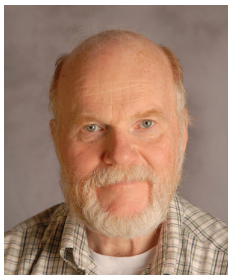
Will Transhumanism Solve Death?

Russell Bjork



Russell Bjork

Many transhumanists hold that the problem of death can be solved using technological means such as medical breakthroughs, cryonic preservation, computer simulation, or uploading the contents of the brain into a computer. Most of these proposals fall short of accomplishing their goal even within a transhumanist framework. Moreover, the view that physical death is a problem to be solved technologically runs counter to biblical teaching regarding the cause of our physical mortality, the reality of final judgment, and the hope of physical resurrection. The claim of some that the biblical hope of resurrection will actually be fulfilled technologically is evaluated and found wanting. The basic problem of humanity is not that we are biological, but that we are dead in relationship to our Creator, and the ultimate solution to physical death is to be found in the gospel.

The lead article by David C. Winyard in this issue of *PSCF* asks how Christians ought to respond to transhumanism: "the social and philosophical movement that seeks fundamental 'enhancements' of life by futuristic science and technology."[1] This article will consider how Christians might evaluate and respond to an "enhancement" that many, but not all,[2] of those who identify as transhumanists aspire to: "solving" human mortality technologically.[3] They envision this being accomplished in one or more of the following ways:

1. Dramatic life extension by medical means.
2. Cryonic preservation of the body (or just the head) of a person who has died.
3. Computer simulation of a person who has died based on information preserved during life.
4. Uploading a person's brain into a computer.

Medical developments, such as methods for preventing, detecting, and treating disease, have already resulted in increases in average human lifetimes by over 60% in about one hundred years[4] and are likely to continue to produce further increases. But some transhumanists predict dramatic breakthroughs in this regard resulting from genetic technologies, such as CRISPR, and/or the use of nanobots (minuscule robots similar in size to cells inserted into the bloodstream) that would extend lifetimes to a few hundred years, or more.[5] Some are interested in tackling the process of aging itself as a curable disease rather than simply a consequence of growing older, ultimately leading to lifetimes of thousands of years or even longer.

Since 1967, about 250 people have had their bodies or just their heads preserved cryogenically when they died, and about 1,500 more have signed up for this when they die. Those who have done so, or plan to do so, have anticipated being revived at a later date when more-advanced technologies would allow for curing the original cause of death or uploading their preserved brain state (thus, preserving their consciousness in a digital state).[6]

Russell Bjork *is a professor of computer science at Gordon College. He holds degrees from MIT (BS, MS) and Gordon-Conwell Theological Seminary (MDiv), and is actively involved at the North Shore Community Baptist Church.*

Others envision computer simulations based on personal information saved during a person's lifetime. The original person would die, but other people would be able to continue interacting with a simulation that appears to be the same person. Martine Rothblatt argues that such a digital mind

> will be able to faithfully mimic the workings of this predecessor's mind … [and will appear] to have a consciousness that is equivalent to that of its predecessor brain-based person.[7]

Other proponents argue,

> If … people are recoverable in the future, then they were never really dead in the first place. Real death occurs when information about a person becomes so disorganized that no technology could restore the original state.[8]

Uploading the brain differs from the simulation described above in that what would be preserved is the detailed state of the neurons and synapses of an individual's brain. This information would be used to emulate the computation occurring in the brain and thus, it is argued, would replicate the person's consciousness. Probably the best-known proponent of this is Raymond Kurzweil, currently the Director of Engineering at Google. He contends that we are heading toward a technological "singularity" by 2045,[9] which will make both the detailed mapping of a brain and emulation of its computations technologically possible.[10] While not all transhumanists subscribe to the singularity expectation,[11] many support the use of digital uploading and emulation of the brain to eliminate inherent limits to a human lifespan. Kurzweil believes this will allow us "to live as long as we want (a subtly different statement from saying we will live forever)."[12]

What Might a Technological Solution Really Solve?

This article will present a theological critique of the idea of solving death technologically, but first it is worth noting that, even within a transhumanist perspective, most of these approaches do not offer any possibility of being a reliable total solution to death and none offers such a possibility for all people.

Broadly speaking, an individual dies for one of the following reasons: natural causes (aging, disease, heart attack, stroke, etc.), accident, or intentional acts—either by others (murder, acts of war) or by self (suicide).

Medical means address only the first reason for death and offer no solution to most accidental or intentional causes—and in any case, it appears that there may be an inherent upper limit to longevity,[13] and finite life extension does not ultimately "solve" death but merely postpones it.

Cryonic preservation is very costly, must occur almost immediately after death,[14] and offers no solution to accidental or intentional causes if the body is destroyed or damaged beyond repair in the process. It also presumes that some future technology will be able to solve both the original and future causes of death for the individual (i.e., alternatives (1), (3), or (4) above are still necessary, so cryonic preservation is not a solution in its own right). This writer is unaware of any evidence of successful resuscitation of a preserved corpse, and critics of this procedure point out that the process of freezing the brain does irrecoverable damage to the brain tissue.[15]

While it is hypothesized that a computer simulation could allow others to continue interacting with the individual despite the latter's death, this relies on having sufficient preserved information to allow a realistic simulation. Moreover, it raises the question of personal identity which Rothblatt addresses this way:

> While the software-based mind will realize it is not the original brain-based mind, just as each human adult realizes they are not their teenage mind, or even the precise mind of the previous day, this fact of personal consciousness flux does not undermine the continuity of unique identity.[16]

This claim seems untenable in light of the fact that, even if such a simulation were possible, it would assuage only the sense of loss experienced by the loved ones of those who have died, without preserving many of the memories and deep thoughts—the core of being—of the one being simulated.

Some form of uploading might, hypothetically, address all three causes of death if a recent backup of the digitized state of the person's consciousness is on hand. But achieving something like this in the near future, if at all, is questionable both philosophically and technologically, given the storage required for the 100 billion or so neurons in a single brain, the even larger number of connections between neurons, the diversity of types of neurons and synapses in the brain, and the difficulty of mapping the connectome

of an actual brain. Moreover, even if something like the singularity were to make this possible in a single case, billions of times more storage would need to be built and maintained if this were to be possible for all people alive at any time, to say nothing of the need for computer systems to actually run the emulation forever.[17]

Biblical Teaching on Physical Death, Resurrection, and Final Judgment

In the Bible, physical death is portrayed as an enemy that will someday be destroyed[18] and as a precursor to final judgment.[19] Moreover, it is not portrayed as something to be accepted passively. The Bible records miracles of reversing physical death, performed by Elijah, Elisha, Jesus, Peter, and Paul, as well as miracles of healing by Jesus that likely prevented the beneficiary from dying.[20] For a Christian medical professional, combating life-threatening diseases can be a form of obedience to biblical mandates. But presumably those who were raised from the dead later died again, and medical interventions only serve to postpone ultimate death. In a sense, human or miraculous efforts do not ultimately prevent death; rather, they simply postpone it.

What is the relationship between physical death and human sin? In the account of the first sin recorded in Genesis 2, God gives the warning concerning the tree of knowledge: "in the day that you eat of it you shall surely die."[21] Since the individuals lived on for many years, many writers have held that "die" is not referring to physical death, but rather to spiritual death, that is, alienation from God.[22] While much Christian theology has held that Genesis 2–3 and Romans 5:12 teach that human beings were created physically immortal but lost immortality as a result of partaking of the fruit of the tree of knowledge of good and evil,[23] seeing mortality per se as a result of sin does not comport with the scientific evidence that humankind evolved from a long line of mortal creatures. For this reason, some writers have pointed out that the Genesis account fits well with the view that humankind was initially mortal, with perpetuation of life being offered through the "tree of life."[24] Following the initial act of disobedience, Adam and Eve were expelled from the Garden of Eden lest he "reach out his hand and take also from the tree of life and eat, and live forever" (Gen. 3:22).[25] Thus, regardless of the origin of human mortality, it does seem clear in scripture that our current subjection to mortality is at least an indirect consequence of sin.

Though most humans (except those alive at the return of Christ) will ultimately experience physical death, the Bible consistently teaches the ultimate resurrection and judgment of all humans. Daniel put it this way: "Multitudes who sleep in the dust of the earth will awake: some to everlasting life, others to shame and everlasting contempt" (Dan. 12:2). The Bible abounds in promises of *individual* resurrection and restored access to the tree of life, such as "*the one* who believes in me will live, even though they die" (John 11:25) and "to *the one* who is victorious, I will give the right to eat from the tree of life, which is in the paradise of God" (Rev. 2:7, emphases mine). According to Jesus, the promised resurrection flows from his cross: "unless a kernel of wheat falls to the ground and dies, it remains only a single seed. But if it dies, it produces many seeds" (John 12:24, spoken in the context of a prediction of his coming death). Eternal life is inseparable from a restored relationship to our Creator through Christ, which is, in fact, the essence of what eternal life is all about: "Now this is eternal life: that they know you, the only true God, and Jesus Christ, whom you have sent" (John 17:3).

Might Technology Be the Resurrection?

Most transhumanists do not profess to be Christians, and many are atheists. Many would agree with Kurzweil's assertion that "a primary role of traditional religion is deathist rationalization—that is, rationalizing the tragedy of death as a good thing."[26] However, as Winyard noted in his article, some do claim Christian faith, including those comprising an organization known as the Christian Transhumanist Association (CTA).[27]

Micah Redding is the executive director of this group. He is a prolific author, and many of his essays are linked (directly or indirectly) from the CTA web site. In the article "The Resurrection Is Technological," he argues that the biblical promise of "the ultimate resurrection of all people, and the eradication of death itself,"[28] is to be fulfilled through technological achievement. However, this article and others by this author raise a number of questions, including

1. How does physical immortality achieved through technological means provide "ultimate resurrection" for individuals who die

before the technology is developed? If it does not, how are the biblical promises cited above to be fulfilled for these people—or are they?

2. Redding's article states that "humans made a bad choice, and were subsequently barred from the tree of life."[29] What was this "bad choice"? And how does technological achievement reverse this?
3. The article quotes 1 Corinthians 15:20 which refers to Christ as the "firstfruits" of the resurrection. If the resurrection is physical immortality achieved through technology, then in what sense is Christ the "firstfruits"?
4. What is the significance of the cross of Christ? Do the biblical doctrines of atonement and final judgment have any relevance?

Is Being Biological the Problem?

In any domain, any form of problem solving begins with identifying the problem that is to be solved. Solving a symptom rather than the real problem will allow the underlying problem to persist, perhaps resulting in other symptoms instead. For many transhumanists, mortality is a consequence of our being biological, because our bodies die either due to natural causes or due to some form of physical damage. The basic problem, they contend, is that we are biological beings, and the proposed cure is to escape biology, as suggested by the subtitle of Kurzweil's 2005 book, *The Singularity Is Near: When Humans Transcend Biology*.[30] Escaping biology smacks of the ancient heresy of Gnosticism[31] and seems counter to the view that God is the Creator of the biological and chose to incarnate himself in human flesh.

A question for transhumanists to ponder is whether being biological is really the issue. Would solving physical death by becoming a digital consciousness in a computer change the human propensity to exhibit greed, power-lust, and cruelty? Would physical immortality—in itself—be the source of true meaning and purpose in life? Or would there still seem to be something missing? Recall Kurzweil's comment about living "as long as we want (a subtly different statement from saying we will live forever)."[32] In the Terasem survey cited earlier, "8.1% said they didn't want immortality because of the 'boredom' they feel they'd endure as a consequence."[33]

A Christian Evaluation of Transhumanist Approaches to Solving Death

While medical efforts to tackle issues that shorten life do seem consistent with the teaching of the Bible and Christian practice, looking to some sort of technology for immortality does not. We would rightly condemn a physician who only prescribed aspirin to treat pain caused by a life-threatening but curable condition, while neglecting treatment for the underlying condition. When someone seeks to solve physical death apart from a restored relationship with our Creator, are they not doing the same thing?

In Athens, Paul expressed God's purpose for humanity in this way:

> The God who made the world and everything in it is the Lord of heaven and earth … God did this so that they would seek him and perhaps reach out for him and find him, though he is not far from each one of us. (Acts 17:24, 27)

Our real problem is not that we die physically, but that we are already dead in our relationship to our Creator; what we need is not conquest of physical death but a restored relationship with the One who created us. As Paul put it, "… you were dead in your transgressions and sins … But because of his great love for us, God, who is rich in mercy, made us alive with Christ …" (Eph. 2:1, 4–5).

We have noted that the Genesis account speaks of two trees in the Garden of Eden: the "tree of the knowledge of good and evil" and the "tree of life" (Gen. 2:9). Whether either tree is to be understood as being a literal tree or one or both are symbolic of larger issues is not the point here. The former is never referred to again in the Bible, while the latter is not mentioned again[34] until the final book of the Bible—all but one of the times being in the final chapter.[35] From the Genesis account, we learn that the choice to partake illicitly of the former led to humanity being banished from the latter. While this is a form of divine judgment, there is also a sense in which this banishment represents divine mercy, since immortality in our present condition of estrangement from God would literally be Hell.[36] The efforts of some transhumanists to achieve immortality apart from our Creator appear to represent a repeat of the same rebellion that brought about our present condition in the first place. In fact, some proponents

of transhumanism seem to equate science and technology with God.[37] For example, at the very end of a documentary portraying his life, Ray Kurzweil says, "Does God exist? I would say not yet."[38]

There are many places where Christians can and should collaborate with others in addressing issues of mutual concern. But overcoming physical death by transcending biology is not one of these, since transcending biology entails rejecting a fundamental aspect of how God made us and how he has manifested himself by becoming fully human (and thus sharing our biological makeup) in Jesus Christ.

How Might Christians Respond to Transhumanist "Solutions" to Physical Death?

Throughout human history, the reality of physical death has been a source of angst for many. One need think only of mummification and the pyramids in Egypt and similar practices in other cultures, or legends concerning a fountain of youth, or even the belief that vampires achieve immortality by feeding on human blood, for example. For some, in fact, the reality of death makes life meaningless.

Thus, simply critiquing transhumanist approaches to solving death misses a crucial point. At first glance, such things as freezing dead bodies or uploading oneself into a computer sound far-fetched, but intelligent, even brilliant, people are investing their financial resources and time in arguing for and carrying out these technologies. For example, Kurzweil was born in 1948, so he will be well over 90 years old by the time he believes the singularity will make uploading the brain (and hence personal consciousness) possible. To live that long, he spends over $1,000,000 per year on a special diet and pills.[39]

What do Christians have to say to those who embrace transhumanist solutions to death? In the end, the message is the same Gospel we are commissioned to share with everyone. The subject of the Gospel is a man who was fully human—and therefore biological just as we are—who suffered the cruelest form of physical death. It is about *the one* who conquered physical death by being raised bodily from the dead on the third day. It is about *the one* whose resurrection life we are promised a share in. To those who believe this message, it is the life-transforming power of God.[40] The lengths to which some will go to escape our present mortality should serve as a reminder of the relevance of this Gospel—not simply "going to heaven when we die," but the possibility of a restored relationship with our Creator that can begin in this life and continue into a resurrected life to come. It is too easy for Christians to forget the existential relevance of the fact that Christ has delivered "those who all their lives were held in slavery by their fear of death" (Heb. 2:15), but that is the true power of our message. +

Notes

[1]David C. Winyard Sr., "Transhumanism: Christian Destiny or Distraction?," in *Perspectives on Science and Christian Faith* 72, no. 2 (2020): 68.

[2]According to a survey of transhumanists funded by Terasem, a leading transhumanist organization, 76.2% replied that they "did want immortality," while those who replied that they did not, cited reasons such as "boredom" or "the earth would be overpopulated." Hank Pellissier, "Do All Transhumanists Want Immortality? No? Why Not? (Terasem Survey, Part 1)," Institute for Ethics and Emerging Technologies, August 1, 2012, accessed July 31, 2019, https://ieet.org/index.php/IEET2/print/6262.

[3]The phrase "solve death" comes from a protest sign outside Google's headquarters: "Google, please solve death," as reported in Mark O'Connell, *To Be a Machine: Adventures among Cyborgs, Utopians, Hackers, and the Futurists Solving the Modest Problem of Death* (New York: Anchor Books, 2017), 171. The phrase "solve death" also appeared on the cover of *Time* 182, no. 14 (September 30, 2013).

[4]Raymond Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Penguin, 2005), table entries on p. 324 for 1900 and 2002 United States.

[5]Ibid., 253–58, 323.

[6]"Cryonics," *Wikipedia,* accessed September 9, 2019, https://en.wikipedia.org/wiki/Cryonics.

[7]Martine Rothblatt, "The Terasem Mind-Uploading Experiment," *International Journal of Machine Consciousness* 4, no. 1 (2012): 141, accessed August 22, 2019, https://www.cyberev.org/martine.pdf.

[8]"Cast Your Data into Space" (blog), July 30, 2019, accessed August 22, 2019, https://www.terasemcentral.org.

[9]Lev Grossman, "2045: The Year Man Becomes Immortal" (cover story), *Time* 177, no. 7 (February 21, 2011): 42–49.

[10]Kurzweil, *The Singularity Is Near,* 198–200.

[11]Gareth John, "The Singularity: Fact or Fiction or Somewhere in Between?," Transhumanist Party, January 3, 2019, accessed August 7, 2019, https://transhumanist-party.org/2019/01/03/singularity-fact-or-fiction/.

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

[13]David Adam, "What If Aging Were a Disease?," *MIT Technology Review* 122, no. 5 (Sept/Oct 2019): 15–18.

[14]O'Connell, *To Be a Machine,* 30.

[15]CBC Radio, "Preserving Your Brain Might Kill You, But It Could Help You Live Forever," Quirks & Quarks, last updated May 7, 2018, accessed September 3, 2019, https://www.cbc.ca/radio/quirks/may-5-2018-preserving-brains-for-uploading-coral-reefs-sound-sick-

south-american-child-sacrifice-and-more-1.4647066/preserving-your-brain-might-kill-you-but-it-could-help-you-live-forever-1.4647089.

[16]Rothblatt, "The Terasem Mind-Uploading Experiment," 141.

[17]Michael Graziano, "Why You Should Believe in the Digital Afterlife," July 14, 2016, accessed September 3, 2019, https://www.theatlantic.com/science/archive/2016/07/what-a-digital-afterlife-would-be-like/491105.

[18]1 Corinthians 15:26; Revelation 20:14.

[19]Hebrews 9:27.

[20]For example, Luke 7:1–10.

[21]Genesis 2:17 ESV. The NIV translates "in the day" by "when," but the Hebrew is literally *bə·yō·wm*, "in the day," as in most translations.

[22]William Horst, "Morality, Not Mortality: The Inception of Death in the Book of Romans," *Perspectives on Science and Christian Faith* 71, no. 1 (2019): 24.

[23]Compare most traditional systematic theologies such as Thomas Aquinas, *Summa Theologiae* (Roman Catholic) First Part of the Second Part, Question 85, Article 5; Louis Berkhof, *Systematic Theology* (Grand Rapids, MI: Eerdmans, 1941) (Reformed), 656–57; Francis Pieper, *Christian Dogmatics* (Saint Louis, MO: Concordia, 1950) (Lutheran), 536; or H. Orton Wiley, *Christian Theology* (Kansas City, MO: Beacon Hill, 1952) (Wesleyan), 91–93.

[24]John H. Walton, *Genesis (NIV Application Commentary)* (Grand Rapids, MI: Zondervan, 2001), 183–84.

[25]All scripture throughout unless otherwise noted is from the New International Version.

[26]Kurzweil, *The Singularity Is Near,* 372.

[27]Winyard, "Transhumanism: Christian Destiny or Distraction?," 77–78.

[28]Micah Redding, "The Resurrection Is Technological," September 28, 2017 (blog), accessed August 12, 2019, http://micahredding.com/blog/the-resurrection-is-technological.

[29]Ibid.

[30]Kurzweil, *The Singularity Is Near.*

[31]O'Connell, *To Be a Machine,* 158.

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

[33]See Pellissier, "Do All Transhumanists Want Immortality?"

[34]The phrase "tree of life" is used poetically four times in Proverbs (3:18, 11:30, 13:12, 15:4), but these passages do not appear to be referring to the tree mentioned in Genesis.

[35]Revelation 2:9, 22:2, 22:14, 22:19.

[36]In *The Great Divorce*, C.S. Lewis paints a powerful portrayal of what this would be like.

[37]O'Connell, *To Be a Machine,* 208.

[38]Barry Ptolemy, *Transcendent Man,* documentary film (Ptolemaic Productions, 2009). The words quoted occur at the very end of the film.

[39]Erin Brodwin, "The 700-Calorie Breakfast You Should Eat If You Want to Live Forever, According to a Futurist Who Spends $1 Million a Year on Pills and Eating Right," April 13, 2015, accessed August 7, 2019, https://www.businessinsider.com/ray-kurzweils-immortality-diet-2015-4.

[40]1 Corinthians 1:18.

ASA Members: Submit comments and questions on this article at www.asa3.org→RESOURCES→Forums→PSCF Discussion.

Call for Papers

THE NUCLEAR OPTIONS: CHRISTIAN PERSPECTIVES ON FISSION, FUSION, AND OUR ENERGY FUTURE

Do we have any energy source that is available 24 hours every day, releases no CO_2 into the atmosphere, and does not kill birds? Yes, nuclear fission. Then why do Sweden and France rely on it, but Germany is trying to phase it out to zero? Can we justify burying nuclear waste for thousands of years? Are there security risks? Will fusion ever be less than a few decades away? What insights might Christian perspectives bring to the table?

On the ASA and CSCA websites, Robert Kaita has written an essay that informs us about what is currently available in fission and fusion, and raises a gamut of questions. He is well prepared to lead us on this topic after nearly forty years in nuclear fusion research at the Plasma Physics Laboratory at Princeton University. Kaita's research interests include plasma heating techniques and plasma instabilities, and he developed diagnostic instrumentation and structural materials for fusion research devices. He also supervised the doctoral research of numerous students in the Plasma Physics Program in Princeton's Department of Astrophysical Sciences, and has served as the president of the American Scientific Affiliation, and is a member of our *PSCF* editorial board.

Readers are encouraged to take up one of the insights or questions, or maybe a related one that was not mentioned, and draft an article (typically about 5,000–8,000 words) that contributes to the conversation. These can be sent to Robert Kaita at kaita9094@gmail.com. He will send the best essays on to peer review and then we will select from those for publication in a theme issue of *Perspectives on Science and Christian Faith.*

The lead editorial in the December 2013 issue of *PSCF* outlines what the journal looks for in article contributions. For best consideration for inclusion in the theme issue, manuscripts should be received electronically before **September 30, 2020**.

Looking forward to your contributions,

James C. Peterson, *Editor-in-Chief*