A Theological Embrace of Transhuman and Posthuman Beings

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Christianity exhibits theological flexibility, potentially allowing for inclusion of beings generated from enhancement and artificial intelligence (AI) technologies. Paul's victory over the circumcision party allowed Gentiles to follow Jesus Christ without becoming Jewish. The Abrahamic covenant required a body, altered by circumcision, to be in right relationship with God. Paul's gospel explicitly does not require an altered body. For Jews and Gentiles, justification requires only acceptance of God's grace. Transhuman and posthuman beings, resulting from enhancement and AI technologies, may be able to do this as God's creations. Granted, further work may determine if these beings will meet other theological criteria for salvation.

Transhuman/posthuman possibilities are urgent matters for Christians to address.[1] This article discusses the challenge presented by salvation for transhuman/posthuman beings and then gives an important biblical example, showing that Christianity is theologically flexible enough. These beings will be created by God. Further theological work is needed, with attention to biblical and theological assessments of the anthropology, soteriology, eschatology, and other aspects of these new beings. Are they fallen, and do they have free will, are just two of many questions requiring theological inquiry.

The Nature of Transhuman and Posthuman Beings

The human species stands at an important moment in its evolution, one in which it is developing the tools to take active control of the future of humanity as we enter an era of "radical evolution."[2] The biotechnology revolution is yielding scientific discoveries and technologies that will transform what it means to be human in physical, cognitive, affective, and even in moral[3] and spiritual[4] domains. Questions are being raised about what it means to have personhood and sentience.[5] These developments are fiercely debated by an increasing number of ethicists and public intellectuals.[6] The long philosophical and theological discussion about human nature and what, in the biblical tradition, is called the *imago Dei,* is going to take on new intensity and significance in a world where "cyborg" and "spiritual machine" are no longer merely the stuff of science fiction. We are now seeing scholars of religion reflecting on transhuman and posthuman possibilities in sustained and thoughtful ways.[7] These questions will not yield quick and easy resolution, nor should they.

There are other possibilities, but a brief review of cyborgs, artificial superintelligence, and whole brain emulation is sufficient to raise the question about the status of future technologically produced beings or radically enhanced human beings from a Christian theological perspective. These three examples paint a picture strongly suggesting that the new world aborning will require theological assessment of transhuman and, possibly, posthuman beings.

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1. Cyborgs

Part human/part machine "cyborgs" are not raising theological concerns at the level of pacemakers and artificial knees. Although much harder to manipulate, the brain and nervous system, radically enhanced, would raise theological issues. Advanced cyberization could use tissue engineering, biomechatronics, nanomachines, and neuroscience breakthroughs to modify our senses, personality, memory, and other cognitive functions. FDA-approved neural implants are placed directly into the brain of some patients to counteract symptoms of Parkinson's disease and other neurological disorders. Increasingly, computers will be embedded in our bodies. At some point, modification may change our person, our very nature. For years, philosophers have debated whether a machine can have consciousness. Regardless of how that debate turns out, at a practical level, the merging of machines and biological entities will raise acute theological and philosophical questions about the nature of human beings.

2. Artificial Superintelligence

Artificial intelligence (AI) is, appropriately, now getting much attention regarding its impact on jobs and the economy. AI has traversed through several boom and bust periods. Now, it seems positioned for a period of significant advancement. Battlefield robotics, self-driving cars, and smart home devices are just a few ways in which AI is increasingly becoming a part of our daily lives in what is called "weak" or "narrow" AI. This kind of AI push by countries and companies lays the groundwork for the development of what is sometimes called "strong AI," that is, machines that mimic general human intelligence. Machines with intelligence at the general human level may never be developed. That said, strong AI is enough of a possibility to merit our exploration, even if now only as a thought experiment.

Superintelligence refers to machine intelligence that surpasses general human intelligence. Nick Bostrom, director of the Future of Humanity Institute at the University of Oxford, provides the most current and thorough assessment of the possibility of a superintelligent machine in an important book, *Superintelligence: Paths, Dangers, Strategies.*[8] Apart from the considerable dangers detailed by Bostrom and others,[9] complicated theological questions would be raised by superintelligence that is autonomous, potentially self-aware, and able to act in the world via robotics. Consider the following statement, not an atypical one, coming from Scottish AI expert David Levy several years ago.

> We are in sight of the technologies that will endow robots with consciousness, making them as deserving of human-like rights as we are; robots who will be governed by ethical constraints and laws, just as we are; robots who live, and who welcome being loved, and who make love, just as we do; and robots who can reproduce. This is not fantasy—it is how the world will be, as the possibilities of Artificial Intelligence are revealed to be almost without limit.[10]

Videos of robots on the internet provide a sense of what it might be like to experience intelligent robots occurring as persons and with consciousness.[11] As development of intelligent robots continues, whether robots are persons, and are actually conscious, will be a part of the ongoing debate. Engineers in Japan are particularly skilled at creating human-like robots. Human-like robots playing roles in our everyday lives will increasingly raise questions about treatment of robots, robot rights, the definition of personhood, and a host of religious questions, such as the ones raised in this article.

3. Whole Brain Emulation

Our third example, whole brain emulation, often referred to as "mind uploading," refers to copying the information in the brain, such as memory and personality, into a digital substrate. Although major technical barriers must be overcome, thoughtful critics argue that mind uploading of some sort will be feasible at some point. Bostrom addresses the technical aspects of whole brain emulation in his book, *Superintelligence*. Mind uploading raises questions about personal identity and the role of embodiment in personhood.[12] Until now, we have placed neural implants into the human brain. Whole brain emulation changes the direction, potentially moving the "mind" into a computer—uncharted territory. Regardless of how this "enhancement" might unfold, it reflects a new "creature" in at least some sense of that word.

Christianity Is Nimble—Paul's Victory over the Circumcision Party as an Example

Thus far in its history, Christianity has proven flexible and adaptable, while maintaining allegiance to the Bible and historic creeds such as the Nicene

Creed and the Apostles' Creed. Paul's first-century victory over the circumcision party agitators[13] is an important biblical example of Christianity's early ability to embrace a new category of believer.

The circumcision controversy refers to the theological disagreement between Paul and his opponents[14] regarding how one is justified before God—through grace and faith or through keeping the law. The particulars of this pivotal first-century dispute are debated by scholars. However, the basic thrust of the controversy and its outcome is clear, and that outcome is sufficient for the purposes of this article. In opposition to the circumcision party, which required Gentiles to be circumcised and fulfill some other requirements of the law to be saved, Paul contended strongly, persistently, and, eventually, successfully, that justification is by grace through faith. This doctrinal debate had colossal implications for the Christian church. Gentiles could come into the church without "becoming Jewish," in particular, without being circumcised and keeping the law.

Paul addresses the issue primarily in the book of Galatians. It is the one book without Paul's typical thanksgiving in the greeting. He says that his opponents have "perverted" the gospel (Gal. 1:7), he doubly curses them (Gal. 1:8–9), and he says that he wishes the knife would slip for those requiring circumcision (Gal. 5:12). I could give other examples; these examples are enough testimony to Paul's anger, which points to the critical import he attributed to this theological debate.[15]

The Abrahamic covenant required an altered body (circumcision) to be in right relationship with God. Paul came from this traditional view, but his thinking shifted in light of his experience in Christ. The new covenant, according to Paul, explicitly does not require an altered body to be in right relationship with God. Justification requires faith acceptance of God's grace by everyone, Jews and Gentiles. Some might argue that justification does not require a body at all, but that conclusion would require biblical and theological consideration of the nature and role of embodiment in God's creation of human beings.[16]

So, Paul radically stepped out of the traditional and familiar paradigm in which he was comfortable. Once he made the shift to the inclusion of Gentiles, he resisted setting up a rigid set of regulations; this new approach can be understood as leaving room to be flexible going forward. Although she was, in this quotation, referring to Paul's view of the body, Pauline scholar Lee Johnson's framing is helpful.

> It strikes me that Paul's thought reveals a great deal of imaginative mythmaking that happened in light of his Damascus Road experience … [Paul's] creative theological reconfiguration … [is a] paradigm for the church in the twenty-first century as it faces the theological challenge of transhumanism.[17]

Christianity arguably began as a sect of Judaism. Jesus and most of the early disciples were Jews. The new faith, however, was nimble enough to reach out and fully embrace a new category of believers, the Gentile. Second Temple Judaism had already included Gentiles but it required them to become Jewish and to submit to second-class status. While his relationship to Judaism is debated, Paul can be understood as reflecting a decisive transition from religious particularism to religious universalism.[18]

For sure, sentience that emerges from AI-enhanced robots, or from some other transhuman/posthuman being we have discussed, is a far cry from the category of Gentile, unquestionably human and recipient of God's saving grace. My point, echoing Johnson, is that the circumcision debate, as well as its outcome favoring inclusion of Gentiles, provides an example of Christianity expanding beyond boundaries that many opponents of Paul in that day believed should not be crossed.

Even if Christianity, theoretically, is theologically nimble enough to embrace transhuman and posthuman beings, that in itself is not sufficient to conclude that such beings can receive justification. Those new beings will need to pass theological muster. In other words, the transhuman/posthuman beings must be able to be assessed as being consistent with the theological tradition expressed in the Bible and in major historic creeds. I address one of many issues that will require assessment. I show that it is biblically and theologically reasonable to understand transhuman/posthuman beings as created by God.

God Is Doing the Creating—Still

Central to the monotheistic tradition and firmly embedded in the biblical materials is the idea that God is creator. Human beings are created by God in the *imago Dei*, the image of God. Admittedly, the

Bible is a collection of books primarily about human beings, from the creation stories through the story of the ancient Israelites and culminating in Jesus and the early church. Human beings, however, are not the sole focus of God's creative or salvific activity. After the first two chapters of the Bible, the creative activity of God continues in many and varied ways, even to the end-time, with "a new heaven and a new earth" (Rev. 21:1; 2 Pet. 3:13). The nature of animals and the status of the nonhuman creation have long been discussed.[19] Regardless of how those issues are resolved, the question now before us concerns new categories of creations (e.g., cyborgs, super-intelligence, mind-uploads) in which the possibilities of consciousness and soul are more obvious than they are with animals.

Valuable here is the idea and terminology of "created co-creators," introduced by Philip Hefner and playing an important role in the religion and science field for over two decades.[20] The human creatures are given responsibility for being stewards of the rest of creation. They are to tend the Garden of Eden, allowing it to flourish with new life. Also, the human creation co-creates with God, developing tools and cities and people to use the tools and to live in the cities. "Be fruitful and multiply" (Gen. 1:28) is the deity's command. The creation in Genesis 1 is thoroughly good and full of promise and potential. There is no hint of trouble or evil in that first chapter. For sure, we move to Genesis 3 to find that sin appears, along with all its disastrous consequences. The human beings make irresponsible decisions, and we soon read stories of Cain killing Abel and a flood devastating the earth. Very powerful technologies in hands not tempered by humility and commitment to the mission to tend the garden can result in serious mischief and suffering.[21] While it is prudent to always remember that our technology can bring harm, this does not nullify the good that properly handled technology can generate.[22]

Hefner's notion of created co-creators provides the biblical and theological framework for the contention that God works through the human creatures to develop technologies, perhaps very powerful ones, for good. Put in a different way, technology can be a means of grace. The moral status of technology is vigorously debated.[23] My appropriation of Hefner's created co-creator concept is situated in an instrumental view of technology, that is, technology as value-neutral, with a positive effect if guided in a healthy direction.

These biblical and theological considerations, along with the assessment of technology as potentially positive in its impact, provide a basis for understanding God's using human created co-creators to continue to create, in this case, other, perhaps more-advanced, species. We could describe them as *techno sapiens* or *techno sentiens*; they include cyborgs, superintelligence, and mind-uploads. Admittedly, further theological work is required to address questions such as the potential fallen nature of transhuman/posthuman beings, and the nature of God's incarnation that would address that fallenness.

While I plan to address it at length in another paper, the question of other worlds that include extraterrestrial life is an example, at least theoretically, of God's creation of sentient beings other than *Homo sapiens*. Ted Peters calls for "exotheology," speculation on the theological significance of extraterrestrial life.[24] Pope Francis, in a widely circulated 2014 quote, said that he would baptize Martians, should they make that request.[25] This hypothetical example of baptizing Martians provides an interesting lens through which to view a text such as that beautiful hymn in Colossians 1:15–23, which affirms that God reconciles "all things, whether on earth or in heaven" (verse 20).[26]

Reflections by academic theologians on the implications for Christian theology of extraterrestrial life may not be directly transferable to transhuman/posthuman beings, but such theologizing provides a fertile starting point for the contention that transhuman/posthuman beings are creations of God. For example, Paul Tillich writes:

> Incarnation is unique for the special group in which it happens, but it is not unique in the sense that other singular incarnations for other unique worlds are excluded. Man cannot claim to occupy the only possible place for incarnation.[27]

Embracing Transhuman/Posthuman Beings

Some Christians expect that the antichrist will utilize the transhuman/posthuman technologies for evil.[28] On the opposite extreme, some Christian transhumanist/posthumanist enthusiasts may accept anything science can accomplish.[29] Both extremes are unwise. Prudence requires at least a general understanding of relevant technologies, followed by careful reflection from the core teachings of the religions, in our case, Christianity.

I have detailed a biblical example of Christianity's theological flexibility and inclusion, allowing Gentiles to convert without becoming Jewish. Christianity is sufficiently theologically nimble to include, in the spirit of Paul, beings resulting from enhancement and AI technologies. These beings can be understood as created by God who is working with God's created co-creators. The embrace of new categories of beings ought not to be indiscriminate, however. The hard theological work is to evaluate these new forms of intelligence and determine if these beings meet other theological criteria, such as, would they have free will? be fallen? With that qualification, and with due attention to ethical concerns not addressed in this article, let us sing with the psalmist, "Be glad and rejoice forever in what I am creating" (Ps. 65:18). +

Acknowledgment

Notes

[1]Derek C. Schuurman, "Artificial Intelligence: Discerning a Christian Response," *Perspectives on Science and Christian Faith* 71, no. 2 (2019): 75–82, also urges Christians to engage in the evaluation of AI. He writes, "The rapid pace of change adds a degree of urgency to this call to engage" (p. 81).

[2]*Radical Evolution* is the title of the book by Joel Garreau, a competent journalist of cultural revolutions and, in this case, biotechnology. *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies—and What It Means to Be Human* (New York: Doubleday, 2005).

[3]For example, Gareth Jones, "Moral Enhancement as a Technological Imperative," *Perspectives on Science and Christian Faith* 65, no. 3 (2013): 187–95; and Tracy Trothen, "Moral Bioenhancement from the Margins: An Intersectional Christian Theological Reconsideration," in *Religion and Human Enhancement: Death, Values, and Morality,* ed. Tracy J. Trothen and Calvin Mercer (New York: Palgrave Macmillan, 2017), 245–65.

[4]For example, Ron Cole-Turner, "Spiritual Enhancement," in *Religion and Transhumanism: The Unknown Future of Human Enhancement,* ed. Calvin Mercer and Tracy Trothen (Westport, CT: Praeger, 2015), 369–84.

[5]One can see the centrality of these questions showing up in the titles of books on biotechnology. Consider the subtitles of these books: Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Viking, 1999); Garreau, *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies—and What It Means to Be Human*; and Bill McKibben, *Enough: Staying Human in an Engineered Age* (New York: Henry Holt, 2003). McKibben has updated, but not essentially altered, his reflections on radical human enhancement in *Falter:*

Has the Human Game Begun to Play Itself Out? (New York: Henry Holt, 2019). For a helpful review of four books on these topics, see Patrick S. Franklin, "The Human Person in Contemporary Science and Theology," *Perspectives on Science and Christian Faith* 64, no. 2 (2012): 120–29.

[6]For example, Leon R. Kass, "L'Chaim and Its Limits: Why Not Immortality?," *First Things: A Journal of Religion and Public Life* 113 (May 2001): 17–24; Gregory Stock, *Redesigning Humans: Our Inevitable Genetic Future* (Boston, MA: Houghton Mifflin, 2002), 78–96; Ronald Bailey, *Liberation Biology: The Scientific and Moral Case for the Biotech Revolution* (Amherst, NY: Prometheus Books, 2005), 25–61; Francis Fukuyama and Franco Furger, *Beyond Bioethics: A Proposal for Modernizing the Regulation of Human Biotechnologies* (Washington, DC: Paul H. Nitze School of Advanced International Studies, Johns Hopkins University, 2006); William Hanson, MD, *The Edge of Medicine: The Technology That Will Change Our Lives* (New York: St. Martin's Griffin, 2008); and McKibben, *Falter: Has the Human Game Begun to Play Itself Out?*

[7]Ron Cole-Turner has long addressed the impact of new and emerging technologies on human understanding and the human future. A recent edited collection is Steve Donaldson and Ron Cole-Turner, eds., *Christian Perspectives on Transhumanism and the Church: Chips in the Brain, Immortality, and the World of Tomorrow* (New York: Palgrave Macmillan, 2018). For other examples, see Ronald Cole-Turner, ed., *Design and Destiny: Jewish and Christian Perspectives on Human Germline Modification* (Cambridge, MA: MIT Press, 2008); Brent Waters, *This Mortal Flesh: Incarnation and Bioethics* (Grand Rapids, MI: Brazos Press, 2009); Ted Peters, *Science, Theology, and Ethics,* in Ashgate Science and Religion Series (Aldershot, UK: Ashgate Publishing, 2003); Schuurman, "Artificial Intelligence: Discerning a Christian Response," 75–82; Russell Bjork, "Artificial Intelligence and the Soul," *Perspectives on Science and Christian Faith* 60, no. 2 (2008): 95–102; and Celia Deane-Drummond, Sigurd Bergmann, and Bronislaw Szerszynski, eds., *Technofutures, Nature and the Sacred: Transdisciplinary Perspectives* (Abingdon, UK: Ashgate Publishing, 2015). The American Academy of Religion "Human Enhancement and Transhumanism" academic unit is also an indication of this interest from scholars of religion. A brief history of this academic group, which has given attention to some of the concerns expressed in this article, is found in Calvin Mercer, "Introduction: Making the Unknown Known," in *Religion and Transhumanism,* ed. Mercer and Trothen, ix–xiv. See especially page xi.

[8]Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford, UK: Oxford University Press, 2014).

[9]To minimize the dangers, Bostrom and others advocate value-loading each new generation of AI, so that superintelligence does not harm humans and the planet. Although they are addressing AI in general, and not specifically superintelligence, Albert M. Erisman and Tripp Parker discuss "Virtuous AI" in "Artificial Intelligence: A Theological Perspective," *Perspectives on Science and Christian Faith* 71, no. 2 (2019): 95–106. See especially pages 97–99.

[10]David Levy, *Robots Unlimited: Life in a Virtual Age* (Boca Raton, FL: CRC Press, 2005), 293.

[11]This video provides clips of robots as well brief remarks by a Japanese roboticist, https://video.search.yahoo.com/yhs/search?fr=yhs-ore-001&hsimp=yhs-001&hspart=ore&p=japanese+professor+with+human-like+robots#action=view&id=37&vid=aed4712a9452753a8e6a1a8c5c9b9efd. See also https://video.search.yahoo.com/yhs

/search?fr=yhs-ore-001&hsimp=yhs-001&hspart=ore&p=japanese+professor+with+human-like+robots#action=view&id=40&vid=15e34dcdf8380793edda4eabc0d9a4f1.

[12]For theological reflections on whole brain emulation, see articles by Calvin Mercer: "Mind Uploading, Embodied Existence, and Personal Identity—Is There a Theological Way through This Transhumanist Program?," forthcoming in *Religious Transhumanism and Its Critics,* ed. Brian Green and Ted Peters (Lanham, MD: Rowman & Littlefield Lexington Books, 2019); ___, "Whole Brain Emulation Requires Enhanced Theology, and a 'Handmaiden,'" *Theology and Science* 13, no. 2 (2015): 175–86; and ___, "A Theological Assessment of Whole Brain Emulation: On the Path to Superintelligence," in *Religion and Human Enhancement,* ed. Trothen and Mercer, 89–104.

[13]This theological fight between Paul and his opponents is also called the "Judaizing controversy," although that terminology is rarely used now. Also, Paul was not alone; he had allies in his struggle with the circumcision agitators.

[14]Who exactly were Paul's opponents is the subject of scholarly discussion, but my thesis does not depend on the outcome of this debate.

[15]Several excellent scholarly assessments of Paul give considerable attention to the theological questions. Although a bit dated, the following work by F. F. Bruce, a major evangelical scholar, is still valuable: *Apostle of the Heart Set Free* (Grand Rapids, MI: Eerdmans, 1977). See also James D. G. Dunn, *The Theology of Paul the Apostle* (Grand Rapids, MI: Eerdmans, 1998), and the more recent work by N. T. Wright, *Paul in Fresh Perspective* (Minneapolis, MN: Fortress, 2005).

[16]This issue is addressed in Adam S. Miller, "Sorting Out *Soma* in the Debate about Transhumanism—One Protestant's Perspective," in *Transhumanism and the Body: The World Religions Speak,* ed. Calvin Mercer and Derek F. Maher (New York: Palgrave Macmillan, 2014).

[17]Lee Johnson, "Dining and Dunking the Dead: Postmortem Rituals in First-Century Hellenistic Society and What They Reveal about the Role of the Body in Christianity," in *Religion and Human Enhancement,* ed. Trothen and Mercer, 301–16. See also Lee Johnson, "Return of the Corporeal Battle: How Second-Century Christology Struggles Inform the Transhumanism Debate," in *Religion and Transhumanism,* ed. Mercer and Trothen, 274–89; and Calvin Mercer, "Bodies and Persons: Theological Reflections on Transhumanism," *Dialog: A Journal of Theology* 54, no. 1 (Spring 2015): 27–33.

[18]While he argues for a revision, the traditional scholarly view of Paul is summarized in John G. Gager, *Reinventing Paul* (Oxford, UK: Oxford University, 2002). See p. 22 for the point about universalism.

[19]Joshua M. Moritz, "Evolution, the End of Human Uniqueness, and the Election of the *Imago Dei*," *Theology and Science* 9, no. 3 (2011): 307–39, provides a helpful review of this issue and questions ideas of the *imago Dei* that equate the divine likeness with some "characteristic, behavior, or trait which presumably makes humans unique—in a nontrivial way—from other animals and from the non-human hominids." Celia Deane-Drummond investigates these issues in *Creaturely Theology: On God, Humans and Other Animals*, ed. with David Clough (London, UK: SCM, 2009), and also in *The Wisdom of the Liminal: Evolution and Other Animals in Human Becoming* (Grand Rapids, MI: Eerdmans, 2014).

[20]Philip Hefner, *The Human Factor: Evolution, Culture, and Religion* (Minneapolis, MN: Augsburg Fortress, 1993). For a critique of the created co-creator concept, see Waters, *This Mortal Flesh*, 176–79.

[21]For a similar perspective on the technology and the early stories of Genesis, see Erisman and Parker, "Artificial Intelligence."

[22]One of the planks of the American Scientific Affiliation platform is "We recognize our responsibility, as stewards of God's creation, to use science and technology for the good of humanity and the whole world" (https://network.asa3.org/). Although they do not go so far as calling human beings created co-creators, Erisman and Parker, in "Artificial Intelligence," affirm that the development of AI systems "is a vital part of the creation mandate, and this work can be done to the glory of God" (p. 95).

[23]For a review of the options, see Maarten Franssen, Gert-Jan Lokhorst, and Ibo van de Poel, "Philosophy of Technology," *Stanford Encyclopedia of Philosophy,* last updated September 6, 2018, https://plato.stanford.edu/entries/technology/, and Thomas A. C. Reydon, "Philosophy of Technology," *Internet Encyclopedia of Philosophy,* accessed November 2019, https://www.iep.utm.edu/technolo/. Andrew Feenberg, in "What is Philosophy of Technology?" (lecture for the Komaba undergraduates), June 2003, http://www.sfu.ca/~andrewf/komaba.htm, argues that we should work to control technology when there are indications that it can raise problematic issues. With the very powerful enhancement technologies on the horizon, a critical and cautious approach to technology is in order.

[24]Peters, "Exotheology: Speculations on Extraterrestrial Life," a chapter devoted to the topic in *Science, Theology, and Ethics*, 121–36. Peters provides a review of the long discussion of this issue in Christian theology.

[25]Abby Ohlheiser, "Pope Francis Says He Would Definitely Baptize Aliens If They Asked Him To," *The Atlantic* (May 12, 2014), https://www.theatlantic.com/international/archive/2014/05/pope-francis-says-he-would-definitely-baptize-aliens-if-they-wanted-it/362106/.

[26]See, e.g., Edmund Michael Lazzari, "Would St. Thomas Aquinas Baptize an Extraterrestrial?," *New Blackfriars* (September 4, 2017): 440–57, https://doi.org/10.1111/nbfr.12319. BioLogos pondered this question in a panel discussion featuring Deborah Haarsma, Stephen Freeland, and Jennifer Wiseman, "Life Beyond Earth: What Would It Mean for Christians?," April 18, 2019, https://biologos.org/resources/life-beyond-earth-what-would-it-mean-for-christians. Stopping far short of answering the question in the subtitle, the panel encouraged exploration of various ways to understand, biblically and theologically, what intelligent life beyond Earth would mean.

[27]Paul Tillich, *Systematic Theology*, Vol. 2 (Chicago, IL: University of Chicago Press, 1953), 95 f.

[28]Sean O'Callaghan gives a thorough and fascinating review of this genre in "Technological Apocalypse: Transhuman as an End-Time Religious Movement," in *Religion and Human Enhancement,* ed. Trothen and Mercer, 67–88.

[29]The Christian Transhumanist Association and the Mormon Transhumanist Association advocate a positive stance toward transhumanist/posthumanist possibilities.