and nonrational grasping of similarities is especially notable when human beings capture shared features among individuals whose sensory appearances are strikingly different.

Such a unique grasp beyond particulars is exercised in universal judgments. Lee and George mention the example of judging the mortality of all living organisms. The human being can grasp that the nature of being an organism contains the feature of being a composite living thing. One's understanding of the nature of composites includes capturing that such composites could also exist in a decomposed state. As the authors trace the discursive process, "I judge that individual composite living beings must be included within the class of individuals that are subject to death, but I judge that only in virtue of my seeing that the nature, *being subject to death*, is necessitated by the nature, *composite living being*."⁹⁵ Such a necessary conclusion about the whole class of organisms is possible only to a being that can know natures. Otherwise, one's knowledge would extend only to the relatively limited particulars that enter his sense experience. Yet, thanks to conceptual understanding, humans can make judgments (in this case, about mortality) about any instance of an organism without an exhaustive sense experience of all

⁹⁴ Lee and George, *Body-Self Dualism*, 56.

⁹⁵ Lee and George, *Body-Self Dualism*, 54.

organisms. Since the “term of the intellectual act is a nonphysical content” that goes beyond the constraints of temporal physical particularity, it is reasonable to conclude that the intellectual act of understanding is itself nonphysical.⁹⁶ A nonphysical act implies a nonphysical power or capacity. Thus, intellectual acts point to an aspect of the person that is nonreducible to the physical. In other words, he has a spiritual dimension.

The spiritual (nonphysical) capacity that grounds conceptual knowledge makes sense of the manifold manifestations of unique human accomplishments:

Syntactical language, art, architecture, variety in social groupings and in other customs, burying the dead, making tools, religion, fear of death (and elaborate defense mechanisms to ease living with that fear), wearing clothes, true courting of the opposite sex, free choice, and morality—all of these and more—stem from the ability to reason and understand.⁹⁷

Such behaviors are consistently evident in a diversity of ways throughout human history and cultures. Nonrational animals, however, leave no records of such rich outward expressions of intellectual life. Conceptual thought brings to humans a unique interior world wherein they can self-reflect and position themselves within the surrounding world. The human is the only animal who can, as a knowing subject, make himself the object of his knowledge. The person not only knows, but he also knows himself as a knower. Only a nonphysical capacity unbound by particularity could turn in on itself for critical self-analysis.

The spiritual capacity for intellectual thought also accounts for the diverse creativity of man’s labors as distinguished from the monotony of nonrational animal productions. While the intricacy of a beaver dam or a spider web might impress, the tireless repetition of the same patterns among the species in different locations and throughout the creature’s history suggests that “such quasi-stable structures” come “from instinct rather than from intelligence.”⁹⁸ The human being may not have the impressive genetic instincts to adorn his surroundings repeatedly, but he does possess the capacity to conceive an intelligible design adapted to a range of inhabitable environments.⁹⁹

⁹⁶ Lee and George, *Body–Self Dualism*, 55.

⁹⁷ Lee and George, *Body–Self Dualism*, 56.

⁹⁸ Lee and George, *Body–Self Dualism*, 57.

⁹⁹ For an extended study regarding how the human being’s lack of genetically determined adaptation to a specific environment opens him to a creative adjustment to multiple

What is said of the person's uniquely intelligent way of construction can apply to his manner of eating, dressing, mating, or a host of other cultural expressions by which rationality imbues his manner of meeting his animal needs. Although the unity of a common human nature is evident from the fact that "different cultures pursue the same basic purposes or goods of life, health, friendship, family, learning, aesthetic experience, and so on," the manners of achieving such basic goods are by no means uniform.¹⁰⁰ Again, the human person's nonphysical intellect opens him to a potentially infinite world of possibilities beyond the limited scope of nonrational animals' constraint to the particularity of the sensible.

Other examples abound of how human conceptual thought distinguishes human behavior's variance from the invariance of nonrational animal behaviors.¹⁰¹ For instance, while many animals socially form a congregate by instinct, only human beings deliberate about different forms of arrangement and write political constitutions. Also, human beings' mass production of tools indicates their ability for abstract knowledge. While nonrational animals make simple devices based upon sensibly perceptible relations, humans can abstract intelligible patterns to create tools adapted to various situations. Moreover, a human has a unique ability to understand "different aspects of the same concrete particular" such that he can grasp that one object might be good under one aspect but not good under a different aspect.¹⁰² The ability to perceive different facets of the same object also opens humans to the pursuit of alternative courses of action.

The philosopher Alasdair MacIntyre notes three capacities that distinguish human beings from other animals. First, humans can evaluate the reasons for their actions and change such reasons based on their judgments about which means best conduce to their goals.¹⁰³ Second, humans are able to evaluate such reasons for action because of their unique ability to distance themselves from their current desires to pursue a good that entails sacrifice of immediate gratification.¹⁰⁴ Third, human beings can imagine different possible future courses of action that offer different forms of good from which

settings, see Leopoldo Prieto López, *El hombre y el animal: Nuevas fronteras de la antropología* (Madrid: Biblioteca de Autores Cristianos, 2008).

¹⁰⁰ Lee and George, *Body-Self Dualism*, 58.

¹⁰¹ See Lee and George, *Body-Self Dualism*, 58.

¹⁰² Lee and George, *Body-Self Dualism*, 59.

¹⁰³ See Alasdair C. MacIntyre, *Dependent Rational Animals: Why Human Beings Need the Virtues* (Chicago: Open Court, 1999), 71–72.

¹⁰⁴ MacIntyre, *Dependent Rational Animals*, 72–74.

they can choose.¹⁰⁵ Together, such capacities allow humans to undertake their distinctive moral agency.

The person's spiritual soul opens the path to a justification of free moral agency and hence the very possibility of a meaningful ethical life. The soul's spirituality explored above reveals a dimension of the human being that transcends the spatiotemporal, and is thus not determined by physical processes.¹⁰⁶ A naturalistic worldview fails to account for the lived experience of intellectual and moral agency, since naturalism entails that all human thought and action can be exhaustively explained by the composition of the body's physical particles and the interactions of such physical parts.¹⁰⁷ As Lee and George summarize, an individual's "environment, heredity, and character together" are "not sufficient to bring it about that he choose this rather than that, or even that he choose rather than not choose."¹⁰⁸ Prior events and experiences shape—sometimes profoundly—a person's future series of choices. However, he maintains in each case the possibility to pursue one or none of the various aspects of the good his intellect grasps in possible objects of pursuit. A host of other appetible options might attract the person, but he is not determined by instinct to any one of them. The human capacity to perceive intelligible goods is experienced most directly in the process of deliberation, wherein one considers the different types of benefits available that options promise. The different kinds of goodness found in options give the motives to justify multiple paths of action as intelligible. Yet, since "neither alternative (at least in many situations) is good, or better, in *every respect*, . . . neither the content of the option nor the strength of one or another desire determines the choice."¹⁰⁹ In any finite good, the human being can always understand at least some aspect of interest that would motivate the will's choice.¹¹⁰ Thus, each alternative course would have a rational motivation as a live option, even if one course would entail an immoral act contrary to the agent's integral good. In many cases of deliberation, some types of good are present in one course of action, while other types of good are present

¹⁰⁵ MacIntyre, *Dependent Rational Animals*, 74–76.

¹⁰⁶ See Madden, *Mind, Matter & Nature*, 279.

¹⁰⁷ See Madden, *Mind, Matter & Nature*, 278.

¹⁰⁸ Lee and George, *Body–Self Dualism*, 60.

¹⁰⁹ Lee and George, *Body–Self Dualism*, 62.

¹¹⁰ See Lee and George, *Body–Self Dualism*, 64: "The point could be expressed this way: in deliberating between action A and action B, where one sees some distinctive benefit in each, there is a rational explanation why one *could* choose A, and a rational explanation why one *could* choose B. So, either choice would be rational, in the sense that either choice would be responsive to some benefit understood to be realized or promoted by the action."

in another path. Since different goods are often at stake, choices involving two (or more) options might be mutually exclusive possibilities that each contribute to the authentic fulfillment of the person. Since life does not involve simply discovering which action promises "as much benefit as the other option, plus more," there is space to assess which goods will be most important to the agent at any given moment.¹¹¹

Therefore, the manifold evidence of human spirituality through intellectual understanding and free choice agency shows that a physicalist reduction of the person to his neuronal patterns in mind uploading misconstrues human identity, and therefore does not provide a reliable path to human longevity.

While the transhumanist body-self dualism wrongfully neglects humanity's intrinsic animality, and thus proposes impossible paths to immortality through digital means, "the bodiliness of the human being does not preclude holding that an aspect of the human being, the human soul, transcends matter and indeed survives the human being's death."¹¹² The authors follow a threefold line of reasoning to conclude that an aspect of man enjoys a natural immortality and that it is philosophically warranted to expect some form of survival after death.¹¹³

First, the hylomorphic composition of human beings provides the foundation for considering a dimension of the person distinct from his material components.¹¹⁴ The formal principle of any material living organism (rational or nonrational) is traditionally referred to as the soul. Since material elements can be aggregated in many different ways, the formal principle of the soul is what orders the material parts into a substantial unity so that a collection of matter is one kind of being rather than another. A cow grazing in the fields and a beef carcass hanging in a butcher's freezer might entail similar matter but formally are very different entities. Hence, an individual's bodily makeup is gathered intelligibly into a single enduring subject of actions across time through the soul's formal principle.

The philosopher James Madden illuminates the philosophy of nature that undergirds the hylomorphic philosophy when he recalls the development of

¹¹¹ Lee and George, *Body-Self Dualism*, 65.

¹¹² Lee and George, *Body-Self Dualism*, 66.

¹¹³ Lee and George clarify that the Christian notion of a resurrection of the body is compatible with the philosophic anthropology detailed in the present work (*Body-Self Dualism*, 74–81). The possible revelation of man's postmortem state and future destiny is a theological topic of utmost importance but is beyond the properly philosophical scope of the present section.

¹¹⁴ See Lee and George, *Body-Self Dualism*, 66–67.

the Aristotelian explanation to address the problem of change.¹¹⁵ Aristotle posits a material principle to account for a substrate that is open to different actualities and can persist through the process of losing and receiving different ways of being.¹¹⁶ The philosopher also postulates a formal principle to account for why the material is here and now one type of being rather than another and to account for why the same material could exist in substantially different ways.¹¹⁷ The distinction between prime matter and formal actuality that explains the change of contingent beings is also at the root of the body–soul composition Aristotelianism finds in living beings.¹¹⁸

Second, the human being's formal principle (soul) must be uniquely spiritual, given humanity's uniquely spiritual activities previously explored in the present section. That intellectual acts are spiritual acts performed without a body organ is evident from the fact that body organs have as their object particular singulars, whereas the acts of understanding deal with the apprehension of universal concepts applicable to entire classes. A nonphysical action (such as intellectual knowledge or free choice undetermined by antecedent particular events) requires a nonphysical principle of action. The exclusively physical dimension of nonrational human activity indicates that it is reasonable to think that their nonrational soul ceases with the decomposition (death) of the form–matter animal composite. In contrast, human nonphysical actions rooted in a nonphysical principle indicate that “the human soul *does not* depend for its existence on the whole of which it is a part.”¹¹⁹ Thus, it is fair to conclude that the human person's formal principle, his spiritual soul, can persist after the person's death.

Third, it should be emphasized that the spiritual soul capable of surviving death, as part of the whole living organism of the hylomorphic composite, retains its intrinsic orientation to a body. Lee and George note that “the formal source of these actions, the human soul, has its actuality or existence independently of matter.”¹²⁰ The authors clarify that their argument does not hold that “the subject of these actions—which is the human being as a whole—has its existence independently of matter,” since such a position

¹¹⁵ See Madden, *Mind, Matter & Nature*, 217–49.

¹¹⁶ Madden, *Mind, Matter & Nature*, 235.

¹¹⁷ See Madden, *Mind, Matter & Nature*, 236–37, 243.

¹¹⁸ See Madden, *Mind, Matter & Nature*, 253: “For the Aristotelian hylomorphist, the soul–body relationship is a special case of the form–matter relationship that pervades nature. That is, the soul and body are mutually dependent co-principles of an organism of a certain kind; they are not substances themselves, but constituents of a substance.”

¹¹⁹ Lee and George, *Body–Self Dualism*, 68.

¹²⁰ Lee and George, *Body–Self Dualism*, 67.

would entail the misguided body–self dualism that influences many contemporary movements, including transhumanism.¹²¹ The principles of body and soul are distinguishable matter–form principles, but do not thereby enjoy independent existence as two mysteriously interacting substances.¹²² Neither body nor soul are substances in themselves but are instead the two co-principles that together form the single substance of the human person. Yet, the formal principle's spirituality implies its ability to persist in temporary separation from the material principle after the dramatic divorce of death.¹²³ As earlier discussed, the nonphysical acts of the human intellect first require the knowledge of particulars attained through the bodily senses. In turn, the same intellectual understanding reaches its finality only upon returning to the particular entity in which the abstracted universal is found through bodily sensation. Humans thus directly experience their spiritual souls as “intrinsically oriented to the body because its operations cannot naturally attain their end without the aid of the body.”¹²⁴ The orientation of human spiritual capacities to material capacities indicates that the soul that grounds such spiritual powers is “by nature proportioned to union with the body.”¹²⁵ The spirituality of the soul allows it to survive separation from the body. However, such a separated soul would linger in an unnatural state until reunited to the body it naturally informs as a whole composite organism.

Madden addresses the legitimate concern that might arise from the above considerations that Thomistichylomorphism is incoherent in its defense of the soul's immortality.¹²⁶ Sometimes Thomists envision the human soul as an abstract entity, a kind of organizational principle inseparable from the matter it informs and without its own substantial existence. Yet, at other times, Thomists present the human soul as a concrete entity separable from the material body.¹²⁷ Madden acknowledges that Thomists are sometimes

¹²¹ Lee and George, *Body–Self Dualism*, 67.

¹²² See Madden, *Mind, Matter & Nature*, 275, on how Thomistichylomorphism dodges the problem of mind–body interaction that has plagued philosophy since Descartes. As Madden explains, for the Thomist, “the body is not a collection of discrete particles that maintain their own substantial identity when entering into the bodily composition. The matter composing a human being is actually a human body only because it is in union with the soul, and the physical particles composing the body are only virtually present within the organism. Thus, it is not as though the soul and the body ‘push and pull’ on each other just like two distinct objects.”

¹²³ See Madden, *Mind, Matter & Nature*, 254–55, 268–71.

¹²⁴ Lee and George, *Body–Self Dualism*, 69.

¹²⁵ Lee and George, *Body–Self Dualism*, 69.

¹²⁶ See Madden, *Mind, Matter & Nature*, 280–84.

¹²⁷ See Madden, *Mind, Matter & Nature*, 282, for a summary of the apparent contradiction.

guilty of ambiguity in their explanations, especially when they simplify presentations for pedagogical purposes. However, he clarifies that matter, form, and the hylomorphic compound are functional concepts open to being either abstract or concrete entities and are posited to explain the phenomenon of change. Madden summarizes the view of the Thomistic tradition as follows:

The matter of a substance is whatever potency preexists and survives its generation (and will survive its corruption); form is whatever accounts for the difference between the matter and the actual substance whose generation or corruption we set out to explain, and the compound substance is whatever individual is subject to this process of change.¹²⁸

Since an organizational principle or configuration is enough to formally distinguish artifacts such as tables from each other, form can sometimes be adequately understood as an abstract entity.¹²⁹ However, since the human soul is capable of nonphysical actions such as elaborating intellectual concepts, and therefore enjoys a nonphysical existence, the configuration of matter is insufficient to account for the human soul's formal identity.¹³⁰ Moreover, actions like abstraction and free choice demand a concrete entity rather than an abstract one to ground them. Thus, Thomists are not incoherent when they affirm that, unlike artifacts, the human's formal principle is a particular entity. As a particular entity, the formal co-principle of the soul is, therefore, able to survive separation from the material principle in a way impossible for formal principles that exist as abstract entities of configuration or organization.

From an Earthly Paradise to a Transcendent Theosis

The first section of this work explored the surprising ways in which secular transhumanism apes orthodox and heretical Christianity. The second section showed that misunderstandings about human identity drive transhumanists to misdirect precious time and energy on projects that can only preserve a

¹²⁸ Madden, *Mind, Matter & Nature*, 282–83. Madden helpfully points to Jeffrey Brower, “Matter, Form and Individuation,” in *The Oxford Handbook of Aquinas*, ed. Brian Davies and Eleonore Stump (Oxford: Oxford University Press, 2012), 85–103, for a further explanation of matter, form, and the matter–form composite as functional concepts.

¹²⁹ See Madden, *Mind, Matter & Nature*, 283.

¹³⁰ See Madden, *Mind, Matter & Nature*, 284.

replica of the dead. This final section argues that a deeper recovery of the mimicked Christian tradition can reorient transhumanist dreams for radical human transformation and guide the prudent incorporation of biotechnical tools into the larger project of pursuing the good life.

While the promised transhuman terrestrial paradise is out of reach, the quest for immortality found in many transhumanist authors points toward authentic transcendence. The effort to quantitatively extend man's days on earth is an imperfect distortion of the call to a qualitatively superior form of unending life.¹³¹ Discomfort with imperfection motivates transhumanists to move beyond a fixation on earthly goods to discover their capacity for greatness precisely in experiencing their need for the transcendent. As Lodovici observes, "unlike man, when the animal satisfies its own needs it does not experience the disappointment of the objective achieved: therefore, man is not a specialized animal, simply equipped with a more complex range of needs, but he is directed beyond the occasional satisfaction of his own needs" toward a higher, perhaps even infinite good.¹³² The frustrating incapacity of the current life to satisfy the person hints that he was made for more than this temporal existence can offer. While biotechnology may assuage some of the afflictions that plague life and give many a better chance to develop capacities, a mere prolongation of earthly existence seems inadequate to address the person's persistent pursuit of perfect bliss.

Such yearnings for an immortality beyond the current temporal existence encourage the search for a transcendent reality capable of satisfying such stubborn longings. As Corby adds, "to settle for more of the same is a refutation of our human greatness, a denial of our capacity for God."¹³³ Hence, the secular vision of the transhumanists will hinder them from achieving the very immortality they seek as part of their enhancement projects. A philosophy open to the transcendent God and the human person's spiritual nature is needed to escape the narrow constraints of the movement's secular positivism. The thirst for the infinite does not by itself demonstrate the existence of an infinite being. However, such thirst does prompt the person to explore the possibility that such an infinite being exists and strongly signals that any effort for immanent happiness through finite objects is doomed to disappointment.¹³⁴ The transhumanist projects are dissatisfactory

¹³¹ See Corby, *Hope and Despair*, 270–72.

¹³² Lodovici, "Transumanesimo," 537.

¹³³ Corby, *Hope and Despair*, 271.

¹³⁴ For a brief and insightful Thomistic view of the value and limits of philosophical reflection on the human person's natural desire for God and its relation the moral life, see Jean Porter, "Desire for God: Ground of the Moral Life in Aquinas," *Theological*

not because they seek too much, but rather because they seek too little.¹³⁵ Technological improvements in the human person's bodily dimensions can be helpful in the search for happiness, but are insufficient for achieving the lofty goal of integral fulfillment.

For all the deformations of Christian thought that drive secular transhumanist pursuits, Catholics need not abandon the project of human biotechnological enhancement as inevitably doomed to depravity. Nonetheless, they will need to creatively repropose the Catholic patrimony's reflection on human flourishing to move beyond stalemates in secular bioethical debates about the relationship between emerging technologies and human identity. For instance, bioconservative critics of enhancement and transhumanist enthusiasts for biotechnical boosts agree upon the importance of promoting the subject's pursuit of authenticity. Yet "critics perceive of such technologies as a threat to achieving authenticity, while proponents see them as assisting us to become more authentic."¹³⁶ Bioconservatives would tend to work principally within what the bioethicist Erik Parens describes as a framework of gratitude for gifts of nature given.¹³⁷ For instance, Leon Kass extols the value of human finitude and contends that technological

Studies 47 (1986): 48–68, Stephen Wang, "Aquinas on Human Happiness and the Natural Desire for God," *New Blackfriars* 88, no. 1015 (2007): 322–34. An exhaustive treatment of the various disputed questions surrounding the natural desire for God is beyond the scope of the present work. Lawrence Feingold, *The Natural Desire to See God according to St. Thomas and His Interpreters*, 2nd ed. (Ave Maria, FL: Sapientia Press, 2010), remains an indispensable magisterial treatment of the theme. See also Jacob W. Wood, *To Stir a Restless Heart: Thomas Aquinas and Henri De Lubac on Nature, Grace, and the Desire for God* (Washington DC: Catholic University of America Press, 2021); Reinhard Hütter, *Bound for Beatitude: A Thomistic Study in Eschatology and Ethics* (Washington, DC: Catholic University of America Press, 2019), 35–40; Thomas Joseph White, *Wisdom in the Face of Modernity: A Study in Thomistic Natural Theology*, 2nd ed. (Ave Maria, FL: Sapientia Press, 2016), 291–322.

¹³⁵ Corby, *Hope and Despair*, 273n76, cites an illuminating Thomistic passage on the perennial temptation to settle for an immanent happiness that disregards the person's spiritual openness to the divine: "Man as he is constituted, endowed as he is with a thirst for happiness, cannot have his thirst quenched in the finite realm; and if he thinks or behaves as if that were possible, he is misunderstanding himself, he is acting contrary to his own nature. The whole world would not suffice this 'natural' nature of man. If the whole world were given to him, he would have to say, and would say: It is too little. Too little, that is, to 'gratify entirely the power of desire,' or in other words, too little to make him happy" (Josef Pieper, *Happiness and Contemplation* [New York: Pantheon, 1958], 37–38).

¹³⁶ Burdett and Lorrimar, "Creatures," 7.

¹³⁷ See Burdett and Lorrimar, "Creatures," 7, for an application of the gratitude-versus-creativity frameworks introduced in Erik Parens, "Authenticity and Ambivalence:

interventions often rob people of their freedom to exercise their individuality. Francis Fukuyama is especially interested in preserving universal human rights and fearful that biotechnical developments will create situations of inequality that will undermine liberal democracy.¹³⁸ Likewise, Michael Sandel warns against the erosion of human agency in which the person is treated as a machine to be tweaked and loses his chance to exercise free choice of the good and the noble overcoming of challenges.

Transhumanists, on the other hand, would work principally through what Parens calls a framework of creativity that privileges the person's responsibility to harness human capacities to shape the world and ourselves for the better. The given is merely the starting point and deserves no special reverence. Fearful attachment to the human status quo stifles human self-expression and blocks the promises of a better future.

The bioethicists Michael Burdett and Victoria Lorrimar propose that the theological categories of creaturehood and deification provide greater insight into the right use of emerging technologies than does a sociological or philosophical focus on authenticity.¹³⁹ The theologians recognize that both bioconservatives and transhumanists work within a secular mentality without clear adherence to either of the proposed classifications. Nonetheless, there are affinities for one or the other theological pole in the two secular approaches. With its forceful protection of the finitude of humanity, the bioconservatives show inchoate regard for human creaturehood. The urgency for fundamental human change in transhumanism manifests the movement's implicit sympathy for deification. Unfortunately, both bioconservative and transhumanist approaches suffer the limits of worldviews rooted in a "divorce between concepts of God and concepts of humanity and nature."¹⁴⁰ Reflections on a metaphysically grounded human teleology would offer new insights into biotechnology's role in human progress.

In particular, the traditional doctrine of theosis can elevate desires for human transcendence to a goal more satisfying than illusory attempts at a digital destiny. While the transhumanists promote fantastic plans for future evolution, Christianity has an even longer tradition of bold claims. For

Toward Understanding the Enhancement Debate," *Hastings Center Report* 35, no. 3 (2005): 38–41.

¹³⁸ See Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Farrar, Straus, and Giroux, 2002), 105–77, for an extended reflection on the possible impact of biotechnology on human rights, human nature, and human dignity.

¹³⁹ See Burdett and Lorrimar, "Creatures," 7.

¹⁴⁰ Burdett and Lorrimar, "Creatures," 12.

the Catholic tradition, “salvation is not primarily a pathway *to* God. It is a process by which humans *become gods*.”¹⁴¹ However, unlike transhumanism, Christian divinization “is not merely human, as if human beings initiated and completed their own transformation.”¹⁴² Catholicism also adds to the standard secular accounts of augmentation and enhancement the unique possibility of divine elevation for all members of society.¹⁴³ Many uneducated men and women, including a slave like Felicity and a teenage martyr like Agnes appear in the Roman Canon of the Mass to recall God’s capacity to raise up to the heights of divine life those on the margins of society. As Andrew Pinsent and Sean Biggins write, “such saints are certainly regarded as having received divine enhancements, but principally in terms of gifts for their spiritual and moral fruitfulness, with its source and goal being the love of God.”¹⁴⁴

The greatest evil is not subpar intelligence or even the tragic loss of physical or cognitive functioning, but rather a freely chosen mortal sin that breaks the bond of fruitful friendship with God.¹⁴⁵ The believer can hope that, like the wounds of the risen Christ, “even defects of the body of all kinds that are sustained for the sake of divine love in this present world will contribute to a person’s glory in eternity.”¹⁴⁶ Thus, the physical and mental limitations technology fails to correct or overcome in this life can still find meaning in the Catholic perspective as crosses united to the Lord and redeemed through his resurrection.

Christian creatures are co-creators with the source of life and health, and thus entirely justified in using technology to improve their earthly sojourn with better bodily functions and an extended lifespan. However, the creaturely awareness of a divine agency beyond the inexorable march of history opens believers to improvements that are not of their own making and to the possibility of divine glorification. Thus, “creatures bound for glory recognise the contributions that technology might make to an improved *futurum* while acknowledging that *adventus* is accomplished by divine grace alone.”¹⁴⁷

¹⁴¹ Cole-Turner, “Technology and Eschatology.”

¹⁴² Cole-Turner, “Technology and Eschatology.”

¹⁴³ See Andrew Pinsent and Sean Biggins, “Catholic Perspectives on Human Biotechnological Enhancement,” *Studies in Christian Ethics* 32, no. 2 (2019): 187–99.

¹⁴⁴ Pinsent and Biggins, “Catholic Perspectives,” 191.

¹⁴⁵ See Paul J. Wadell, *Friends of God: Virtues and Gifts in Aquinas* (New York: Peter Lang, 1991), for a treatment of the moral life that would judge bioethical controversies in light of the Catholic’s pressing need to collaborate with God in the cultivation of such divine friendship through a life of virtues and the gifts of the Holy Spirit.

¹⁴⁶ Pinsent and Biggins, “Catholic Perspectives,” 192.

¹⁴⁷ Burdett and Lorrmar, “Creatures,” 12.

While *futurum* is the organic development of prior states, *adventus* entails the gratuitous intervention of an outside force that upsets expectations.¹⁴⁸

The balance of the creaturehood and deification poles means that a simple “yes” or “no” to bioethical enhancements is not possible. Instead, such enhancements “take their fitting place; they are neither categorically prohibited nor imperative. Like other applications of technology, they become the subject of ethical deliberation.”¹⁴⁹ In such a vision, divine and human agency are complementary rather than competitive. Since God is the *ipsum esse subsistens* who utterly transcends the realm of changing finite beings, his primary causality sustains the secondary causality of creatures without replacing it.¹⁵⁰ He is not merely a strong, faster, superior member of the created order, but is rather the very author and sustainer of the order to which he is not restricted. The Creator’s non-competitive collaboration with creatures in the natural order also extends to the supernatural order of sanctification and divinization.

Thus, the Thomistic model of healing, elevating, and deifying grace offers a paradigm that can build upon and expand conversations about the meaning of technology beyond the therapy, enhancement, and transhumanism model that shapes current bioethical discussions.¹⁵¹ As therapeutic interventions aim to repair damage or correct healthy biological functioning, so does healing grace repair the disorders introduced through original sin. As enhancements push humanity to new levels of cognitive, mood, and

¹⁴⁸ Burdett elsewhere explains Jürgen Moltmann’s distinction as follows: “The English term for future is derived from the Latin term *futurum* whereas the German term for future, *Zukunft*, comes from *adventus*. *Futurum* refers to the future as an outworking of present conditions and forces so that the future is a product of what has preceded it. It is driven from behind. *Adventus*, on the other hand, describes that which is coming. It makes no claims about the future being the sole product of the past and present and instead speaks of arrival. It is driven by what is ahead” (*Eschatology and the Technological Future* [New York: Routledge, 2015], 3).

¹⁴⁹ Burdett and Lorrimer, “Creatures,” 13.

¹⁵⁰ See Robert Barron, *Catholicism: A Journey to the Heart of the Faith* (New York: Image, 2011), 77, 98, 196, for a Thomistic reflection on God’s transcendence from the creaturely order as grounds for his collaborative aid to creatures. On 78, Barron illustrates his point as follows: “If asked, ‘How do you make a cherry pie,’ one would say, presumably, ‘you bring together cherries, sugar, flour, water, fat, and the skill of the baker, and the heat of the oven.’ Even the religious believer would not say, ‘You bring together cherries, sugar, flour, God, water, fat, and the skill of the baker, and the heat of the oven.’ God is not one cause among many, but rather the reason there are cherries, flour, water, fat, the baker, and so on, at all. Hence, it is precisely through those causes and not in competition with them that the providential God works out his purposes.”

¹⁵¹ See King-Ho Leung, “The Technologisation of Grace and Theology: Meta-Theological Insights from Transhumanism,” *Studies in Christian Ethics* 33, no. 4 (2020): 482–85.

physical capacities beyond current biological statistical norms, so elevating grace grants individuals the capacity for meritorious actions beyond the possibilities of human nature. As transhumanism strives for a future of unprecedented delight in the wedding of humanity and technology at the singularity, so deifying grace enables the person to enjoy the sublime bliss accessible only in the union of Creator and creature in the beatific vision.

Biotechnology may assist in removing physical impediments to the exercise of virtue and even in improving biological dispositions toward virtue, but it can never provide the elevation to a supernatural state found in grace.¹⁵² Nonetheless, the technocratic mentality of control associated with transhumanism can still affect the subjective appropriation of grace in particular individuals.¹⁵³ While “enhancements of various kinds are not wrong in themselves,” there is the risk that “transhumanist transcendence can become an addictive substitute for the transcendence of grace, thereby blocking reception of the actual gift of grace.”¹⁵⁴ The transhumanist technocentric culture gives users the false impression that the chief enemies of sin, suffering, and death can be tamed by humanity, thus deterring them from imploring seemingly superfluous supernatural aid.

Just as secular transhumanists can succumb to a technocratic use of technology as a tool of boundless manipulation, so theologians in dialogue with transhumanism can succumb to a technologized view of grace that reduces participation in divine life to a mere “instrumental solution to sin.”¹⁵⁵ While healing grace does address the problem of sin, a partial vision would neglect the role of elevating and deifying grace ordered to divinization and transforming union. Like the technocratic model of transhumanism, a theological reduction of grace risks losing sight of human teleology. As King-Ho Leung explains,

The “elevation” of humanity through grace is a mode of teleological perfection which involves a final goal or end—the *telos* of participating in the Divine Goodness, whereas the mechanistic vision of transhumanism appears to have no fixed positive end-goal for technological human enhancement aside from a negatively-defined

¹⁵² See Adam M. Willows, “Supplementing Virtue: The Case for a Limited Theological Transhumanism,” *Theology and Science* 15, no. 2 (2017): 177–87; Leung, “Technologisation,” 486.

¹⁵³ See Leung, “Technologisation,” 487–89.

¹⁵⁴ Pinsent and Biggins, “Catholic Perspectives,” 194–95.

¹⁵⁵ Leung, “Technologisation,” 489.

overcoming or “healing” humans of the “disease” of death—“solving” the “problem” of human finitude.¹⁵⁶

The retrieval of the full patrimony of the Catholic theology of grace enriches contemporary theological discussions of transhumanism afflicted with too narrow a view of the Christian life. An appreciation for the varied functions of grace also helpfully relativizes the goods of biotechnology without spurning them in sterile condemnations or avoiding them out of ungrounded fear.

Conclusion

This article has highlighted those aspects of Thomistic anthropology most relevant to the transhumanist quest for radical life extension by outlining the compelling philosophical grounds for rejecting efforts that seek human improvement through a permanently disembodied state. Given the human person's fundamental identity as a body-soul composite, the person's perfection entails the fulfillment of the full range of bodily and spiritual goods. A dualistic divide between the self and the body at the anthropological level leads to disorientation in the ethical life. Thus, the resources of Thomistic thought can correct the impoverished anthropology that informs the transhumanist immortality-enhancement projects and orient the legitimate desires to improve human health and lifespan in manners that respect human identity.

Moreover, the secular substitutes for salvation found in transhumanism's eschatology call for a rediscovering of the Thomistic tradition's insights on grace-enhanced life. Transhumanism's audacious but ultimately unsatisfying efforts toward technological transcendence invite thinkers to recover the very Christian tradition it mimics and distorts. In shedding fuller light on human origin and destiny, the Christian worldview provides the most helpful framework for assessing which technological interventions best promote human flourishing.

Reticence about technology's capacity to fulfill the human person is not a rejection of his incessant quest to overcome the challenges and imperfections of his current life. Christianity is not a call to repress or ignore the human impulse toward greatness. Nor does the faith encourage a dulling of desires. Instead, Christianity warns the person against the dangers of settling for temporary satisfactions that fail to satiate.¹⁵⁷

¹⁵⁶ Leung, “Technologisation,” 490n51.

¹⁵⁷ For an extended comparative study of the difference between the Christian and secular

While Christian asceticism maintains its value as a necessary check upon the deviations of concupiscence and vice, such training is understood as a channeling of the human drive toward greatness. Since the creature is bound for glory, it should not be surprising that “our Lord finds our desires not too strong, but too weak.”¹⁵⁸ Biotechnical advances will likely bring some degree of cognitive, mood, and physical benefits. If respectful of the dignity of the rational animal, then such developments will represent praiseworthy progress and positive aids to human flourishing. However, the person would suffer deep disappointment if he expected a more comfortable and longer life to bring rest to his aching heart. Sadly, “we are far too easily pleased” in seeking eternal joy in fascinating but finite goods.¹⁵⁹ Although enhancement technology may offer a quantitative extension of this life and its natural goods, it cannot offer the qualitatively superior good of divinization. Thankfully, we need not dream about 2045 or some other unfulfilled future to begin enjoying, through grace, here and now, the gift of divine transhumanization.

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vision of human happiness, its possibility, and the means for attaining it, see Armand Nicholi, *The Question of God: C. S. Lewis and Sigmund Freud Debate God, Love, Sex, and the Meaning of Life* (London: Free Press, 2003), 97–125. Nicholi takes Sigmund Freud as a representative of the secular vision of life and C. S. Lewis as a representative of the Christian vision.

¹⁵⁸ C. S. Lewis, *The Weight of Glory and Other Addresses* (San Francisco: HarperSanFrancisco, 2001), 26.

¹⁵⁹ Lewis, *Weight of Glory*, 26.