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THE SPECTRE OF DEATH IN DON DELILLO'S *ZERO K*

Abstract

This paper offers a basic overview of the transhumanist movement, particularly its approach to ageing. The transhumanist philosophy of ageing strives both towards prolonging the human life and removing the ill effects of ageing. Special emphasis will be put on cryopreservation, which is a currently relevant and functional, albeit controversial, method of suspending death. A group of traditional issues regarding cryonic technology, such as its biological feasibility, will be evaluated. Following the detailed theoretical investigation, Don DeLillo's *Zero K* will be analyzed based on the philosophical background of the transhumanist movement, the evaluation of the desirability of cryonic technology, and its rendering of ageing and death. *Zero K* subtly brings to attention the economic background of this complex technical process, which is often a blind spot in discussions regarding the positive and negative aspects of cryonics. Transhumanism espouses the wide availability of human enhancement methods, but *Zero K* draws attention to wealth as the demarcation line between those who can choose to enjoy the benefits of technology and those who remain excluded regardless of their choice. In this context, *Zero K* confronts the potential of cryopreservation with reality and draws attention to points of tension within the transhumanist approach to ageing.

Keywords: transhumanism, cryonics, Don DeLillo, *Zero K*, ageing

Introduction

When one takes into account the themes characteristic of Don DeLillo's novels, such as technology and economy, it becomes obvious that their analysis requires a disciplinarily flexible position. DeLillo's latest novel, *Zero K*, will therefore in this paper be juxtaposed with speculative technology, more precisely, with emerging medical technology. One of the most prominent themes of the novel is cryonics as a technological method for combating ageing. Understanding the basics of the philosophical and technical background of cryonics is crucial in any attempt to interpret the novel. An additional objective of this paper is to analyze the basic issues surrounding cryopreservation technologies and to explore the way literature can help to clarify these issues, or even offer direction for further research or technological development.

Transhumanism

Before delving into the novel, it is necessary to point out the scientific framework for cryonics, which is the central theme of *Zero K*. W. T. Gordon defines cryonics as "the freezing, immediately upon death, of people who have suffered from rare or incurable diseases. The purpose of the process is to store the body and prevent decomposition until a cure for the cause of death can be found" (132). It is, however, possible to expand on Gordon's definition as cryonics is not necessarily restricted to individuals suffering from specific diseases. Carl Elliott writes that

Cryonics firms such as the Alcor Life Extension Foundation in Arizona will freeze the bodies or heads of people who've been declared dead, in the hope that they can be revived (or as transhumanists put it, "reanimated") at some point in the distant future, when technological progress has made it possible to reverse the diseases or injuries that "deanimated" them. (15)

It is also possible to cryonically treat people who have passed away from natural causes, trauma or some other reason different from rare or incurable diseases. What is central to the notion of cryonics is the freezing of the human body in hope that it can be safely unfrozen in the future when science and technology have developed methods to cure the unfrozen individual of a previously incurable disease, reverse the ageing process, or in another way improve the well-being of the previously frozen person. Besides its biomedical feasibility, the

social and moral desirability of cryonics is another tension point in thinking about the potential technology, as is often the case in speculative technology.

Before these issues are developed in greater detail, it is crucial to refer to the transhumanist movement and the transhumanist position on age as it is highly relevant for understanding the broader context of the cryonicist movement. Nick Bostrom defines transhumanism as “a way of thinking about the future that is based on the premise that the human species in its current form does not represent the end of our development but rather a comparatively early phase” (*The Transhumanist FAQ* 4). The definition of one of the founders of the transhumanist movement, Max More, is especially pertinent as it juxtaposes transhumanism with humanism:

Humanism is a reliberium or philosophy of life that rejects deities, faith, and worship, instead using a view of values and meaningfulness on the nature of humans and their potentials given rationality and science. **Transhumanism** is similar but recognizes and anticipates the radical alterations in the conditions of our existence resulting from various sciences and technologies such as neuroscience and neuropharmacology, nanotechnology, artificial ultraintelligence, space habitation, and so on. (6; emphasis original)

Transhumanism is a diverse movement and it is exceedingly difficult to formulate a definition that would be widely accepted by all transhumanist thinkers. The definitions offered in this text are neither absolute nor final, but offer a starting point to thinking about transhumanism. The concept of human improvement is central to the transhumanist discourse. According to Bostrom:

Just as we use rational means to improve the human condition and the external world, we can also use such means to improve ourselves, the human organism . . . We can also use technological means that will eventually enable us to move beyond what some would think of as “human.” (*The Transhumanist FAQ* 4)

Several major types of human development have been suggested by transhumanist thinkers. The famous (or infamous, depending on who is asked) “Transhumanist Declaration” states that “[h]umanity stands to be profoundly affected by science and technology in the future. We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings,

involuntary suffering, and our confinement to planet Earth.” The different areas of potential improvement further corroborate the inherent diversity of transhumanism. As a counterpoint to transhumanism, the bioconservative movement is generally skeptical of the human improvement techniques, which are lauded in transhumanist circles.

Obviously, there are several philosophical paradigms that are incompatible with the foundational notions of transhumanism. In this sense, a position that arises out of these philosophical paradigms will naturally be highly skeptical or immediately hostile towards cryonics. For example, a deathist philosophy, which perceives death as an unavoidable part of the human condition, would have no interest in cryopreservation. This paper is neither an ontological or metaphysical debate on the foundational principles of transhumanism, nor an attempt to take on the criticism of cryonics, which arises from a philosophical position that is incompatible with transhumanist ideals. I will not attempt to persuade those hostile to either transhumanism or lifespan extension that a specific method of lifespan extension, cryonic preservation, is desirable. I will, however, try to evaluate the methodological feasibility of the usage of literature in helping shed light on cryonics and assess the desirability of cryonic treatment for those who are not *a priori* opposed to the philosophical foundations of transhumanism or the prolongation of the human lifespan. There is precedent to this research even in the relatively narrow field of applying literature to lifespan extension. Michael R. Rose devotes a significant portion of his paper on combating ageing to literature, even going so far to claim that “more relief for my aggravation [with people misunderstanding the science behind biological ageing] has been supplied recently by works of fiction” (197).

In the context of lifespan extension, transhumanism is closely related to the discipline of gerontology, the discipline that deals with ageing. Bostrom defines the period when biogerontology became a proper scientific discipline:

The creation of the National Institute of Aging in 1974 did much to boost the scientific credentials of the discipline, and biogerontology is by now generally accepted by the wider scientific community as a legitimate area of research and by the government as an appropriate field into which to plow sizable amounts of public funding. (“Recent Developments” 28)

The relevance of the relationship between biogerontology and transhumanism can be seen in the words of Martin Sand and Karin Jongasma who write:

While one could be inclined to regard Transhumanist visions as far-fetched speculations about uncertain futures and therefore neglect their significance and meaningfulness, it must be emphasised that visionary practices have a specific impact on the development of technologies in the present. Visionary narratives narrow the scope of possible paths in which we could develop new technologies. (“Towards an Ageless Society” 293)

Sand and Jongsma draw attention to the fact that the debates on transhumanism have a noticeable impact on technological and scientific development, in spite of the fact that they offer a critical stance towards transhumanism. One of the most famous proponents of the transhumanist position on ageing, Aubrey de Grey, writes that the topic of his book *Ending Aging: The Rejuvenation Breakthroughs that Could Reverse Human Aging in Our Lifetime* is “the genuine elimination of aging as a cause of infirmity and death” (10; emphasis original). Additionally, when discussing the extension of life length, it is necessary to differentiate between life span and health-span. Bostrom clarifies this distinction:

The argument is not in favor of life-span extension *per se*. Adding extra years of sickness and debility at the end of life would be pointless. The argument is in favor of extending, as far as possible, the human *health-span*. By slowing or halting the aging process, the healthy human life span would be extended. (“The Fable of the Dragon-Tyrant” 277)

Whether it is about the absolute elimination of senescence or about a gradual extension of the human health-span, transhumanists view ageing as a process that can and should be influenced by humans. For example, Benjamin Best writes that

The proposition that aging is a disease that can be treated and perhaps eventually be reversed (rejuvenation), is based on the general understanding that aging consists of a multitude of specific pathologies on cellular and molecular levels that can be studied, understood, and reversed with foreseeable tools. (“Scientific Justification” 501)

Such a definition of ageing is consistent with the transhumanist goal of curing human senescence.

Significant changes to the human life span would have immutable social consequences and Francis Fukuyama, a bioconservative thinker, writes about the severe effects that the prolongation of life span would have on society. For **497**

example, he states that “voting age populations in the developed world will be more heavily feminized, in part because more women in the growing elderly cohort will live to advanced ages than men” (62). He also writes about other consequences of the supposed demographic change. For example, many social hierarchies are effected by age of the participants, and the changing of demographic landscape would change the power-relations in these hierarchies.¹ Without straying too far from the subject of cryopreservation, it is possible to say that the prolongation of lifespan will have manifold social effects, some of which might be exceedingly hard to predict. Partaking of radical technological possibilities without seriously thinking through the consequences would be highly irresponsible and the consequences of a seemingly beneficial technology might be negative enough to make the technology undesirable when everything is taken into account. Even an optimistic transhumanist position must be tempered by objective analysis. However, the fact that some of the changes that would take place if the human life span is to be prolonged might be detrimental to humanity does not mean that these ill-effects are the consequence of life extension itself. For example, there is valid argument that the eradication of senescence would make hierarchies in the academia more rigid and could, as a consequence, limit the possibilities in front of a promising young researcher. However, a more meritocratic academia with a more robust employment system might be a way out of this problem, which is compatible with an anti-ageing position, and the same is true for different social hierarchies. Trying to prevent the prolongation of human life because it would aggravate a social injustice is mistaken, as the responsible course of action is addressing the causes of the injustice itself, and not a development that has a side-effect that might reflect unfavorably on those suffering from the injustice. In other words, the fact that some of the problems faced by the human society would get aggravated by extending the human lifespan does not mean that people should not live longer, but that those problems should be fixed.

Cryonics

Cryonics is one of the methods of the transhumanist extension of life span, albeit a relatively controversial one. The importance of cryonics for the development of the transhumanist movement is shown by the fact that Bostrom lists

498 ¹ See Fukuyama, part 1 of chapter 4, for a more nuanced portrayal of his argument.

the time when, “[i]n 1962, Robert Ettinger published the book, *The Prospect of Immortality*, which launched the idea of cryonic suspension” (“A History of Transhumanist Thought” 10) as one of the significant moments in the history of transhumanism. Although the prolongation of lifespan consists of a wide plethora of technological methods and possibilities that do not have a direct relation to cryonic suspension, cryonics is a relevant option for someone inclined to agree with transhumanists. While the prospect of cryonic treatment is definitely present in transhumanist discourse, Bostrom holds no illusions about the safety of the method:

The uncertainty about the ultimate technical feasibility of reanimation may very well be dwarfed by the uncertainty in other factors, such as the possibility that you deanimate in the wrong kind of way . . . , that your cryonics company goes bust, that civilization collapses, or that people in the future won’t be interested in reviving you. So, a cryonics contract is far short of a survival guarantee. As a cryonicist saying goes, being cryonically suspended is the second worst thing that can happen to you. (*The Transhumanist FAQ* 16)

Cryonic preservation is far from being a risk-free means of extending one’s life span, but it can be seen as a burial technique that has the potential of being more beneficial in the long term than the traditional burial rituals.

At the time of the writing of this paper, it is possible to arrange the cryonic suspension of a person upon his death, although no technology has yet been developed to safely unfreeze a frozen person, and it is doubtful if such technology will be developed in the future. At present, the Cryonics Institute offers cryonic treatment starting at \$28,000 and has cryonically suspended 151 patients. The treatment offered by the Cryonics Institute begins by cooling a body immediately following clinical death and transporting it to the Institute’s facilities. There, blood is replaced by CryoProtectant Agents, and the body is gradually cooled to -196°C over the course of five and a half days. After the temperature is achieved, the patient is moved to the cryostat, where he is stored in an insulation pouch filled with liquid nitrogen.² As can be seen by the example of the Cryonics Institute, which is not the only institution offering cryonic treatment,³ current

² About the work of the Cryonics Institute, see <https://www.cryonics.org/>

³ Some of the other cryonics institutions include the American Cryonics Society, Trans Time, Alcor and KrioRus.

technology enables freezing a person in a stable way and sustainably taking care of the frozen body. Ole Martin Moen claims “that once a person is cryopreserved, she can remain in storage for centuries without further deterioration, so even if it takes a long time for the relevant technologies to develop, she is not in a hurry” (678). One of the most relevant issues with cryopreservation is that current technology does not offer a safe way of unfreezing a frozen patient, even in cases where medical technology is advanced enough to safely cure the causes of death. The cellular damage inflicted by cryonic treatments is irreversible at the moment and due to the scope and complexity of the ill-effects of cryonic treatment, there are doubts as to whether the cellular damage will be reversible in the future. Another source of danger regarding cryonics are the uncertainties concerning the mental state of the person being unfrozen. While there are different sources of uncertainty regarding the ultimate feasibility of the cryonics’ project, there are also different potential methods for undoing the damage caused by cryonic treatment. For example, Ralph C. Merkle has suggested the usage of nanotechnology in repairing frozen tissue as early as 1994 when he claimed:

A literature search on cryonics along with personal inquiries has not produced a single technical paper on the subject that claims that cryonics is infeasible or even unlikely. On the other hand, technical papers and analyses of cryonics that speak favorably of its eventual success *have* been published. (30)

In the last twenty-five years, there has been some writing on the topic, but, still, “the number of peer-reviewed papers on the topic is limited” (Moen 677). In one of the recent articles, Benjamin Best studies several medical aspects of the process, most notably, ischemia, “the damage inflicted on blood vessels and body tissues due to absence of blood flow” (“Ischemic Damage in Cryonics Patients” 165). However, it must be pointed out that there is a significant body of literature on the cryopreservation of specific organs, cells or parts of the body, especially sperm. Ole Martin Moen concludes his text by pointing out that

Little public and academic attention, moreover, leads to little research and development, and though cryonics is carried forward by general research in cryobiology . . . more specialised research on cryonics would be beneficial, and would make cryonics available faster and to more people. (680)

Even for a skeptic, if successful cryonic treatment is scientifically proven to be absolutely impossible, it would be hard to find an individual ready to un-

dergo cryonic treatment, and even harder to justify the existence of cryonics organizations. Therefore, it is extremely difficult to argue against the need for serious research of the subject.

Space and Economy in *Zero K*

Don DeLillo's 2016 novel *Zero K* is a novel about an imaginary cryonic treatment facility and the process of the cryonic treatment of Artis and her husband Ross, who is one of the founders of the facility. It is narrated by Ross' son Jeffrey Lockhart, who is invited to accompany his father and foster mother as they prepare for cryopreservation. In Jeffrey's words, Ross "was a man shaped by money" (DeLillo 13), and his affluence is one of the most crucial enabling mechanisms of the entire endeavor. As is the case with numerous other relevant contemporary issues, life span extension must be analyzed from different perspectives in order to adequately appreciate the nuances of its methods and their relevance. Ross Lockhart comments on his belief in the cryonic procedure awaiting him: "Complete. Medically, technologically, philosophically" (DeLillo 8). Cryonics can be perceived as a primarily technological and biological problem, but *Zero K* draws attention to other points of tension in cryonic technologies, namely, the problem of economy and the cultural rendering of death.

The most remarkable locality of the novel is the Convergence, the facility where cryonic treatment and storage takes place. The distinct setting of the Convergence, which is almost a world within a world, enables an insight into the complex dynamics of the cryonicist project. The Convergence is situated in a desolate waste roughly in the vicinity of Kyrgyzstan's capital, Bishkek. It is a vast enclosed space, mostly underground, built not only to conduct cryopreservation, accommodate the preserved persons and be extraordinarily resilient in cases of different crises, but also to house a diverse collection of different professionals necessary for its functioning. Additionally, there are spaces in the Convergence not directly or obviously related to the cryopreservation process. It is primarily a cryopreservation facility, but it is also a futurist hub where other activities, which are not directly connected to the technical and medical cryonics procedures, take place. For example, the Convergence has a sheltered garden, which definitely is not required in a cryonics facility. It also features a lecture room, which can have an obvious use in the entire cryopreservation process, but is also far from mandatory. Similarly, the screens appearing in the Convergence's hallways are not related to the cryopreservation enterprise in a direct

and clear way, but it is obvious that they have some sort of a function within the entire enterprise. Throughout the novel, the need for different perspectives in understanding cryonics and enabling such a complex project is accentuated by the fact that Convergence employs a diverse group of artists, social scientists, and philosophers besides the medical personnel and natural scientists working on cryonic technology. Ross comments on this:

And other benefactors. Individuals, foundations, corporations, secret funding from various governments by way of their intelligence agencies. This idea is a revelation to smart people in many disciplines. They understand that now is the time. Not just the science and technology but political and even military strategies. Another way to think and live. (DeLillo 33-4)

It is clear that the Convergence is not entirely focused on cryonics, but also on other aspects on human existence.

Although it is a remarkable work of science and art, the Convergence is a dystopian space. That is particularly ostentatious in the words of the Stenmark twins, the Convergence employees who address the people gathered in the facility: “[h]ere you are, collected, convened. Isn’t this what you’ve been waiting for? A way to claim the myth for yourselves. Life everlasting belongs to those of breathtaking wealth” (DeLillo 76). In their words, the expensive cryonic treatment is only available to those who are exceedingly rich. This notion is further corroborated when the reader actively pursues and engages the economic dimension of the novel. Ross Lockhart is a billionaire with a sprawling business empire, and that makes him eligible for special treatment inside the facility as one of its founders. The facility itself would obviously be impossible without a tremendous investment. In the narrator’s words:

I was aware that he’d put major sums of money into this entire operation, this endeavor, called the Convergence, and the office was a gesture of courtesy, allowing him to maintain convenient contact with his network of companies, agencies, funds, trusts, foundations, syndicates, communes and clans. (DeLillo 7)

By highlighting the economic dimension of the Convergence, *Zero K* draws attention to the fact that a cheap and broadly available advanced technology can hardly exist. While there are numerous academic texts on the biological and

technical feasibility of cryonic technologies, and even its philosophical dimensions, it would be hard to claim that the economy of cryonics has been studied in a particularly thorough manner.⁴ The real-world, the empirical Cryonics Institute, which offers cryopreservation at \$28,000, is marketed as a relatively cheap option, but even a markedly more luxurious cryopreservation option leaves significant questions about the long-term viability of the project. It is unclear for how long the patients would have to be preserved before they can be safely unfrozen, even if the technology for safe reanimation will be developed in the future. Before this method is developed, there are multiple potential crises, ranging from economic crashes to political instability and other sources of risk, which might make the maintenance of the preserved bodies an impossible task. In the words of one of the Convergence employees: “[t]echnology has become a force of nature. We can’t control it. It comes blowing over the planet and there’s nowhere for us to hide. Except right here, of course, in this dynamic enclave, where we breathe safe air and live outside the range of the combative instincts” (DeLillo 245). The Convergence mitigates the risk by being set in a remote location and by its extensive network of defensive measures. However, that comes at a steep price for those looking for treatment. Jeffery claims: “[g]ive the futurists their blood money and they will make it possible for you to live forever” (DeLillo 117). In the Convergence, money is the demarcation line between eternal life and death. Even the Convergence is not completely impervious to outside influence, as one of its employees says:

Hopes and dreams of the future often fail to account for the complexity, the reality of life as it exists on this planet. We understand that. The hungry, the homeless, the besieged, the warring factions and religions and sects and nations. The crushed economies. The wild surges of weather. Can we be impervious to terrorism? Can we ward off threats of cyberattack? Will we be able to remain truly self-sufficient here? (DeLillo 65)

Whether a real-world cryonic option can be developed, which is at the same time widely available and insulated against potential challenges future can offer to preservation, is an open question. It is possible to argue that the chance of successful cryonic treatment, even if reduced by the mentioned risks, is still

⁴ This is not to say that no attention is paid to the economic dimension of cryonics. Robert Ettinger devotes a chapter of his seminal book *The Prospect of Immortality* to the economic background of thinking about cryonics. Mike O’Neal and Aschwin de Wolf also address this issue and offer a potential solution to long-term economic validity of cryopreservation.

higher than the non-existent chance of being cremated or buried. However, the answer to the question of the economic background of cryopreservation is still a relevant part of the discussion, as, if economic reality significantly reduces the long-term chances of successful cryopreservation, the incentive for pursuing the development of cryonic technology and for engaging in cryopreservation becomes lower. This does not mean that it is inherently impossible to make cryonics economically viable but that attention should be paid to its economic reality. In his only novel written on that subject, Don DeLillo explores the economic reality in more nuance than possibly the entire body of academic texts written on the subject. According to Bostrom, wide access is one of transhumanism's basic conditions:

It is not enough that the posthuman realm be explored by someone. The full realization of the core transhumanist value requires that, ideally, everybody should have the opportunity to become posthuman. It would be sub-optimal if the opportunity to become posthuman were restricted to a tiny elite. There are many reasons for supporting wide access: to reduce inequality; because it would be a fairer arrangement; to express solidarity and respect for fellow humans; to help gain support for the transhumanist project; to increase the chances that you will get the opportunity to become posthuman; to increase the chances that those you care about can become posthuman; because it might increase the range of the posthuman realm that gets explored; and to alleviate human suffering on as wide a scale as possible. ("Transhumanist Values" 10-11)

This points towards the Convergence not being a transhumanist enterprise. Transhumanism advocates the availability of human enhancement to persons regardless of their wealth. In the Convergence, as well as in the contemporary cryonics institutions, wealth is a crucial factor in determining the availability of the treatment. However, there are other reasons why the Convergence does not correspond to transhumanist ideals. One of the undertakings of the Convergence is the creation of a futurist language, as can be seen in the following quotation: "[w]e will approximate the logic and beauty of pure mathematics in everyday speech. No similes, metaphors, analogies" (DeLillo 130). This is chillingly reminiscent of Orwell's *1984*, and a quest to remove metaphor or analogies from language should be viewed with skepticism not only on linguistic, but also on moral grounds. Jeffrey himself wonders "if I was looking at the controlled future, men and women being subordinated, willingly or not, to some

form of centralized command” (DeLillo 146), which further corroborates the dystopian undertones behind the Convergence project. Finally, after Artis’ cryonic treatment, a short chapter is devoted to her thoughts while being frozen. In addition to her thoughts, another unidentified voice is present in this chapter. A distinct possibility is that the second voice belongs to one of the Convergence’s employees who is able to monitor her mental state and, potentially, decide not to wake her up even if the technology became available: “[d]oes she need third person. Let her live down in the soundings inside herself. Let her ask her questions to no one but herself” (DeLillo 162; emphasis original). Based on all of this, it is safe to assume that, although it advances life-extension technology, the Convergence is not consistent with transhumanist ideals and philosophy.

Zero K and Age

Artis’ cryopreservation is a consequence of her medical condition. However, the situation regarding Ross is more complex. When Jeffery arrives to the facility, Ross is planning to undergo cryonic treatment alongside Artis despite the fact that there is no medical need for him to do so, which leads Jeffrey to think about “[a] man of his resources choosing to be a frozen specimen in a capsule in a storage facility twenty years before his natural time” (DeLillo 111). Ross is not a young man, but he is in excellent health, takes care of his body and stays fit, and his mental state shows no particular signs of age. For example, Jeffrey’s image of Ross consists of the fact that “[a]t home he stood before a full-length mirror reciting from memory speeches he was working on about risk appetites and offshore jurisdictions, refining his gestures and facial expressions. He had an affair with an office temp. He ran in the Boston Marathon” (DeLillo 14). However, Jeffrey does remark, even before Artis’ treatment, that “[h]e looked tired, he looked older” (DeLillo 34). In the empirical world, cryonic treatment is allowed exclusively to the bodies of the deceased, but in *Zero K* Ross has the opportunity to undergo it without showing any sign of physical infirmity or any substantive negative consequence of old age. The ethical background behind this is similar to the issue of euthanasia, and far too complex to be properly included in this paper. In spite of his earlier commitment, Ross changes his mind before the procedure. He says that one of the motives behind his change of heart was that “[i]t would have been the kind of surrender in which I gain control instead of relinquishing it” (DeLillo 143). In other words, had he chosen to be frozen along Artis, he would have escaped becoming old. Ross, however, rapidly

grows old after Artis' cryopreservation. After Jeffrey and Ross return from the Convergence, the story skips "mostly bloated time since then, for me at least, two years of it, slow-going and unfocused" (DeLillo 166). Over this period, Ross changes in a dramatic way and Jeffrey notices that "[h]is beard came spilling out of his face, freer and whiter than the architectural models of the past. He spent much of his time in this room, growing old. I think he came here to grow old" (DeLillo 184-85). The two years are merely a time for biological necessity to catch up to the changes in Ross' personality. At the time the story starts, Ross is not old by any measure and as soon as he decides not to follow Artis into cryopreservation, he becomes old. Immediately upon their return from the Convergence, Jeffrey notices that

It turned out that my father was not interested in history or technology or hailing a cab. He let his hair grow wild and walked nearly everywhere he cared to go, which was nearly nowhere. He was slow and a little stopped and when I spoke about exercise, diet and self-responsibility, we both understood that this was just an inventory of hollow sounds. His hands sometimes trembled. He looked at his hands, I looked at his face, seeing only an arid indifference. When I gripped his hands once to stop the shaking, he simply closed his eyes. (DeLillo 168)

There are two pertinent interpretations of Ross' ageing and both bear witness to the power of death over the human being. From one perspective, it is possible to argue that what happens to Ross is the proof for the hypothesis that growing old is not simply a physical process, but also an ethereal rejection of life and slow acceptance of the approach of death. In this interpretation, age is the specter that slowly and immutably brings about the end of life. Following this hypothesis, Ross was not ready to enter the cryonic treatment before he had gotten truly old, that is, before he was able to both physically and mentally embrace the end of his life in a way that was impossible to the healthy, fit, and alert Ross who was waiting alongside Artis. I staunchly reject such a hypothesis. Although it might seem pertinent to someone who perceives death as a natural part of life, I feel it lacking in both philosophical basis and textual understanding. If the physical effects of age were reversed, I strongly believe that the vast majority of people persuading themselves of their acceptance of death would drastically change their mind. In other words, if an old person who has already started to make peace with the possibility of his death were to be put in a young body, he would harbor no death wish. Leaving speculations aside, it would be possible for peo-

ple to reject the usage of life-extension technology, so those who really wish to grow old and die would still be able to do so without any antagonism between them and emergent life-extension technology. In my reading of *Zero K*, Ross' change of heart is not brought out of his need to grow old in a conventional way, but is a proof of the power the fear of death has over him. By finally getting cryonic treatment near the end of the novel, Ross already defies the conventional process of ageing. The arguments he gives his son for not being cryonically treated before his time are:

“I told myself finally, dead of night, that I had a responsibility to keep living. Suffer the loss, live and suffer and hope it gets easier—not easier but so deeply embedded, the loss, the absence, that I can carry it. To go with her would have been the wrong kind of surrender. I had no right. It was an abuse of privilege. What did you say to me when we argued?”

“I don't know.”

“You said if I went with her, it would reduce you. My over-dominance, the thing you can't escape. Even loving her too much, even choosing to die too soon. It would have been the kind of surrender in which I gain control instead of relinquishing it.” (DeLillo 143)

Even in the novel, cryonics is speculative and the success is not guaranteed. Speaking of responsibility from a man who “made an early reputation by analyzing the profit impact of natural disasters” (DeLillo 13-14) and his fear of reducing the son he had abandoned seem like feeble excuses of a man who, when faced with the immediate prospect of death, cannot bear to relinquish control and is ready to break the vow to his wife only to avoid the specter for several more years. The impulse that made Ross delay his cryonic treatment is the same impulse inherent in most people, and the same impulse that gives power to life-extension technology and philosophy – the fear of death.

Conclusion

The setting of *Zero K* is a world similar to the empirical world, but distinctly different from it by the virtue of being a setting in a narrative. The basic question that determines the success of this study is whether placing an empirical technology in a non-empirical world can help defamiliarize the technology and by doing so increase the epistemologically valid knowledge about the technological

phenomenon in the empirical world. Defining and explaining some of the nuances of cryonic technology in order to enable a more complete interpretation of *Zero K* doubtlessly has merit from the perspective of literary studies. However, the goal of this paper is to leave the confines of literary studies and have epistemological value in a broader field, that is, in the evaluation of the potential of cryonic technology. Cryonic technology is inherently speculative in a more profound manner than other speculative technologies. Speculative technology is speculative because it has not yet been created, but has been conceptualized and is physically possible in a theoretical sense. What makes cryonics distinct is the leap of faith necessary to partake of cryonic treatment. The speculative nature of safe unfreezing is similar to the speculative nature of advanced general artificial intelligence, nanotechnology, or space colonization. However, even a drastically advanced cryonic treatment, with a developed unfreezing technique, would require faith into the advancement of medical or life-extension technology, whereas the other speculative technological propositions would need no particular faith once they have been developed. They would just become regular technology. In the novel, Ross defines cryonics as “[f]aith based technology. . . Another god. Not so different, it turns out, from some of the earlier ones. Except that it’s real, it’s true, it delivers” (DeLillo 9). Adequately presenting speculative technology in academic discourse is particularly challenging in the sense that it requires an attempt to truthfully speak about something that is by its nature speculative. In this sense, the discourse about speculative technology must allow for more epistemological flexibility than the discourse about other types of technology. This does not invoke a complete relativization when thinking about speculative technology, but one must be aware of the fact that writing about a technological possibility is distinctly different than writing about an existing technology. On the most basic level, the data available is limited. In this sense, literature can have a profound influence on the discourse about speculative technology as it can show a world where the technology is no longer speculative. To what extent can this knowledge be applied to the empirical world is an open question.

There are several issues with cryonic technology. The philosophical problems were not the subject of this paper, as they are usually not directed against cryonics itself, but against the wider concept of life-extension. The social issues of life-extension, or cryonics, are often more valid as criticism of society in general than these technologies. In other words, if the underlying social problems are

fixed, these social issues would no longer trouble humans, regardless of whether cryonic treatment is successful or not. The biological issues, such as cell damage caused by the freezing process, are relevant in the sense that the more severe they are, the less likely a valid cryonic technology is. In spite of the biological difficulties, some will argue that a small chance of revival is better than the chance offered by the traditional alternatives, such as burial or cremation. Based on these conventional issues with cryonics, it would seem that a proponent of transhumanism and life-extension should have no major reason to be opposed or skeptical towards the cryonicist movement. However, *Zero K* points towards two more areas of tension regarding cryonics, that is, its economic and cultural reality. In the contemporary culture, cryonic treatment is still far from being a usual manner of treating the deceased. While the Convergence features an extensive cultural production of an environment where cryonic treatment seems desirable, it seems like a totalitarian facility. While there currently is a significant presence of deathist narratives in contemporary culture, the creation of a safe life-extension method would probably radically shift these narratives in a short period. Cryonics, on the other hand, always involves a leap of faith so it is hard to avoid religious comparisons, which in turn makes it harder to justify cryonics to wider audiences on scientific grounds. The Convergence, essentially a microcosmos where cryonics is a natural progression, seems like a way to solve this cultural problem. DeLillo draws attention to the fact that the microcosm is not a utopian one, but there is no significant evidence that it would be impossible to affect the public opinion without a totalitarian institution such as the Convergence. In this sense, the cultural problem should not significantly affect one's judgement of the desirability of cryopreservation. However, the economic reality should. Firstly, the economic substance of cryonics is relatively rarely present in academic texts regarding cryonics. In *Zero K*, personal wealth is the criterion that determines whether one can be cryonically treated. This is against the traditional transhumanist idea of an inclusive development of enhancement technology. Additionally, it would be exceedingly difficult to imagine a world where this is not the case. The onset of the technology that would allow for safe unfreezing is unpredictable. As long as that is the case, the maintenance of cryonic storage facilities is an economic burden and a source of risk for the people who have undergone cryonic treatment. Significant systemic government funding for cryonics does not seem realistic because of the numerous cultural, social and philosophical issues with cryonic technology. It seems that cheap and safe cryonic treatment is extremely hard to achieve, but also that

cryonic treatment is by its very nature plagued by economic uncertainties. This makes it hard for a cryonic enterprise to be profitable in the long term. Cryonics always entails a leap of faith into an uncertain future. That future is not uncertain exclusively because the medical technology necessary for reanimation does not currently exist, but also because of maintenance costs and the physical vulnerability of cryonics facilities. Because of the speculative nature of cryonics, it would be extremely hard to make a rigorous economic analysis of the entire enterprise. Don DeLillo's novel features a detailed portrayal of a functioning cryonics facility and both concretely and implicitly denotes the economic reality of the project. While this paper cannot hope to offer a conclusive judgement on cryonics, *Zero K* points towards the problem of economy in the prospect of cryopreservation and the need to systematically incorporate the evaluation of the economics of the entire cryopreservation project into the body of academic texts trying to determine the validity of the cryonicist case.

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SABLAST SMRTI U DELILLOVU ROMANU *ZERO K*

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Ovaj članak nudi osnovni pregled transhumanističkog pokreta s posebnim naglaskom na transhumanistički pristup starenju. Transhumanistička filozofija starenja teži produženju ljudskog života i uklanjanju negativnih posljedica starenja. Krioprezervacija, koja je neovisno o kontroverznosti trenutačno relevantna i funkcionalna metoda zadržavanja smrti bit će posebno naglašena. Tekst sadrži procjenu skupine tradicionalnih problema s krioničkom tehnologijom, poput njezine biološke izvedivosti. To će detaljno teorijsko promišljanje pratiti analiza DeLillova romana *Zero K* na temelju filozofske podloge transhumanističkog pokreta, procjene poželjnosti krioničke tehnologije i prikaza starenja i smrti u romanu. Roman suptilno privlači pozornost ekonomskoj pozadini ovog složenog tehničkog procesa, koja je često slijepa pjega u diskusijama o pozitivnim i negativnim aspektima krionike. Transhumanizam se zalaže za široku dostupnost metoda poboljšanja čovjeka, ali *Zero K* privlači pozornost bogatstvu kao demarkacijskoj liniji između onih koji mogu izabrati da uživaju u dobrobitima tehnologije i onih koji ostaju isključeni neovisno o vlastitom izboru. U tom kontekstu DeLillov roman suočava mogućnost krioprezervacije sa stvarnošću i privlači pozornost točkama tenzije unutar transhumanističkog pristupa starenju.

Ključne riječi: transhumanizam, krionika, Don DeLillo, *Zero K*, starenje