Abstract: Recent advances in technology have brought humanity to a unique point in history where theodicy is no more just a religious matter but also a matter of science and technology. Ray Kurzweil offers a non-religious Singularity theodicy of this-worldly subjective immortality (the survival of the soul after the dissolution of the body) with three strategies: the freezing strategy in cryonics, the cloning strategy in genetics, and the transference strategy in information technology. I argue that three challenges need to be met for the Singularity theodicy to be successful. The first challenge is related to the technological plausibility of human brain scanning and whether one can scan unconsciousness without making it into something other than unconsciousness. Based on the philosophies of Alfred North Whitehead and Derek Parfit, I offer the second criticism that the non-identity problem arises, due to personal identity being a temporal seriality of experiences between the biological person and the unloaded data. Lastly, even if intelligent patterns become immortal in the Singularity, this would not be what Christianity has called the immortality of the soul.

Keywords: Singularity; Kurzweil; theodicy; immortality; personal identity; unconsciousness; temporal seriality; immortality of the soul; Deus sive machina

1. Introduction

Since the term “theodicy” was coined by the philosopher Gottfried Leibniz, the effort to answer questions of natural disasters, moral evils, and human finitude has been commonly referred to as theodicy (Leibniz 1952). Various religious answers have been suggested including free-will theodicy, aesthetic theodicy, educative theodicy, recompense theodicy, theodicy deferred, process theodicy, and so on (Green 1987). Yet our advances in technology have brought humanity to a unique point in history where theodicy is no more just a religious matter but also a matter of science and technology. People begin to think of the possibility that not God but technology will save us, and that death will be overcome not by a Deus ex machina but by a Deus sive machina. The mere possibility that technology will offer humans emancipation from the inevitability of death has significant consequences for the role of religions and Christianity in future civilization.

Recent projects on technology and death to relate human beings to a larger complex network-like ecosystem or social network of computers are called a “theodicy of networks” (Kera 2013). This form of theodicy is an attempt to gain personal immortality by assimilating the dead to the universe with the help of software, hardware, and biotechnologies. For instance, one version of theodicy of networks is “Mission Eternity”, a digital cemetery or cloud project by Etoy Corporation from Switzerland, which brings together a person’s life in the form of digital profiles or records and stores these data on computers of netizens to prevent a slow decay of information left by the dead into oblivion. “Biopresence” is another project of the afterlife by Shiho Fukuhara and Georg Tremmel, in which human DNA is implanted into a living tree as an alternative to the traditional graves and headstones.

While the theodicy of networks envisions a form of “objective” immortality, other writers on technological development seem to promise what may be called a “subjective” immortality. This distinction is borrowed from process theologians. Lewis Ford and Marjorie Suchocki suggest the...
possibility of an individual’s subjective immortality, i.e., “the survival of the soul after the dissolution of the body,” without the loss of immediacy of personal feeling in God’s consequent nature even after death (Ford and Suchocki 1977, p. 1). Other process thinkers, including Lori E. Krafte, think that subjective immortality without further subjective experience after death is not possible in the Whiteheadian universe, because any postmortem experience will change one’s identity as a temporal seriality (Krafte 1979). Subjective immortality is a state of existence that allows an individual to avoid death or maintain personal consciousness after death.

To my knowledge, there has been no theodicy of this-worldly subjective immortality because there has never been a time when we have possessed some technological means to sustain ourselves beyond biological death. For instance, G.W.F. Hegel’s speculative theodicy has not considered the possibility of extinction of humanity, while A.N. Whitehead’s process theodicy has viewed human immortality as possible only objectively, viz., as realized values in God’s memory. However, recent advances in genetics, nanotechnology, robotics, artificial intelligence, etc., seem to have brought a fundamental change of attitude toward death. Ray Kurzweil, author of The Singularity Is Near, claims that death is not a natural or metaphysical necessity but an avoidable tragedy. He believes that humans are on the verge of conquering death. “We have the means right now to live long enough to live forever” (Kurzweil 2005, p. 371). He has popularized this non-religious idea of subjective immortality through accelerating future technological changes as follows:

Historically, the only means for humans to outlive a limited biological life span has been to pass on values, beliefs, and knowledge to future generations. We are now approaching a paradigm shift in the means we will have available to preserve the patterns underlying our existence. . . . We can expect that the full realization of biotechnology and nanotechnology revolutions will enable us to eliminate virtually all medical causes of death. As we move toward a nonbiological existence, we will gain the means of “backing ourselves up” (storing the key patterns underlying our knowledge, skills, and personality), thereby eliminating most causes of death as we know it. (Kurzweil 2005, p. 323)

It is tempting to dismiss Kurzweil’s Singularitarianism as some sort of pseudo-religious cult of odd scientists. My purpose here is not to criticize his vision as a false promise out of hand. It is incumbent on religious thinkers, in their theological and ethical fields, to examine the religious and metaphysical implications of human enhancement technologies in light of their theologies. By characterizing Kurzweil’s technological vision of subjective immortality as a “Singularity theodicy,” I attempt to highlight this interdisciplinary nature of constructive theology as a method of doing theology that takes seriously religious traditions as well as the ideas and writings of various philosophies and modern natural sciences in order to articulate what it means to be a human in the world (Kaufman 1993, p. 29). The term theodicy itself demonstrates this interdisciplinary nature. Since Leibniz’s philosophy introduced the category of metaphysical evil to the traditional categories of moral and natural evil, the issue of death as the original creaturely imperfection has become a theodicy problem in monotheistic religions. With the advent of sociology of religion, Max Weber extended the use of the term theodicy to any theistic or non-theistic attempt to render human suffering, evil, and death intelligible (Laato and de Moor 2003, p. x). The two editions of the Encyclopedia of Philosophy provide another recent example of this interdisciplinary approach. Antony Flew’s 1967 article, “Immortality,” in the first edition studies three traditional doctrines of immortality: the immortal soul doctrine of Platonism, the reconstitution doctrine of Christianity, and the shadow-man doctrine as an attempt to combine the other two doctrines (Borchert 2006, pp. 602–16). In addition to these philosophical or religious approaches, Garrett J. DeWeese’s 2005 “Addendum” includes Kurzweil’s “cybernetic immortality” as a nontraditional technological conception of immortality: “In The Age of Spiritual Machines (1999), Ray Kurzweil predicts such immortality will be achieved by uploading the contents of our brains into ever-better computers” (Borchert 2006, p. 617). Kurzweil’s proposals of cybernetic immortality
therefore constitute a form of theodicy with religious implications, which, even if he does not fully recognize them, call for theological exploration.)

In what follows, I outline Kurzweil’s three strategies for this technological immortality and I raise some objections to them: (1) the freezing strategy in cryonics, (2) the cloning strategy in genetics, and (3) the transference strategy in information technologies. First, I argue that the freezing strategy is a stop-gap measure insofar as it requires other longevity technologies to be available in the future. Second, I argue that the cloning strategy does not succeed since the future survival of my clone is identical with my own personal survival. Third, I suggest that in his interpretation of the transference strategy as the most feasible strategy of this-worldly subjective immortality, Kurzweil needs to address three additional problems: the technological plausibility of scanning human unconsciousness, the philosophical issue of personal identity, and the theological issue of human soul having her origin in God.

2. Three Strategies of the Singularity Theodicy

2.1. Freezing Strategy

The first strategy of freezing is described by Kurzweil as “the process of preserving by freezing a person who has just died, with a view toward ‘reanimating’ him later when the technology exists to reverse the damage from the early stages of the dying process, the cryonic-preservation process, and the disease or condition that killed him in the first place” (Kurzweil 2005, p. 384). For instance, the Alcor Life Extension Foundation claims that we can suspend the death process through cryonic freezing procedure within the first 15 minutes after the heart stops, preserving critical information in the brain for future restoration (Alcor Life Extension Foundation 2019). The success of this cryonic freezing depends on achieving a high-fidelity preservation of the body, and especially the brain viewed as the locus of memory and personality.

Some religious thinkers view the cryonic program of freezing the dead with the plan to resuscitate as a scientific expression of the Christian doctrine of bodily resurrection. Relying on St. Paul’s notion of spiritual body, Calvin Mercer claims that “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” (Mercer 2017). While Mercer sees no difference of identity between the dead and the reanimated, Kurzweil offers a more modest view that the reanimated person will not be the same person but someone else or “Ray 2,” given the fact that new materials and even entirely new neuromorphically equivalent systems will be rebuilt (Kurzweil 2005, p. 384). Kurzweil’s distrust of biology led to his withdrawing from this freezing strategy, despite the fact that this strategy is arguably the most attractive from the perspective of maintaining personal identity. In the final analysis, this ‘Egyptian’ solution of a ‘cryonic pyramid’ is not a solution at all but a postponement of solution. Like a postponed theodicy that delays solutions of evil to the postmortem afterlife or what Spinoza in his Ethics calls “the sanctuary of ignorance” (Spinoza 1985, p. 443), it does not overcome death itself but postpone the solution to the future. In sum, the freezing strategy is a stop-gap measure at best until other longevity technologies are available to humanity.

2.2. Cloning Strategy

One major proponent of longevity research, Aubrey de Grey, believes that within the next several decades scientists will develop gene therapies that will increase the efficiency of cellular metabolism and reverse human aging. He calls this concept “longevity escape velocity” (de Grey 2007, p. 331). He considers the issue of aging or death as a maintenance problem of the body in analogy with the aging of a car or a building. Unlike de Grey who focuses on biomedical or gene therapies to lengthen human lifespan, Kurzweil thinks that genetic cloning provides a better chance of human immortality. Cloning is a process of producing genetically identical copies of a biological entity. Kurzweil hopes that cloning technologies will solve many problems like extinction of animal species and famine. Animal reproductive cloning has already been proven to be possible in the cases of sheep (1997), mouse (1998),
horse (2003), cat (2004), and dog (2006). Furthermore, human cloning will possibly overcome even death and finitude itself. “There is no doubt that human cloning will occur,” says Kurzweil, “as a very weak form of immortality” (Kurzweil 2005, p. 222).

Apart from the issues of technological possibility of human cloning and its ethical implications, the future survival of my clone is not identical with my own personal survival. Clones and twins have no substantial difference of ontological status in regard to personal identity here. Whether he be my conventional biological twin or my genetically cloned twin, he is not me after all. Neither method of duplication guarantees what we have called subjective immortality above. I will address the issue of personal identity when Kurzweil’s transference strategy is discussed, but this non-identity problem of cloning is in fact Kurzweil’s own position as well. “There’s no issue of philosophical identity with genetic cloning, since such clones would be different people, even more so than conventional twins are today” (Kurzweil 2005, pp. 224–25). In that sense, the second cloning strategy offers not even a “very weak” form but no form of subjective immortality at all. Furthermore, the self-modifying effect of human cloning is perhaps an act of “species suicide” (Heimbach 1998). For these reasons, Kurzweil prefers “mental cloning” to “physical cloning,” viz. the strategy of transference (Kurzweil 2005, p. 224).

2.3. Transference Strategy

Unlike de Grey’s biological or genetic solutions, Kurzweil believes that the need for the human biological body will become obsolete as scientists reverse engineer the human brain and transfer consciousness to virtually immortal hardware. This transference strategy can be analyzed from three perspectives: technological possibility, philosophical issue of identity, and religious notion of the soul.

First, is it technologically plausible to transfer or port a person’s identity to a computational substrate? Calling himself a “patternist” who views a person’s identity as the informational patterns of an individual mind, and following a Buddhist ontology that human consciousness is the locus of reality or personalness, Kurzweil sees no technological hindrance in principle to uploading the patterns of personal identity or what he calls “backing ourselves up” into a supercomputer (Kurzweil 2005, p. 388). “This process would capture a person’s entire personality, memory, skills, and history” without any loss, as the brain scanning and uploading technologies will increase in resolution and accuracy at exponential pace (Kurzweil 2005, p. 199).

The second important question will be “whether or not an uploaded human brain is really you” (Kurzweil 2005, p. 201). In contrast to the freezing or cloning strategies, he believes that the strategy of gradual transference will not give rise to the issues of personal identity. As we can transfer our personal data files from an older computer to a new one, we can also transfer our informational patterns from a biological brain to a non-biological substrate. “There will be no ‘old Ray’ and ‘new Ray,’ just an increasingly capable Ray,” in this process of gradual transference (Kurzweil 2005, p. 202).

Lastly, and most importantly, can we consider this uploaded human brain as what Christianity has long called the soul? While Kurzweil does not address the theological term “soul” in a direct manner, religious nuances of his transference argument are unmistakable. A principal role of past religion has been to rationalize the soul’s death, Kurzweil says, and “a new religion” of Singularitarianism envisions the soul’s goal as becoming part of the universe which is gradually saturated or spiritualized with infinite divine intelligence (Kurzweil 2005, p. 375). It is no accident that Michael E. Zimmerman places Kurzweil in the philosophical lineage of Hegel who interprets the world history as God’s self-actualization process of theosis from petrified intelligence of matter to the community of spirits (Zimmerman 2008). The destiny of the universe is to become a Deus sive machina, and the immortality of the soul is to become part of this destiny.
3. Three Challenges to the Singularity Theodicy

3.1. Technological Dimension: The Issue of Unconsciousness

Kurzweil’s transference strategy raises important problems in three areas. The first problem is related to the technological plausibility that human brain scanning as a form of mental cloning will port “a person’s entire personality, memory, skills, and history” to a future non-biological body without loss (Kurzweil 2005, p. 224). Kurzweil and evolutionary psychologists approach the human brain with a computational model of mind, made up of numerous functional mechanisms such as language-acquisition modules, sex-specific mating preferences, and so on. This view is based on the assumption that the brain functions as a computer with circuits (Tooby and Cosmides 2005, p. 6). Yet it is not clear whether this mental computer model of human mind can address the issue of unconsciousness unless the unconscious mind is to be reduced to information or data.

Such a reduction is unacceptable in the view of many writers. C.G. Jung argues that the “personality as a total phenomenon does not coincide with the ego, that is, with the conscious personality” (Jung 1959, p. 5). Our consciousness is a very small portion of the contents and processes of our mind. Jung’s depth psychology views the mind as having multiple psychic strata: (1) the Ego (consciousness), (2) the Shadow, (3) Anima and Animus, and (4) the Self (unconsciousness). Furthermore, there are at least three further sub-groups within unconsciousness: “first, temporarily subliminal contents that can be reproduced voluntarily (memory); second, unconscious contents that cannot be reproduced voluntarily; third, contents that are not capable of becoming conscious at all” (Jung 1959, p. 4). While the first two of memory or decayed memory are perhaps knowable through technology, the third type of deep unconsciousness can be viewed as the unknowable or unpatternizable whether it be either personal or collective. Yet Jung believes that this vast extra-conscious territory of deep unconsciousness is crucial in the formation of any individuation process. Following Jung, I argue that human brain scanning cannot patternize what is essentially unpatternizable in the mind or “not capable of becoming conscious at all” without substantial loss of personalness. Technology cannot scan and upload information that the mind cannot formulate. There will be always a non-thematic or extra-conscious background in the mind as mystery beneath consciousness, which is other than informational patterns. This then is not merely a matter of technological advance but a deeper issue of logical compatibility. You cannot ‘square a circle,’ without making it into something other than a circle. Likewise, you cannot patternize unconsciousness, without making it into something other than unconsciousness.

Other religious thinkers have also identified an extra-conscious dimension of mystery in the soul. Impressed by Hindu and Buddhist ideas of karma, for instance, John Hick regards the idea of transmigration of souls as plausible at least in the general form of “an unconscious thread of memory” of each life with a series of previous lives (Hick 1976, p. 305). Here, karma is a postmortem substratum of individual dispositions of unconsciousness beyond the death of the individual. In his work, What Computers Can’t Do, Hubert Dreyfus also argues that computers lack an “unconscious background of commonsense knowledge” that is essential to any formation of human identity (Dreyfus 1972, p. 158). No matter how efficiently computers can process informational patterns or data, they cannot replicate the unconscious instincts of human beings. It is far from clear whether an algorithm simulating unconsciousness can be designed. Even if that is possible, it will not be the saving of ‘my’ own unconsciousness, which defies any patternizing scanning since it is unpatternizable and hopelessly undetermined or indeterminate. I want to add that we must think of the possibility of selective backing-up as well. It is plausible that brain scanning may allow us to choose the mental makeup of our future self, enhancing desirable parts while deleting undesirables. Whether the selective uploading be voluntary or involuntary, it will not be the transference of entire personality. When we selectively back up our consciousness and mix it with the computational power of intelligent machine, perhaps we may not upgrade ourselves but end up “downgrading humans” (Harari 2017, p. 368).
3.2. Philosophical Dimension: Personal Identity as a Temporal Seriality

I understand personal identity as a temporal seriality of experiences, based on the philosophies of Alfred North Whitehead and Derek Parfit. According to Whitehead’s metaphysics, a person is a society of actual occasions or personal experiences serially organized, viz., “a unity in life of each man, from birth to death” (Whitehead 1933, p. 240). A mere lump or aggregation of experience alone does not make diverse actual occasions into a personal identity. What is further required is a principle of seriality, which organizes experiences into a unique thread of personal history. This seriality principle is important because it has a fundamental impact on the very tonality of our experiences. Suppose that you enjoy a meal. According to the seriality principle, “the antecedent nature of the meal, and your initial hunger” will have impact on your subsequent experience of the meal, which becomes a part of your identity (Whitehead 1951, p. 686). This is why our identity is a historical or serial route of actual occasions or experiences. “The one individual is that coordinated stream of personal experiences, which is my thread of life or your thread of life” (Whitehead 1938, pp. 221–22). On this view, there is no single subsisting Cartesian consciousness but the self-identity emerges through various experiences organizing themselves into a temporal serial nexus.

Similarly, Derek Parfit bases the problem of personal identity on the “Time-Dependence Claim: If any particular person had not been conceived when he was in fact conceived, it is in fact true that he would never have existed” (Parfit 1984, p. 351). Suppose that a 14-year-old girl chooses to have a baby and she gives her child a bad start in life due to the mother’s early age. If this girl had waited for several years, she would have given her child a better start in life. In one sense, this girl’s decision was worse for her child. Yet, Parfit argues that we cannot claim the decision was worse or morally reprehensible for her child. If this girl does not have her child now but waits and has him later, he will not be the same particular child. Parfit calls this issue of personal identity over time as the “Non-Identity Problem” (Parfit 1984, p. 359). For each person’s identity is essentially dependent on one’s unique history of experiences in time.

We can apply Whitehead’s principle of temporal seriality and Parfit’s time-dependence claim to Kurzweil’s Singularity theodicy. Applying Parfit’s insight that “identity is time dependent” to the issue of human cloning, for instance, Jan C. Heller asserts that any cloned person would in fact be “a new biological entity” (Heller 1998). Although a human clone may share the same genetic material, the natural or social environment also plays an important role in how the person turns out. My clone will never repeat my own unique situation in temporal seriality. Despite his concession that this non-identity problem is applicable to both the freezing and cloning strategies, Kurzweil thinks that “our gradual transfer of our intelligence” to a non-biological substrate will not result in the situation of non-identity but a single enhanced person: “There will be no ‘old Ray’ and ‘new Ray,’ just an increasingly capable Ray” (Kurzweil 2005, pp. 201–2), as we have heard above. His strategy of gradual transference looks simple and persuasive enough, as we can also gradually replace parts of our body without losing our identity after all. However, this strategy is in fact full of ambiguities, analogous to the other two. If gradual transference means multiple transferences, this will still face the same non-identity problem. Suppose that the biological Ray decides to brain scan and upload some part of his mind to a supercomputer, resulting in Ray 2. Ray 2 will have its own unique history from the very moment of scanning. If the biological Ray decides to scan multiple times after ten or twenty years, the result will be a curious coexistence of many Rays: the biological Ray, Ray 2, Ray 3, and so on. Each Ray will enjoy his own irreplaceable personality due to the principle of temporal seriality and the time-dependence claim. The strategy of gradual-multiple transference does not solve the non-identity problem, even if each new scanning is a kind of overriding of the old Rays. There will always be a chasm of non-identity between the biological Ray and the unloaded Rays. We can never upload ourselves without leaving behind ourselves. Without the preservation of one’s biological identity with its temporal seriality, which will only fulfill its historical route at the moment of death, the Singularity theodicy and its promise of subjective immortality will sound empty.
3.3. Theological Dimension: Soul as God’s Creation

In the history of Christian theology, there have been two major ideas of the postmortem condition for individuals after death: the resurrection of the body and the immortality of the soul. I leave the Christian faith in the resurrection of the body—which is the dominant theological position of mainline Christianity—untouched, since this topic deserves a separate investigation beyond the limited scope of this article. I will focus on only the latter here. In other words, I do not attempt to discredit the Singularity theodicy of subjective immortality based on the inseparability of body and soul, as suggested in St. Thomas Aquinas (1975) dictum that “the soul is united to the body as its form” (Summa Contra Gentiles 2.83.9). Granted that the soul can be separated from the body, my third challenge is whether Kurzweil’s cybernetic immortality offers something analogous to the vision of Christianity on the immortality of the soul. Is it what Christianity calls the immortality of the soul?

The soul is a notion with immense dignity in the Western civilization. In philosophy, Plato’s dialogues advocate the pre-existence of souls before they are born into this world (Plato 65c). Similar to this Platonic doctrine of the immortality of the soul, early Christian theologians have developed two major views on the origin of the soul: traducianism and creationism. (Tertullian 1950), founder of traducianism, claims that a single human soul of Adam is originally created by God and transmitted to the children by the parents in the process of reproduction. Against a materialistic view of the soul’s origin to be a result of an emanation from matter, Tertullian teaches that “the soul has its origin in the ‘breath’ of God and did not come from matter” (De Anima 3.4). Unlike Plato’s emphasis on the soul’s divinity, Tertullian also stresses the creatureliness of the soul. Most Christian theologians adopt a position of creationism that a person’s soul is directly created by God at the moment of birth. For instance, St. Thomas views the creation of the human soul as “the prerogative of God alone” (SCG 2.87.3), saying that “God created a soul specifically for each one, and neither created them all together, nor united one to different bodies” (SCG 2.83.38).

Even if creationism has been dominant in recent centuries, traducianism remains an open option for Christian theology. “None of these views may be rashly affirmed,” says (Augustine 1953) (De Libero Arbitrio 3.21.59). Despite these differences of traducianism and creationism, however, the two views share the common faith in God’s creation as the soul’s origin. Whether my soul be the original breath of God in Adam or God’s subsequent creation at the very moment of my biological birth, it is the result of divine creative action. God alone creates the human soul/souls as a Singularity in the universe. Here lies the dignity of the human soul. Helmut Thielicke has coined a phrase “alien dignity” (dignitas aliena) to express this unique nature of the human soul as follows: “The basis of human dignity is seen to reside not in any immanent quality of man [sic] whatsoever, but in the fact that God created him [sic]” (Thielicke 1970, p. 172). Pannenberg also suggests this fellowship of the soul with God as “the basis of the inalienable dignity of each human person” (Pannenberg 1994, p. 176). Every soul has alien dignity of creatureliness.

In contrast, Kurzweil’s Deus sive machina does not create souls but just harvests them. Given his view of persons as patterns, this harvest or uploading may be not even that of souls but information. “Immortality” may seem like a misplaced term here. While the immortality of the soul is more than mere duration of consciousness in Christianity, Kurzweil uses the word in terms of the preservation of patterned information without having a recognizably divine origin. I have also argued above that personal identity may be related to Whitehead’s seriality principle and Parfit’s time-dependence claim. In Christianity, this seriality or time-dependence starts with the creation of the soul. Since the uploaded brain will have neither this ontological status of divine origin nor a complete seriality without the soul at its very beginning, Kurzweil’s promise of subjective immortality is unfulfilled. As the merging process of uploading continues, “we stand on the edge of disappearing as individuals” (McKibben 2003, p. 46). In sum, the Singularity theodicy starts as an anthropocentric promise of subjective immortality, but it ends up as a de-anthropocentric theodicy of objective immortality instead. It is like changing horses in the middle of the race.
4. Conclusions

This paper outlined three strategies of Kurzweil’s Singularity theodicy and has raised three objections to them, namely, (1) that the freezing strategy is an interim solution in need of other longevity technologies, (2) that the cloning strategy does not guarantee the identity between my clone’s future survival and my own personal survival, and (3) that the transference strategy needs to elaborate additional issues of unconsciousness, personal identity, and the origin of the soul.

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