

# Resurrection of the Body and Cryonics

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**Abstract:** The Christian doctrine of resurrection of the body is employed to interpret the cryonics program of preserving legally dead people with the plan to restore them when future medicine can effectively address the cause of death. Cryonics is not accepted by mainstream science, and even if the vision is never realized, it is worth the effort to use it as a thought experiment to test the capability of the Christian theological system to address this issue in the unfolding new world of human enhancement. Drawing on the apostle Paul, whose view was based in the Jewish notion of psychosomatic unity, Christian resurrection includes emphases on physicality, radical transformation, and continuity of personal identity. Successful cryonics scenarios can include restoring a person to more or less the same life they had before or, more likely, utilize robotics, tissue regeneration, and other future advances in human enhancement technology to restore one to an enhanced state. Christian resurrection and the more likely cryonics scenario both entail physicality, radical transformation, and continuity of personal identity and, as such, can be understood to be technological expressions of Christian resurrection.

**Keywords:** body; Christian theology; cryonics; dualism; immortality of the soul; personal identity; resurrection; superintelligence; uploading; whole brain emulation

## 1. Introduction

Interest in the promising gene editing technique, known as clustered regularly interspaced short palindromic repeats (CRISPR), is just one indicator that we are recognizing, albeit slowly, the dawning of a human enhancement revolution. CRISPR allows scientists to modify DNA in organisms, and in addition to its use in fighting diseases, it may allow for old cells to regain youthful function ([Achenbach 2015](#)). A variety of other physical, cognitive, affective, moral, and even spiritual enhancements are unfolding. In this article I use enhancement to refer to radical transformation as opposed to therapy/healing. Many of the extreme enhancements being considered are unlikely to materialize. However, some of them likely will, and it is incumbent on religions (if they are to be relevant), in their theological and ethical fields, to examine the moral and metaphysical implications of human enhancement in light of their theologies. Resurrection of the body is a Christian doctrine that has emerged as potentially providing a valuable theological framework for understanding some human enhancement technologies ([Peters et al. 2002](#); [Mercer 2017](#); [Peters 2006](#), pp. 28–46, 148–50; [Steinhart 2014](#), pp. 84–87, 90–91, 98–100).

Perhaps due, at least in part, to the will to live, radical life extension has long been a central goal of transhumanists and other proponents of human enhancement. Biological, genetic, and digital scenarios have been proposed to defeat aging. The use of cognitive enhancement technologies may speed up the development of other life-extending technologies. However, until these extreme longevity technologies are available, some prolongevity advocates think we need stop-gap measures. Cryonics is a program for using very low temperatures and chemical processes to preserve human life beyond legal death with the plan to bring the person back when medical science has developed the necessary means to effectively address the cause of death. In this article, I consider the doctrine of resurrection as it could relate to cryonics.

My specific evaluation of cryonics in this article is framed by a general assessment of technology as potentially reflecting God's work in the world. Our abilities are God-given, nature is a domain of God's grace, and God can work through radical technologies just like God can work through the hands of the traditional oncologist. In this respect we are created co-creators with God (Hefner 1993).<sup>1</sup> God declared, following the sixth day of creation, that everything, including human beings and their cognitive capabilities, is "very good"—with not one hint of evil or fallenness (Genesis 1:31, NRSV). Radical transformation, indeed, transhumanism properly framed, is Christian (Cole-Turner 2017). That said, the biblical story continues in Genesis, chapter 3, with the appearance of evil and suffering. Transformation can also be for evil (Peters 2011); with our increasingly potent technologies we can create enormous Towers of Babel (Genesis 11:1–9) that bring confusion, or worse. Therefore, an appreciation of science and technology as yielding graceful divine actions must also be tempered by the recognition that selfish or otherwise damaged motivations can purpose capabilities to dreadful ends. The challenge is to make sure we responsibly and in community manage our God-given abilities and opportunities and, in the process, participate in God's transformation of all creation. Determining if a particular technology can be consistent with Christian theology is a good place to start that process, and that is what this article intends to do with regard to cryonics.

## 2. Christian Resurrection of the Body

The apostle Paul is the primary source in the early church for the notion of bodily resurrection, although he did not invent the doctrine. His understanding is grounded in Jewish anthropology, which stressed the psychosomatic unity of the person. Resurrection, then, for Paul, as well as for ancient Judaism, is resurrection of the whole person, which entails all dimensions of being, including physicality, i.e., resurrection of the body. In Paul's main reflection on resurrection (1 Corinthians 15), he affirms that resurrection of the believer will be modeled after the resurrected Christ, the "first fruits" of those who have died (1 Corinthians 15:20–23).

Paul's term for a resurrected person is "spiritual body" (*soma pneumatikon*, 1 Corinthians 15:44), an idea that is, arguably, incoherent. How can two forms—material and spiritual—interact? That said, we can grant Paul a measure of grace. He was a missionary, and his writings were occasional letters generally designed to speak to specific situations in the churches he had organized. To say it another way, he was not a systematic theologian who can be held to the professional norms of today's scholars. He did provide, however, theological building blocks that constitute some of the basic contours of a resurrection doctrine.

### 2.1. Bodily Resurrection

The Greek word *anastasis* (resurrection) is composed of two words, the preposition *ana*, "up", and *stasis*, the word for "stand". The word *anastasis* is distinct from *athanasia*, usually translated "immortality" and literally meaning "not death". In Paul's day *anastasis* (resurrection) had shades of meaning, for example, raise up, awaken, recover. Early Christian authors spoke of several kinds of raisings. Jesus raised Lazarus from the dead. In other words, he resuscitated the man's dead body and, presumably, except for the remarkable experience of being raised from the dead, Lazarus continued life pretty much as before he died.

Paul's "spiritual body", however, results from being raised to new and transformed life after the fashion of Jesus' resurrection. Paul explicitly models the resurrection of the believer on Jesus' resurrection (1 Corinthians 15; Romans 8:11). In this eschatological resurrection, the raised person, however personhood is defined, entails a bodily dimension. This somatic aspect is consistent with

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<sup>1</sup> With regard to the "new creation" that resurrection provides, although it is a bit awkwardly termed, we can think of resurrection in the new world of enhancement as "created co-new-creators".

and framed by the importance of physicality in other key doctrines, such as creation, incarnation, and eschatology (i.e., a new heaven and a new earth) (Mercer 2014; 2015a).

While we have had detractors throughout Christian history and today, in general, in affirming the psychosomatic unity of the person, there is a rejection of a Gnostic-like sentiment that yields an afterlife based in immortality of the soul, a view that minimizes the importance of the body. That persons are embodied is the consensus of academic theology and definitely of Christian thinkers addressing transhumanist enhancement concerns (Peters 2006, pp. 119, 130; Cole-Turner 2009; Labrecque 2015; Herzfeld 2012; Moltmann-Wendel 1995; Mercer 2015b).

## 2.2. Transformation

As distinguished from resuscitation of a dead body to normal life, the believer's resurrection, modeled after Jesus' resurrection, is transformative, resulting in a changed body that is qualitatively different from the body before the resurrection. New possibilities abound. In his newly transformed body, Jesus appeared and disappeared before witnesses (Luke 24:13–43), moved through doors (John 20:26), and made himself invisible (Acts 9:1–9). The relationship between Jesus' raised body and his ascended/glorified body is an open question (Gulley 1992).<sup>2</sup> While the resurrection clearly entailed transformation, if there is a difference between the resurrected and ascended body, then the transformation continued in a process that culminated in the glorified body.<sup>3</sup>

Paul appreciated the existence of different kinds of bodies. The resurrected body is imperishable, glorious, and powerful, as compared to the "flesh and blood" perishable, dishonoring, and weak body (1 Corinthians 15:42–43). Transformation of the believer is not isolated speculation among early Christians. It can be framed in the anticipated and hoped for cosmic transformation of a "new heaven and a new earth" (Revelation 21:1, NRSV).

Indeed, Ron Cole-Turner argues that because transformation is at the core of the religion, transhumanism is a Christian concept, and he traces the origin of the word back to Dante. "Dante's *trasumanar* has now morphed into transhumanism . . . But because this word is invented to describe the transformation that constitutes the very heart of the Christian gospel, Christians must claim it and own it as their own" (Cole-Turner 2015, p. 151). In an article titled "Christian Transhumanism", he writes that "Christian transhumanism is not an accommodation to our age. It is instead an affirmation of the radically transformative nature of the hope that lies at the heart of a Christian view of humanity and the cosmos" (Cole-Turner 2017).

## 2.3. Continuity of Personal Identity

Although he was radically transformed, the personal identity of Jesus continued in the resurrected Lord. Disciples who knew him before his death recognized him and interacted with him in conversation following the resurrection.

Paul affirms that Jesus resurrected was the same person with the same body, albeit transformed. In other accounts, the disciples were "startled and frightened, and supposed that they saw a spirit" (Luke 24:37, NRSV). Jesus responded: "See my hands and my feet, that it is I myself; handle me, and see; for a spirit has not flesh and bones as you see that I have" (Luke 24:39, NRSV). Doubting Thomas said he would not believe, "Unless I see in his hands the print of the nails and, and place my finger in the mark of the nails, and place my hand in his side . . ." (John 20:25, NRSV). Jesus appeared and told Thomas: "Put your finger here, and see my hands; and put out your hand, and place it in my side" (John 20:27, NRSV).

<sup>2</sup> For the diverse Greek terms referring to the ascension and a brief review of the history of the doctrine, see (Gulley 1992).

<sup>3</sup> Theological reflection on the ascended/glorified body as it relates to the resurrected body, with regard to human enhancement, merits further treatment.

Paul's reflection on the continuity between pre- and post-death utilizes the analogy of a seed and the resulting plant. The kernel is sown into the ground, and it grows into a body consistent with the kind of seed sown (1 Corinthians 15:35–41).

### 3. Cryonics

According to the Alcor Life Extension Foundation, arguably the leading cryonics organization, "Cryonics is an effort to save lives by using temperatures so cold that a person beyond help by today's medicine can be preserved for decades or centuries until a future medical technology can restore that person to full health" (Alcor Life Extension Foundation 2017a). The contemporary focus of cryonics research is on achieving a high-fidelity preservation of the body, and especially the brain, viewed by advocates as containing memory and personality information. "If a brain can be preserved well enough to retain the memory and personality within it, then restoring health to the whole person is viewed as a long-term engineering problem" (Alcor Life Extension Foundation 2017b).

Cryonics has progressed considerably from the days of placing bodies in a deep freeze, hoping for the best. In a process called vitrification (ice-free preservation), a cryoprotectant solution is used to enable structural preservation of the brain. My purpose here is not to defend the legitimacy of cryonics nor assess the prospects of its success. Although not accepted by mainstream science, cryonics does seem to have enough support to merit theological reflection, if only in the form of a thought experiment. The Alcor website provides "Selected Journal Articles Supporting the Scientific Basis of Cryonics" (Alcor Life Extension Foundation 2017c) and presents the following "Scientists' Open Letter on Cryonics", with 69 signatories:

*The signatories, speaking for themselves, include leading scientists from institutes such as MIT, Harvard, NASA and Cambridge University to name a few: Cryonics is a legitimate science-based endeavor that seeks to preserve human beings, especially the human brain, by the best technology available. Future technologies for resuscitation can be envisioned that involve molecular repair by nanomedicine, highly advanced computation, detailed control of cell growth, and tissue regeneration. With a view toward these developments, there is a credible possibility that cryonics performed under the best conditions achievable today can preserve sufficient neurological information to permit eventual restoration of a person to full health. The rights of people who choose cryonics are important, and should be respected (Evidence-Based Cryonics 2011).*

### 4. Cryonics and Resurrection

Alcor and other cryonics organizations view their legally dead members as "patients". From a Christian perspective, there are three ways cryonics can be interpreted. First, a cryopreserved person can be regarded in a way similar to how a coma patient, who eventually revives, is viewed. The person is in some sort of deep unconsciousness until they come back—or are brought back—to consciousness. From this first perspective, cryonics is simply a significant extension of always advancing medical technology. This is the way Alcor prefers cryonics to be viewed. From their perspective, death is not an event but a process, and cryonics is interrupting that process so critical information in the brain can be preserved for future restoration. They contend that cryopreservation is a form of suspended animation in a fashion similar to procedures already used in medicine and point out that human embryos, for example, are routinely cryopreserved and revived.

Because of the radical nature of cryonics, not to mention the social and legal issues involved, cryonics is probably never going to be seen, by the general public at least, as a normal medical procedure. Likewise, Christianity will also sharply differentiate between mainstream medical procedures and cryonics. While some Christians may see cryonics as a significant medical advance, that is not going to be the prevailing view.

The second way cryonics can be interpreted is as a resurrection in the sense of resuscitation of the dead. Just as Jesus miraculously raised Lazarus from the dead to continue living pretty much as before

he died, so God uses cryonics to bring people back from dead. In this scenario, to play on the Greek word, we “stand up” (*anastasis*) the same kind of body the person had before, except that, for example, the “terminal” cancer is now cured (Mercer 2008).

However, a successfully cryopreserved patient can be maintained for an indefinite period of time before being restored, a situation that opens up the third and most likely way successful cryonics would be interpreted. This indefinite period would most definitely be a very long time, compared to the length of a coma, because we are not close to having the ability to restore a preserved person. Being unconscious, i.e., preserved, for hundreds and maybe thousands of years makes the difference between a coma and cryopreservation significant enough that they are best addressed in different ways. Also, if cryonics ever works, it will be so far into the future that restoration of a cryonics patient could involve significant use of advanced enhancement technologies, such as robotics, artificial intelligence, tissue regeneration, and nanotechnology.

As we saw earlier, Christian resurrection of the dead entails at least three aspects: embodiment, transformation, and continuity of personal identity. Cryonics, if it is ever successful, is likely to also entail these three aspects.

#### 4.1. Embodiment

With regard to embodiment, in their facility in Scottsdale, Arizona, Alcor keeps the preserved *patients* in a controlled environment and awaiting developments in future medicine that can restore them. Some patients are preserved the whole body. In these cases, if and when the preserved body is restored to proper functioning, any requirement that a person is embodied has is met.

Some cryonic patients, however, have opted for “neuropreservation” (head only). Many theologians, along with others, challenge the idea that who we are can be reduced to information in the brain. This is a complicated debate involving personhood, *imago Dei* (image of God), and other considerations. The contention that we have “body memory”, apart from memory found in the brain, is relevant here (Swinton 2014). Alcor, however, resists the charge that in these cases the organization is preserving “heads only”. The company insists that it preserves people, although with the understanding that the one organ essential to personhood is the brain. Preserving the memory and personality information in the brain with the highest possible fidelity is linked to an expectation that developments in biomedical technology will enable medicine of the future to regrow a body.

Some theologians might object that a newly newly-grown body, or one utilizing robotics, is not made of the same type of material constituting the person’s body prior to legal death. But However, Paul asserts a resurrected “spiritual body” that, for him, satisfies the physicality requirement of psychosomatic unity. However, Paul’s “spiritual body” clearly has a different composition. It moves through doors and so is not the same kind of body as in Jesus’ life pre-death. Theologians objecting that a restored, even robotic, body is not theologically acceptable would need to explain how they can accept Paul’s “spiritual body”, which also has a different composition.

Moving to another issue, resurrection, admittedly, is post-death and cryopreservation, as depicted by the industry, is pre-death, that is, death is being intercepted and put on hold to await complete reversal in the future. However, cryonics is not generally accepted by the scientific community nor the general public. Currently, the legal and social understanding is that cryonics patients are dead. So if restoration is ever accomplished, it will be viewed as bringing back to life someone who was dead, which allows for interpreting that restoration as resurrection.

As we have seen, Christian resurrection is holistic, inclusive of the body in some sense of that word. Restoration of a cryopreserved person would also entail physicality, whether the patient has their whole body cryopreserved or the head only. The latter is done, as noted above, with the expectation of using robotics, tissue regeneration, and other technologies to provide the person’s somatic dimension.

Although I will not pursue it at length here, Christianity’s intermediate state between death and the “last day”, when the resurrection of the believer occurs, may merit further examination. Could the deep unconsciousness or coma period in cryonics between cryopreservation and restoration



be associated with the intermediate state? The Bible and the Apocryphal (2 Maccabees 12:39–45) speak very little about this interim state, but it was developed among early church fathers (e.g., Clement of Alexandria, Origen, and Augustine) as a notion of purgatory and affirmed as a doctrine by the Roman Catholic Church. The purpose of purgatory is purification to ready one for the bliss of the age to come and, in this sense, it fits well with the transhumanist project of enhancing us for a sustainable life into the future.

#### 4.2. Transformation

Since restoration, if it comes, is likely to occur far in the future, other human enhancement technologies will certainly have developed and be available as part of the restoration process. Embodiment options possibly will include robotics, tissue regeneration, and as yet unknown biomedical and other technologies. While we are unable to depict what the restored body might look like far into the future, I think we can safely say that, compared to the bodies we now have, future bodies will be worthy of the adjective “transformed”.

The resurrected and transformed body of Jesus was able to materialize through doors and appear on remote roads. I am certainly not suggesting that these first-century depictions of resurrection are literally relevant for our modern, scientific age. They are not. They do indicate, however, that Paul and the other Christian writers were creative in reaching for the eschatological vision. Paul called the believer’s eschatological body imperishable, glorious, and powerful (1 Corinthians 15:42–43). While these are rather imprecise descriptions, again, they can serve to inspire modern theology as it works to understand rapidly advancing human enhancement technology in light of Christian doctrine.

The transformation entailed in cryonics restoration, if far enough into the future, may not be limited to new and improved bodies. If mind uploading—technically termed whole brain emulation—capability is available when the preserved person is restored, that will open up a whole new avenue of cognitive enhancement possibility. Experts tell us that mind uploading is likely the surest path to superintelligence, intelligence that greatly surpasses general human intelligence (Bostrom 2014, p. 50). If uploading is an option when the person is restored, then any discussion about cryonics will bleed into a discussion about mind uploading and possibly superintelligence (Mercer 2017).

#### 4.3. Continuity of Personal Identity

Cryonics, in its most straightforward form—as restoring to health a cryopreserved patient—is clearly about continuation of the individual person being preserved. Alcor’s goals and the legal contracts signed by those intending to be cryopreserved all are predicated on continuity of personal identity following restoration. Using the same body and restoring it to health need not raise questions about this being the same person.

Some transhumanist projects, such as whole brain emulation, could raise difficult questions about the continuation of personal identity (Mercer 2017). Issues about whether personal identity is continued after the person is brought back can arise, but only if the restoration uses radical techniques, such as mind uploading, that raise questions about whether identity has been replaced.

With respect to resurrection, regardless of how remarkable and extensive the transformation, this Christian doctrine is predicated on the resurrected person being a continuation of same person. That is clearly Paul’s view, and it is also clear that how this might actually be implemented remains a mystery.

### 5. Concluding Summary

The cryonics’ vision of preserving our memory and personality and restoring them in the future may never be realized. Even if the vision is never achieved, it is worth the effort to use it as a thought experiment to test the capability of the Christian theological system to address the unfolding new world of human enhancement and in particular the role of cryonics in that world.

I have provided a favorable, though qualified, theological assessment of cryonics. I can anticipate at least several critiques and will mention three and provide brief responses. Firstly, resurrection as I

have framed it, and cryonics as envisioned, are focused on the life of the individual. Preservation and transformation of the individual can be seen as leaving unattended an important communal focus that Christianity affirms. In response, resurrection of a community is predicated on resurrection of individuals in the community. I have tried to begin a conversation that might establish that cryonic restoration of the individual can be assimilated into a theological vision. Depending on the degree of success, it lays the groundwork for placing this eschatological or salvific event into a larger communal framework of an eschatological heaven on earth. Although he may not agree with the thrust of this article, I think Ted Peters' comment, in the context of his commentary on Wolfhart Pannenberg and John Polkinghorne, is apt here: "The Easter resurrection of Jesus was more than a nice thing that happened to this one person one day in Jerusalem. Built right into the meaning of the Easter event is God's promise to establish the divine kingdom, to renew all creation" (Peters 2006, p. 33).

A second possible critique is that the new creation resulting from the resurrection will be ordered according to God's perfect will, free from sin. There is no compelling reason to think that the cryogenic and enhanced community will be so characterized. In fact, there is considerable concern that enhanced humanity will create more mischief than we are presently capable of managing (Juengst and Moseley 2015).<sup>4</sup> Indeed, this is a potential significant inconsistency between the Christian vision of resurrection and a possible hellish transhumanist future. That said, moral bioenhancement is an emerging category in the enhancement debate, and the theoretical possibility exists that success on this front could bring about a sinless future. However, I admit that depending upon moral bioenhancement, a most controversial and debated topic, to save us from our fallen nature, is something of a reach.

Thirdly, someone may say that resurrection is traditionally understood as a resurrection for judgment, and enhancement does not include that aspect. Admittedly, the traditional "day" of judgment does not cohere well with a new creation, technologically transformed. The key word here is "traditional". Nothing about the unfolding world of radical human enhancement is going to fit cleanly into biblical or systematic theology, traditionally interpreted. Extreme enhancement is going to stretch doctrines if Christianity proves capable of embracing the developments.

Finally, the objection could be made that resurrection is to eternal life, and cryonics restores one to a biological body still subject to decay. That deterioration, however, at least in the transhumanist vision, will be reversed in an ongoing manner by new technologies. Indeed, the entire cryonics program is predicated on the belief that cryonics is available whenever the body is in need of preservation in order to await whatever restorative technology is needed. Death, then, is reinterpreted as the "passing" of the frail body, paving the way for the new creation.

In conclusion, there are understandable differences of opinion about the compatibility of Christian theology and radical human enhancement programs. Cryonics, too, will elicit a variety of views. This article attempts to initiate a theological appreciation of cryonics, and hopefully the conversation will continue. In the meantime, I suggest we consider that, at the very least, cryonics and resurrection might agree on the following, articulated by the apostle Paul:

When the perishable puts on the imperishability, and the mortal puts on immortality, then shall come to pass the saying that is written: "Death is swallowed up in victory." "O death, where is thy victory? O death, where is thy sting?" (1 Corinthians 15:54–55, NRSV).

**Conflicts of Interest:** The author declares no conflict of interest.

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<sup>4</sup> This article provides an overview of concerns voiced about various types of human enhancement. Ray Kurzweil is perhaps the most well-known transhumanist with an optimistic vision of an enhanced future. See, e.g., (Kurzweil 2005).

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