Rethinking Personal Identity: A Philosophical Enquiry into the Problem of Personal Identity in Cryonics

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CERTIFICATE

This is to certify that the dissertation entitled **Rethinking Personal Identity: A Philosophical Enquiry into the Problem of Personal Identity in Cryonics** is submitted to the faculty of Philosophy, Calvary institute of Philosophy and religion by Br. Shubham Kulathinal OFM Cap. (P21/1265) in partial fulfilment of obtaining a certificate in philosophy course is a *bona fide* record of the dissertation work carried out by him under my supervision and guidance.

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General Introduction

Science fiction no longer has the same potential due to the fast advancements in science and technology. Scientists have known for a long time that certain species may live for extensive periods of time in a condition that resembles death. The stunning change of the North American Wood Frog throughout the winter months is one fascinating example. Its heart stops beating and its body freezes solid, completely shutting down its whole physiological system at this period. But when summer-time warmth arrives, the frog thaws and mysteriously resurrects. It's becoming more and more clear that technology is advancing to the point where it could one day allow humans to emulate this natural process. I wonder if humans may go into a kind of suspended animation, similar to the hardy wood frog, until such time when medical advancements allow us to not only heal our illnesses but also live forever? Cryonics, a new scientific advancement in cryopreservation, epitomizes the desire for life extension, with steps already being taken for the possibility of future revival.

Though it may sound like science fiction, continuing developments in a number of industries are making the possibility of "freezing" someone to perhaps prolong their life more real. The field of cryonics is mostly hopeful because of the swift advancements in nanotechnology and regenerative medicine. These domains are opening up new avenues for organ and tissue regeneration and repair. Reviving humans who have undergone cryopreservation could become possible if the biological harm caused by the technique can be adequately restored in the future. Cryonics also presents a unique and complex challenge to our understanding of personal identity. It raises thoughtful questions. The central issue revolves around the concept of personal identity over time. Cryonics introduces a significant disruption of continuity during the cryopreservation process. This motivates us to redefine the traditional notions of personal identity. Hence in this paper, we seek to analyze personal identity in the unique context of Cryonics. This paper also endeavors to enter into the core of the problem of personal identity and thus to derive philosophical reflections from it.

Chapter - 1
Understanding Personal Identity

Introduction

Personal identity theories are concepts and perspectives that pursue to address the fundamental question of what makes a person the same over time. These ideas investigate the nature of personal identity and how people might continue to feel like themselves in spite of changes to their physical, psychological, and sensory characteristics. Looking into a river, we see that the water appears different every minute compared to the previous one, but we still think of it as the same river. These theories are like different lenses through which we try to make sense of this river of change that is an individual's life. To analyze personal identity in the unique context of Cryonics, we must explore philosophically on the personal identity theories which will help us to advance further the context of Cryonics

1.1. Understanding the "I"

Personal identity or the sense of "I" is the long-lasting and unique sense of self that people preserve throughout their lifetimes, which includes all of the many qualities, experiences, and recollections that make them who they are. "What does being the person that you are, from one day to the next, necessarily consist in? This is the question of personal identity, and it is literally a question of life and death, as the correct answer to it determines which types of changes a person can undergo without ceasing to exist. Personal identity is the philosophical confrontation with the most ultimate questions of our own existence: who are we, and is there a life after death?"[1] It allows people to perceive themselves as a continuous entity over time, connecting past, present, and future selves into a consistent narrative.

1.1.1. The Significance of Personal Identity

The significance of personal identity holds importance across multiple dimensions of human existence. It forms the bedrock of ethical and moral responsibility, serving as the basis for accountability and decision-making. Personal identity provides the sense of what makes 'you'- 'you,'

[1] Personal Identity, *Internet Encyclopedia of Philosophy*. https://iep.utm.edu/person-i/0987 (accessed August 15, 2023).

the sense of who I am. It moulds a person's conception of themselves, promoting emotional health, personal development, and self-awareness. Moreover, personal identification influences how people interact with their society and history by adding to the intricate interactions of cultural, social, and individual identities. In philosophy, personal identity theories grapple with profound questions about consciousness, existence, and the mind-body relationship, enriching philosophical discourse. Overall, personal identity is a fundamental element of the human experience, shaping relationships, guiding behavior, and prompting contemplation about the nature of self and reality.

1.1.2. The Problem of Personal Identity

The problem of personal identity is concerned with the question: What makes it thinkable that a person at one time remains the same thing as a person at another time? Personal identity investigates what makes a woman of 50 the same person as the girl she was at 15, even though she may resemble that girl in very few respects. This issue becomes apparent in scenarios such as the *Ship of Theseus* paradox, wherein the gradual replacement of all parts of a ship challenges its identity. Similarly, if every cell in a human body is replaced over time, does the resulting person maintain their identity?[2] Derek Parfit speaks of a situation where an individual's consciousness is duplicated, generating two identical persons. Are both of these individuals equivalent to the original?[3]

Neuro-scientific advances show that "Positron Emission Tomographic (PET) studies have identified the brain areas involved in perceiving and representing the body. Corporeal awareness relies on a large neural network with different brain areas playing different roles (particularly the somatosensory cortex, posterior parietal lobe, and insular cortex)."[4] This indicates that there are brain regions that are permanently committed to representing corresponding body parts in conscious mindfulness. Now the question arises, does this constitute personal identity? Exploring the question of personal identity challenges our preconceptions and uncovers the limits of our understanding of the fundamental nature of our being.

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[2] Thomas Hobbes, *The English Works of Thomas Hobbes of Malmesbury*, ed. William Molesworth, vol. 1 (London: John Bohn, 1839), 136.

[3] Derek Parfit, *Reasons and Persons* (New York: Oxford University Press, 1984), 200.

[4] Melanie Swan, "Worldwide Cryonics Attitudes about the Body, Cryopreservation, and Revival: Personal Identity Malleability and a Theory of Cryonic Life Extension," *Sophia Journal of Philosophy and Traditions* 16, no. 3 (October 2018): 10. https://www.researchgate.net/publication /328051576 (accessed on July 20, 2022).

1.1.3. Evolution of Personal Identity in Western Philosophical Thought

The evolution of personal identity in Western philosophical thought has been a dynamic journey spanning a century, characterized by a progression of theories and inquiries into the nature of the self and its continuity over time. Ancient Greek philosophers dealt with the idea of identity amidst change. Heraclitus, in his fragments, posited a worldview of perpetual flux, while Parmenides, as seen in his poem, emphasized the constancy of being. Plato's theory of forms, detailed in "Phaedo" and "The Republic," suggested that unchanging essences underlie the changing world. Aristotle's "Metaphysics" extended this by discussing how objects maintain their identity through transformations and suggested that objects possess enduring essences even as they undergo change.[5] But Aristotle and Plato thought about it in terms of the relationship between the soul and the body. A person stays the same as the unity of the same soul in one body, according to the Middle Ages interpretation of the personal identity problem, which was based on the principle of individuation.

Thomas Hobbes is one of the first in the Early Modern philosophy, who explicitly formulates the problem of personal identity. He outlines this notion in his well-known paradox about the ship of Theseus. However, he analyses it in Aristotelian terms of matter and form, adding the scholastic principle of individuation.[6] For Rene Descartes, personal identity is *cogito*. A person remains self-identified because he or she continues thinking. Since thinking is an attribute of immaterial substance, it is possible to understand the issue with personal identity as an issue with the same immaterial substance. This perspective is similar to the medieval idea that a person is the same as their body and soul are one. So, Descartes does not pioneer in the development of personal identity problems.[7]

John Locke in *"An Essay Concerning Human Understanding,"* grounds unsubstantial theory of personal identity and defines a person as "a thinking intelligent living that has a reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking and, as it seems to me, essential to it: it being impossible for anyone to perceive without perceiving that he does perceive"[8] David Hume describes an eliminative approach to the self, saying that the self is not a single unity or a

[5] Amith Joshi, "Scientific Philosophy: Exploring Existential, Metaphysical, and Ethical Research Philosophy Behind the Question WHO AM I?" *Journal of Pharmaceutical Negative Results*14, no. 3 (2023): 1650.

[6] Hobbes, *The English Works of Thomas Hobbes of Malmesbury*, 136.

[7] Rene Descartes, Discourse on Method and Meditations (Dover Publications, New York, 2003), 64.

[8] John Locke, *An Essay Concerning Human Understanding* (Oxford: Clarendon Press, 1924), 162.

structure, but “the bundle or collection of different perceptions”[9] Immanuel Kant believed that the answer to the question “Who am I?” is best determined through self-reflection, and through this self-reflection each individual has the capacity to gain insight into one’s true nature. Georg Wilhelm Friedrich Hegel says, our identity is continuously evolving and it is based on our ever-changing environment. Our identity is also influenced by the people and things with which we interact.[10]

Friedrich Nietzsche believed that we are constantly in the process of becoming and that the answer to the question, “Who am I?” cannot be fixed and determined. According to Nietzsche, it is up to each individual to discover who they are and to create a meaningful identity for themselves. Jean-Paul Sartre famously wrote, "Existence precedes essence." In other words, we are not born with a predetermined identity or purpose.[11] Michel Foucault argued that identity is a fluid and constantly shifting idea. He argued that the idea of a stable, fixed identity is a social construction and that each individual is continuously constructing and reconstructing their identity in response to different contexts, interactions, and situations. Jacques Derrida argues that the question “Who am I?” is ultimately incomprehensible for identity is at all times shifting and re-contextualizing.[12]

The 20th century witnessed interdisciplinary developments in understanding personal identity. Parfit's *"Reasons and Persons"* challenged the idea of unchanging identity by exploring scenarios where continuity might be disrupted. Charles Taylor in his *"Sources of the Self"* explored how cultural contexts shape individual identity, while Paul Ricoeur's *"Oneself as Another"* delved into the role of narrative in self-conception and emphasized the role of stories and cultural contexts in shaping one's sense of self.[13] These views in the evolution of personal identity in Western philosophical thought have been noticeable by dynamic shifts, from ancient debates on change and constancy to modern considerations of narrative identity and cross-cultural influences. These explorations will contribute to exploring further into realms of personal identity.

[9] David Hume, *A Treatise of Human Nature* (Oxford: Clarendon Press, 2007), 165.
[10] Joshi, “Scientific Philosophy,” vol. 14, 1651.
[11] Ibid., 1651.
[12] Ibid., 1651.
[13] Personal Identity, *Stanford Encyclopedia of Philosophy*. https://plato.stanford.edu/entries/identity-personal/4356 (accessed on September 23, 2023).

1.1.4. Clarifying Personal Identity, Self, Consciousness and Person

“Personal identity” pertains to the distinct qualities, recollections, and life events that characterize a person and set them apart from others. It includes the story of a person's life as well as their ongoing identity across time. Personal Identity creates the "inner observer" that creates a subjective awareness that you are an individual who observes and experiences the world. The phrase "self" is more general, referring to one's innermost feelings, aspirations, and ideals in addition to one's personal identity. It's the personal knowledge of one's own uniqueness and existence. The state of awareness and perception is referred to as “consciousness.” It encompasses both knowledge of oneself and the outside environment. Our subjective experiences are a result of our capacity to perceive ideas, feelings, and sensations. Within the context of being human, a “person” integrates aspects of self, awareness, and personal identity. A “person” is a unique individual who belongs to the human species and possesses consciousness, self-awareness, and a distinct personality. This paper deals only with personal identity.

1.2. Theories of Psychological Persistence

Psychological continuity theories understand personal identity through the lens of psychological attributes and experiences. For instance, imagine a person who remembers a childhood birthday party, their first day of school, and a recent vacation. These memories create a psychological bridge that connects different phases of their life, forming a coherent narrative of their identity. Thus, Psychological continuity theories suggest that as long as there is an unbroken chain of psychological connections between different stages of an individual's life, that person maintains their identity.

1.2.1. Locke's Memory as a Glue of Personal Identity

John Locke's memory theory of personal identity is a profound exploration of the complex nature of human selfhood and continuity over time. In *"An Essay Concerning Human Understanding,"* Locke presents a compelling perspective that challenges conventional notions of identity grounded solely in the physical body. Instead, he presents that personal identity is rooted in the realm of consciousness and memory. According to Locke, an individual remains the same person as long as there is an unbroken chain of memories connecting their past experiences to their present state of awareness. This theory places memory at the heart of personal identity, suggesting that the ability to

remember and reflect upon past thoughts, actions, and experiences is what enables an individual to claim those moments as part of their identity.[14]

We can also compare Locke's arguments with the ideas expressed by Descartes. One of the important similarities we find between Locke and Descartes is the idea that altering the mass of a living body does not alter its identity. As we saw, Descartes argued that losing a limb or other body part does not affect the sameness of his mind. Similarly, Locke states, "in the state of living creatures, their identity depends not on a mass of the same particles; but on something else. For in them the variation of great parcels of matter alters not the identity…"[15] and "the reason whereof is, that in these two cases of a mass of matter, and a living body, identity is not applied to the same thing."[16]

1.2.2. Thomas Reid's Criticism of Memory-Based Theories

Thomas Reid, an 18th century Scottish philosopher, offered significant criticisms of memory-based theories of personal identity, particularly those advanced by thinkers like John Locke. Thomas Reid understands, "memory is neither a current apprehension of a past event, nor a current apprehension of a past apprehension. Memory preserves past apprehension of an event through a conception of the event previously apprehended and a belief of the event that it happened. The force of this theory is best illuminated by contrast to the theory of ideas, which theory holds that memory informs us not of past events but past experiences."[17]

Thomas Reid objects to the idea that, as Locke's argument states, personal identity is defined by memory. He argues that Locke's claim is impossible since memory presupposes personal identity. What this means is that for there to be a memory, there must first be a person who, in a sense, owns that memory. This kind of objection claims Locke is guilty of reversing the order of causation. The result, Reid states, is that memory is granted "a strange magical power of producing its object, though that object must have existed before the memory or consciousness which produced it."[18] This objection appears sound on the surface. Yet, if we restate the objection as a question, we see that the idea may not be quite so straightforward. For example, let us say we ask, "Is every memory produced by a

[14] Locke, *An Essay Concerning Human Understanding,* 163.
[15] Ibid., 330.
[16] Ibid., 330.
[17] Rebecca Copenhaver, "Thomas Reid's Theory of Memory," *History of Philosophy Quarterly* 23, no. 2 (April 2006), 185.
[18] Thomas Reid, *Essays on the Intellectual Powers of Man* (London: Macmillan, 1941), 214.

person that, in some sense, owns that memory?" If our answer affirms this question, then some problem cases arise. For now, we may ask, "What about such cases as animals or, perhaps, computers powered by artificial intelligence – do these objects qualify as persons, since they are capable of recollection of memory?" The notion expressed here is that if memory presupposes personal identity, then wherever we find memory we should, by necessity, find persons.

1.2.3. Derek Parfit's Bundle Theory and Reductionism

Parfit's bundle theory is the concept of "psychological connectedness." Parfit argues that the continuity of personal identity arises not from an unbroken thread of consciousness or memory, as posited by other theories, but from the overlapping and interconnected psychological experiences and traits that constitute an individual's being. He suggests that our sense of self is derived from the relationships and patterns formed by these elements, rather than from an indivisible core.[19]

In his *Reasons and Persons*, Derek Parfit argues for a Reductionist View of personal identity. According to the Reductionists, persons are nothing over and above the existence of certain mental and/or physical states and their various relations. Just as we are not apt to think that a social club has any ontological status over and above the existence of its members and their relations to one another, so too the Reductionist claims that we should not take persons to exist apart from the various physical and psychological events that characterize them. Given this, Parfit believes that it follows "that the fact of a person's identity over time just consists in the holding of more particular facts."[20] Parfit provides further arguments to show that the facts in question concern psychological continuity or connectedness, and thus that personal identity can be reduced to this psychological continuity and/or connectedness. This is what Parfit terms the Psychological Criterion for personal identity.

1.3. Physicality-Driven Identity Theories

Physicality-driven identity theories assert that personal identity is primarily rooted in the physical body. A person remains the same person as long as there is an unbroken line of bodily existence and sameness between different moments in time. This perspective underscores the tangible and observable nature of the body as the vessel through which individuals interact with their environment and establish their sense of self.

[19] Parfit, *Reasons and Persons*, 231.
[20] Ibid., 211.

1.3.1. Locke's Physical Continuity Theory and Biological Approach

Locke in *"An Essay Concerning Human Understanding," creates* a distinction between being the same *man* and being the same *person*. Although John Locke is best known for his psychological continuity theory, he does acknowledge the importance of the physical body. The same *man*, he writes, consists in "a participation of the same continued Life, by constantly fleeting Particles of Matter, in succession vitally united to the same organized Body."[21] Locke's man is identical with a biological body. By way of comparison, he describes a person as "a thinking intelligent Being, that has reason and reflection, and can consider self as itself, the same thinking thing in different times and places; which it does only by that consciousness, which is inseparable from thinking, and as it seems to me essential to it…."[22] According to Locke, bodily continuity offers a distinctive perspective on personal identity by anchoring it in the physical body. Locke also emphasizes the enduring and unbroken physical connection as the basis for the persistence of the self over time.

Eric Olson comes forward by saying that identity consists of the continuity of a single organism. In its new, updated form the biological approach to personal identity, is also called 'animalism.' In *"The Human Animal: Personal Identity without Psychology,"* Olson Assumes that each concrete particular belongs most fundamentally to one and only one kind. This kind defines the individual's essential properties in the sense that the individual cannot cease to belong to that kind without ceasing to be. A puppy, for instance, may cease to be a puppy simply by maturing into an adult dog; it may cease to be white-haired by growing a new, darker coat; but it cannot cease to be a dog without ceasing to exist. Olson calls the terms that name essential kinds of substance concepts. Substance concepts (like a dog) are contrasted with phase sortals, concepts that apply to a particular substance during some or all of its existence, but which it could exist without instantiating (concepts like a puppy or white-haired creature).[23]

1.3.2. Bernard Williams' Body-Switching

Bernard Williams, a renowned philosopher, raises a thought-provoking objection to bodily continuity theories by introducing the "body-switching" scenario. In his work *"Problems of Self,"*

[21] Locke, *An Essay Concerning Human Understanding*, 331.
[22] Ibid., 335.
[23] Eric Olsen, *The Human Animal: Personal Identity without Psychology* (New York: Oxford University Press, 1997), 26.

Williams thinks that if we were to replicate a person's memory, then we introduce the concept of *person-types*. He comes to this conclusion by way of the notion of an information swap, in which a person's mental contents are removed from his/her brain and mechanically transferred back into the same brain, after a reconstructive brain surgery.[24] He asks us to picture a fictitious scenario in which two people, A and B, receive brain transplants into their respective bodies. The body of person A would now inhabit the body of person B, and vice versa, according to theories of bodily continuity. Williams draws attention to the fact that this conclusion contradicts our common-sense interpretation of personal identity. He contends that the intricate network of psychological and experiential characteristics that go into creating our sense of self is too complex for bodily continuity to fully explain, given the complex and multidimensional nature of personal identity.

1.3.3. Anthropological Insights

The New York Times published an article called *"Your Body Is Younger Than You Think,"* which posited that the body is many years younger than the chronological age. a Swedish scientist, Jonas Frisen invented a novel method of estimating the age of human cells. According to him, even the middle-aged maybe just 10 years old or less, as far as the body cells are concerned. But Dr. Frisen, a stem cell biologist at the Karolinska Institute in Stockholm, has also discovered a fact that explains why people behave their birth age, not the physical age of their cells: a few of the body's cell types endure from birth to death without renewal, and this special minority includes some or all of the cells of the cerebral cortex.[25]

In the scientific circles, there was a dispute over whether the cortex ever makes any new cells that got Dr. Frisen looking for a new way of figuring out how old human cells really are. The prevailing belief, generally, is that the brain does not generate new neurons, once its structure is complete, except in two specific regions, the olfactory bulb that mediates the sense of smell, and the hippocampus, where initial memories of faces and places are laid down. But Elizabeth Gould of Princeton, a neuroscientist, reported finding new neurons in the cerebral cortex, along with the elegant idea that each day's memories might be recorded in the neurons generated that day. Her scientific findings challenged the views of Jonas Frisen. Another contentious issue is whether the heart generates new

[24] Bernard Williams, *Problems of the Self* (Cambridge: Cambridge UP, 1999), 79.

[25] "Your Body Is Younger Than You Think," *The New York Times*. https://www.nytimes.com/2005/08/02/ science/ your-body-is-younger-than-you-think.html (accessed on July 18, 2022).

muscle cells after birth. Dr. Frisen has found the heart as a whole is generating new cells, but Dr. Piero Anversa of the New York Medical College in Valhalla has challenged Frisen that he has not yet measured the turnover rate of the heart's muscle cells.[26]

Thus, the anthropological findings regarding our own bodies are interesting. On the average, our body cells last about ten years. At the same time there are specific cells that last from the beginning of our life. This throws light on how dependent our bodies are on the changing cells. The interesting question that comes out of this investigation is: if our cells keep on changing, what gives us a permanent self or identity? Are our bodies like the ship of Theseus, which is given the same identity only by external observers?

1.4. Bundle Theory and Narrative Identity

Bundle theory challenges traditional notions of the self as a unified and enduring entity, proposing instead that the self is nothing more than a collection of interconnected and constantly changing experiences. Schechtman's theory of Narrative identity places a significant emphasis on narrative identity, asserting that personal identity is constructed through the narrative we create and maintain about ourselves.

1.4.1. Self as a Bundle of Perception

David Hume, the Scottish Enlightenment philosopher in his influential work *"A Treatise of Human Nature,"* presents his Bundle theory. Hume's bundle theory posits that there is no underlying substance or "self" that holds together our various thoughts, perceptions, and sensations. Instead, he likens the self to a bundle or stream of experiences that are linked together by the flow of consciousness. According to Hume, when we introspect, we find a series of individual perceptions and mental states, but we do not encounter a substantial and unchanging self that serves as their foundation. The perceptions themselves, Hume argues, are all we truly perceive, not a continued self. He states, "I never can catch myself at any time without a perception, and never can observe anything but the perception."[27]

[26] "Your Body Is Younger Than You Think," *The New York Times*.

[27] David Hume, *A Treatise of Human Nature,* ed. P.H. Nidditch (New York: Oxford University Press, 1978), 252.

David Hume's view of the self takes the new materialism and empiricism in a more radical direction. In Hume's analysis, our belief that anything had an enduring substance was a perceptual illusion.[28] In his *Treatise on Human Nature,* he applies this skepticism to personal identity, and argues that the self is also an illusion created by the contiguity of sense perceptions and thoughts.[29] Hume's concept of the feigned production of a self, through the imagination, has become known as the bundle theory of the self, because it maintains that our self is really nothing more than a bundle of disjointed perceptions, which are seemingly unified by the imagination.

1.4.2. Identity: A Product of Narration

Although David Hume totally rejects the notions of the self as a unified and enduring entity, Marya Schechtman proposes a narrative identity. In *"The Constitution of Selves,"* Marya Schechtman helpfully draws our attention to the pivotal identity question—which she dubs the characterization question—which is "what actions, experiences, beliefs, values, desires, character traits and so on make a person who she is."[30] In exploring this question, Schechtman argues that "a person creates his identity by forming an autobiographical narrative—a story of his life."[31] According to Schechtman, "individuals constitute themselves as persons by coming to think of themselves as persisting subjects who have had experience in the past and will continue to have experience in the future, taking certain experiences as theirs… A person's identity … is constituted by the content of her self-narrative, and the traits, actions, and experiences included in it are, by virtue of that inclusion, hers."[32]

Not all personal narratives are identity-constituting, however. Some such narratives are at most personal myths. According to Schechtman, for a self-narrative to be identity-constituting, it must satisfy two constraints—the articulation constraint and the reality constraint. An identity-constituting self-narrative must be capable of local articulation, that is, the person must be able to provide some account of her history, her life situation, and her motivations. As Schechtman insists, "the narrator should be able to explain why he does what he does, believes what he believes, and feels what he

[28] James J. Hughes, "Transhumanism and Personal Identity," The Transhumanist Reader 8, no. 2 (February 2013): 2. https://www.p-identity/364JYID7470vvv.html (accessed on July 20, 2022).

[29] Fredrick Copleston, *British Philosophy: Hobbes to Hume*, vol. 5 of *A History of Philosophy*, 11 vols. (London: Bloomsbury, 1956), 303.

[30] Marya Schechtman, *The Constitution of Selves* (Ithaca: Cornell University Press, 1996), 73.

[31] Ibid., 93.

[32] Ibid., 94.

feels"[33] A person need not be able to narrate her whole life in a self-conscious way, but she must be able to narrate parts of it.[34] That is, she must be able to render her self-narrative intelligible. As regards the reality constraint, Schechtman insists that the self-narrative must cohere with basic observational facts about the world. That is, an identity-constituting self-narrative must cohere with reality: "This is not to say that a narrative must be totally accurate in every regard or contain no trivial mistakes, but it should exhibit a fundamental grasp of what the world is like" [35]

Conclusion

We encounter a rich multiplicity of perspectives, each offering its unique lens through which to contemplate the nature of the self. Determining the criterion of personal identity is a fundamental challenge. Is personal identity tied to psychological continuity, bodily continuity, or both? Should it be defined by a specific set of memories or traits? Different philosophical perspectives offer various criteria, such as the psychological criterion, biological criterion, or narrative criterion. However, in the end, we are left with a deep appreciation for the complexity and fluidity of personal identity which enlightens us and unlocks profound questions about the analysis of Cryonics. We are challenged to question our assumptions about the self and to recognize the dynamic nature of human existence. But as we move forward to the second chapter, we encounter a need to rethink personal identity in the context of Cryonics. All these theories would contribute positively to our journey to advance further.

[33] Schechtman, *The Constitution of Selves*, 114.
[34] Ibid., 105.
[35] Ibid., 83.

Chapter - 2
Cryonics: The Death of Death and a Dilemma

Introduction

Survival is a fundamental instinct in all living organisms, including humans. The drive to live longer is a biological imperative that has evolved over generations to ensure the continuation of the species. As Science advances, a whisper echoes – the death of death. Cryonics introduces a poetic rebellion against the finality of the grave, a whispered promise that in suspended animation, the shadows of mortality may find a way to fade. As cryonics advances, it seems that the most famous syllogism of history, "all men are mortal" shadows an alteration. In the icy chambers of cryonics, time hesitates, and the prospect of thawing opens the door to a symphony of renewed life.

Arguably, the motivation which lies behind the cryonics movement is the human desire for life extension. As the transhumanist Nick Bostrom claims, we all have an intrinsic desire to stay alive and healthy; "when presented with a real-world choice, most would choose the path of prolonged life, health, and youthful vigor over the default route of aging, disease, and death."[36] Cryonics epitomizes this desire for life extension, with steps already being taken for the possibility of future revival.

2.1. Exploring Cryonics

The French doctor and materialist philosopher Julien Offray de La Mettrie in "*L'Homme Machine*," states that "man is a machine so complex that it is impossible to make a clear idea about it and subsequently, as a result, to define him."[37] Science and technology by looking into the complex capacities in man propose a chance for personal, physical immortality through Cryonics. The freezing of humans was first scientifically proposed by Michigan professor Robert Ettinger when he wrote *The Prospect of Immortality* in 1962.

Firstly, it is important to distinguish 'cryogenics', 'cryobiology', and 'cryonics.' These are often used interchangeably, but each term refers to very different things. Firstly, 'cryogenics' refers to

[36] Nick Bostrom, "Why I Want to be Posthuman When I Grow Up," *Medical Enhancement and Post humanity,* (2008): 113. https://www.nickbostrom.com/posthuman.pdf (accessed on July 3, 2022).

[37] Peter Kyslan, "Transhumanism and the Issue of Death," *Ethics and Bioethics in Central Europe* 9, no. 2 (September 2019): 73. https://www.Journals.sciendo.10.2478/ebce-2019-0011.html (accessed on August 15, 2022).

the process of cooling things in general. This is often used in parallel with scientific studies of how substances such as metals behave at sub-zero temperatures; "low temperature engineering including applied superconductivity, cryo-electronics and cryo-physics."[38] Secondly, 'cryobiology' refers to the cryopreservation of living things, and the study of biology at sub-zero temperatures; "in practice, this field comprises the study of any biological material or system (e.g., proteins, cells, tissues…) subjected to any temperature below their normal range."[39] Here in this paper, we deal with cryonics.

2.1.1. The Definition of Cryonics and its Status

Cryonics is derived from the Greek word *"kryos"* which means "cold."[40] Cryonics is the practice of freezing a person who has died of a disease in hopes of restoring life at some future time when a cure has been developed.[41] Cryonicists are those who are enrolled in cryonics programs. Cryonicists define cryonics as the science of using ultra-cold temperature to preserve human life with the intent of restoring good health when technology becomes available to do so.[42] According to revealed sources, 270 patients have been cryopreserved and currently exist in a state of "cold sleep". The largest provider, the Alcor Life Extension Foundation, lists 159 patients as having been cryopreserved, and 1,198 additional persons being registered for cryopreservation. Krio Rus lists that they have cryopreserved 63 patients. There are five known providers. Alcor, the Cryonics Institute, and Oregon Cryonics are based in the U.S.; Krio Rus is located in the Moscow region of Russia, and Southern Cryonics/Stasis Systems Australia is based in New South Wales Australia.[43]

2.1.2. The Process of Cryonics

The process of cryonics begins within the first two minutes after the heart stops beating. Immediately upon the pronouncement of legal death, the body is rapidly cooled to just above 0°C while respiration and heartbeat are maintained artificially. A substance such as heparin is injected to avoid coagulation and protect cells from the ischemic damage that would otherwise occur shortly after death. The patient is then perfused with cryoprotectant chemicals to prevent ice-crystal formation and subsequent fracturing when the body is further cooled to below 0°C. The body's cellular fluids are

[38] Rebekah Cron, *Is Cryonics an Ethical Means of Life Extension* (New York: Exeter Publications, 2014), 04.
[39] Ibid., 05.
[40] Pavankumar Krosuri, "Cryonics: A Review," *International Journal of Pharmaceutical Sciences and Research* 13, no. 1 (January 2022): 95.
[41] Cron, *Is Cryonics an Ethical Means of Life Extension*, 02.
[42] Ibid., 03.
[43] Ibid., 03.

partially replaced with cryoprotectant chemicals so that instead of freezing and fracturing, the fluids become gradually more viscous until a glassy state is reached at approximately −120°C. The body is then submerged in liquid nitrogen, at −196°C, and stored in the hope that one day medical technology will have advanced sufficiently to make it possible to repair the freezing damage and to cure the patient of the condition that resulted in death.[44]

One of the most important advances in cryonics in the last fifteen years is the vitrification approach as an alternative to freezing. A challenge with freezing cells is that when water turns to ice, it expands, which can result in damage to cellular walls and other structures. Instead, vitrification replaces more than 60% of the water inside cells with protective chemicals (cryoprotectants, conceptually similar to antifreeze). With cryoprotectants, vitrification can transform hydrated living cells (molecules, cells, tissues, organs, and possibly some whole organisms) into a vitrified (glass-like) state such that ice crystals do not form.[45] The current alternatives to cryonics are burial or cremation, which would result in certain and irreversible death. But cryopreservation with even small chances of success is sufficient to make cryonics a rational choice.

2.2. Is Cryonics Possible?

Scientific advances have discovered that the ability to endure winter freezing has developed in several species of frogs and turtles as well as in several species of insects and microorganisms. This suggests that with appropriate scientific advances reversible freezing of larger organisms might be possible in principle. The evidence that reversible freezing of humans may eventually possibly come from several sources. First, there is support from nature. For instance, the wood frog *Rana sylvatica* utilizes naturally occurring cryoprotectants in order to survive low temperatures during winter months. This natural process utilizes glucose, derived from hepatic glycogen, as well as urea, as cryoprotectants.[46] As a result, these frogs can "endure freezing for at least 2 weeks with no breathing, no heartbeat or blood circulation, and with up to 65% of their total body water as ice."[47] The spring

[44] Swan, "Worldwide Cryonics Attitudes about the Body, Cryopreservation, and Revival," 02.

[45] Ibid., 03.

[46] Jon P. Costanzo and Richard E. Lee, "Cryoprotection by Urea in a Terrestrially Hibernating Frog," *The Journal of Experimental Biology* 208, no. 21 (2005): 4081. https://doi.org/10.1242/jeb.01859 (accessed September 10, 2023).

[47] K.B. Storey, et al., "Biochemistry Below 0 Degrees C: Nature's Frozen Vertebrates," *Brazilian Journal of Medical and Biological Research* 29, no. 3 (1996): 291. https://pubmed.ncbi.nlm.nih.gov/8736122/ (accessed September 10, 2023).

peeper *(Pseudacris crucifer)* and the gray tree frog *(Hyla versicolor)* are other species that can withstand freezing temperatures during winter.[48] In recent years, the application of gene screening technology to animals that tolerate freezing has allowed scientists to identify proteins that contribute to freeze tolerance in animals. These proteins are in turn coded for by genes (DNA sequences) such as fr10, li16, and fr47.[49] A variety of vertebrates such as the Salamander, the Newt, and the Axolotl can recover not just from brain transplantation, but from shuffling of the brain as well. Even if the animals' brains are cut up and reassembled incorrectly, the proper connections become re-established over time. Such staggering natural neural repair mechanisms offer evidence that complex repairs of devastating brain injuries are possible in principle.[50] All these findings show that there are higher chances for the possibility of Cryonics.

2.2.1. Technical Feasibility

Scientific experiments involving cryonic suspension and revival have been widely explored. One of the first empirical demonstrations occurred in 1955 when a rat was reanimated after having been cooled to just above 0°C and having a full cessation of brain activity. In 2005, scientists at the University of Pittsburgh cryogenically preserved dogs by draining the blood from the body and replacing it with preservation fluid. The dogs remained in this state for three hours and, when the blood was replaced and an electric shock administered to the heart, the dogs were restored to life with no apparent brain damage. In 2006, a similar procedure was carried out by the Massachusetts General Hospital with pigs. They reported a 90% success rate in 200 tests.[51] More recently, a mammal brain (rabbit) was frozen and thawed for the first time. The technique consisted of draining the blood and replacing it with a chemical fixative (glutaraldehyde) to prevent instantaneous decay. Cryoprotectants were then infused more slowly to prevent dehydration, and the brain was cooled to −135°C. Sample rabbit brains were thawed a week later, and appeared to be in uniformly excellent condition when examined with electron microscopy. The technique was awarded a milestone prize by the Brain

[48] J. Dayre McNally, Christopher M. Sturgeon and Kenneth B. Storey, "Freeze-induced Expression of a Novel Gene, Fr47, in the Liver of the Freeze-tolerant Wood Frog, Rana Sylvatica," *Biochimica et Biophysica Acta* 1625, no. 2 (2003): 188. https://www.sciencedirect.com/science/article/abs/pii/S0167478102006036?via%3Dihub (accessed August 20, 2023).

[49] Ibid., 191.

[50] Brian Wowk and Michael Darwin. *Cryonics: Reaching for Tomorrow* (Arizona: Alcor Life Extension Foundation, 1991), 16.

[51] Cron, *Is Cryonics an Ethical Means of Life Extension*, 05.

Preservation Foundation.[52] These are some empirical demonstrations that exhibit the technical feasibility of cryonics.

2.2.2. Consequences of Cryonics

Cryonics brings with it several serious and interesting theoretical issues. Some are related to today's freezing, but some have to do with "fantastic" future thawing. There are several such issues that may certainly raise considerations and questions: e.g., the future loneliness of the cryonaut (a new life without a family after recovery); the feeling of boredom of immortality; limitless possibility for the elite; the legal status of a revived person and issues of inheritance; risk of recurrent diagnosis; the risk of climatic or other disasters for cryopreservation status; the ethical problem of premature cryonization – premature suicide and euthanasia. Additional issues may emerge: What moral standing does the cryopreserved individual now have? What is the legal and moral status of individuals who end up technically alive but with severe neurological damage? And finally, who should be responsible for the care of a thawed patient who requires complex medical care?[53]

2.3. Parallel Advancements to Cryonics' Aid

Newer advancements in science and technology help unconventional to the process of cryopreservation. Nanotechnology with its microscopic robots at the nanometer scale (one billionth of a meter), could potentially play a role in enhancing and improving the practice of cryonics. Whole Brain Emulation could potentially be used to "recreate" or "emulate" the preserved brain of a cryonically preserved individual, leading to their potential revival.

2.3.1. Assistance of Nanotechnology

Advancements in nanotechnology may permit the repair and rejuvenation of organ tissue that is either dead or nearly dead by classical understanding. The future technology may be able to launch nanobots (nanorobots) into patients' bloodstreams and these nanobots would be able to enter into cells just like today's viruses, which would be able to reconstruct damaged internal cellular machinery. Eric Drexler, the pioneer of nanotechnology, in his work *Engines of Creation,* writes about the working of nanobots.

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[52] Swan, "Worldwide Cryonics Attitudes about the Body, Cryopreservation, and Revival," 3.

[53] D. J. Doyle, *What Does it Mean to be Human? Life, Death, Personhood and the Transhumanist Movement* (Cham: Springer, 2018), 23.

> They will travel through tissue as white blood cells do, and enter cells as viruses do - or they could open and close cell membranes with a surgeon's care. Inside a cell, a repair machine will first size up the situation by examining the cell's contents and activity, and then take action. Early cell repair machines will be highly specialized, able to recognize and correct only a single type of molecular disorder, such as an enzyme deficiency or a form of DNA damage. Complex repair machines will need nano-computers to guide them. A micron-wide mechanical computer … will fit in 1/1000 of the volume of a typical cell, yet will hold more information than does the cell's DNA. In a repair system, such computers will direct smaller, simpler computers, which will in turn direct machines to examine, take apart, and rebuild damaged molecular structures.[54]

These nanobots as Drexler proposes could be designed to perform precise, targeted repair and preservation of cells and tissues during the cryopreservation process. Nanobots could act as sensors and controllers within the cryonics environment. They could also be programmed to assist with the gradual thawing and reanimation of the preserved tissue while simultaneously repairing any damage that occurred during the freezing and preservation stages.

2.3.2. Whole Brain Emulation Assistance

Whole Brain Emulation is also called mind-uploading. It refers to the hypothetical process of transferring a conscious mind from a biological brain to a non-biological substrate (e.g., silicon digital computer) through technical developments which include scanning, mapping, and simulation. The idea is that the new substrate would run a simulation so faithful to the original that it would behave indistinguishably from the native brain, complete with the emergence of consciousness along with one's memories and experiences. Mind uploading would be achieved by high-resolution 3D scanning, mapping, modelling and characterization of all relevant features of an individual's biological brain, and then running the derived brain model in a high-powered host computer system. It could also be achieved by gradual replacements of neurons in the biological brain by synthetic versions until the individual's brain is entirely synthetic.[55]

Integrating Whole Brain Emulation technology with Cryonics at an advanced level in the future, might be used to scan and recreate the brain of a cryonically preserved person. This could potentially mean transferring the digital consciousness of the individual into a suitable biological or artificial body, thus achieving revival.

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[54] Eric Drexler, *The Engines of Creation: The Coming Age of Nanotechnology* (New York: Doubleday, 1986), 187.

[55] Doyle, *What Does it Mean to be Human*, 130.

2.3.3. Resuscitation: The Core of Cryonics

At the core of cryonics lies resuscitation, with the audacious belief that individuals preserved in this state may one day be revived, reanimated, and reintegrated into the world. Cryonics aims ultimately for the revival of patients. Thus, Cryonics depends on other technologies and sciences for fulfilling its aim. Cryopreservation is primarily a tool for preventing bodily decay until new techniques for molecular-level repair and enhancement, such as nanotechnology and cloning, mature. It is envisaged that these technologies may then be employed not only to renovate but also to augment the existing faculties of the subject, completing the project of age-reversal and life extension.[56]

According to modern medical understanding, our cells and everything else in the universe are made up of complex assemblies of interchangeable components called atoms. Who we are is determined by the configuration of the atoms in our cells and the cells in our bodies? As a matter of fact, the configuration of atoms in our bodies defines not only our identity but also our state of health and ultimately our life or death. This knowledge creates several really potent and fascinating opportunities. If the difference between disease and health reduces to differences in the arrangement of the atoms that make up, then the result is: If we have or can develop the ability to manipulate atoms purposefully, we will have a technology that is, in principle, capable of eliminating disease and maintaining perfect health indefinitely.[57] All that ails the frozen brain is that the atoms within it are 'in the wrong places', Ralph Merkle suggests that having first established the ideal coordinates of these atoms, it should be possible to employ assemblers to rearrange the atomic structure 'in virtually any fashion consistent with the laws of chemistry and physics', a process that would 'let us restore the frozen structure to a fully functional and healthy state'.[58]

The heart of Ettinger's thesis, which lies a crucial assumption: that no matter how great the physical damage induced by the freezing process it will still be possible to reverse it through the application of new biomedical technologies.[59] Cryonics organizations anticipate that future medical breakthroughs will provide the means to repair and regenerate damaged tissues and organs.

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[56] Bronwyn Parry, "Technologies of Immortality: The Brain on Ice," *Studies in History and Philosophy of Biological and Biomedical Sciences* 35 (2004): 394.

[57] Wowk, *Cryonics,* 3.

[58] Ralph Merkle, "The Molecular Repair of the Brain," *Cryonics* 15, no. 2 (June 1994): 62, https://www.merkle.com /cryo/techFeas.html (accessed on June 7, 2022).

[59] Parry. "Technologies of Immortality," 410.

Techniques such as regenerative medicine, nanotechnology, and advanced tissue repair could be instrumental in making resuscitation possible.

2.3.4. 3D Printing in Cryonics

One of the most significant applications of 3D printing in cryonics is in the area of tissue and organ regeneration. Through the use of live cells as "ink," 3D bioprinting may create intricate three-dimensional structures that might completely alter the process of resurrection. When people are cryopreserved, the application of cryoprotectants and the creation of ice crystals cause harm to cells and tissues. A major barrier to a successful resurrection has been this damage, particularly to crucial organs. In real life, layer-by-layer deposition of biological ingredients is what 3D bioprinting entails in order to produce functioning structures. Researchers have made considerable progress in this area, from printing simple tissues like skin and cartilage to more complex structures like heart valves and small sections of functional organs. While the technology is still evolving, the potential to generate replacement organs tailored to the individual's needs is a breakthrough that holds promise for cryonics.[60]

2.4. Personal Identity in Cryonics: A Philosophical Dilemma

Personal identity is the sense of being the same person across different moments in time, despite the physical and psychological changes that occur. It involves the feeling of continuity with one's past self and a projection into the future. Cryonics introduces a significant disruption in this continuity.

2.4.1. Disruption of Memory

According to Locke, an individual remains the same person as long as there is an unbroken chain of memories connecting their past experiences to their present state of awareness. According to Marya Schechtman, Memory is the thread that weaves our life's narrative.[61] It enables us to recall the milestones and valuable moments that have defined us. Through memory, we form a coherent self-concept, a continuous "I" that endures through time. When someone enters cryopreservation, they are effectively putting their conscious experience on pause. Metabolic processes cease, and the individual

[60] Mark E. Lasbury, *The Realization of Star Trek Technologies: The Science, Not Fiction, Behind Brain Implants, Plasma Shields, Quantum Computing, and More* (Indianapolis: Springer International Publishing, 2017), 72.

[61] Schechtman, *The Constitution of Selves*, 93.

enters a state of suspended animation. This pause can last for an indefinite period, potentially spanning years, decades, or even centuries. During this time, the individual's conscious experience is interrupted, and the memory is paused, creating a temporal gap in their life story.

2.4.2 The Temporal Gap: A Challenge to Personal Identity

The temporal gap during suspended animation challenges our understanding of personal identity. If the individual is eventually revived from cryopreservation, they may experience a significant discontinuity in their conscious experience—a gap in their narrative. They might ask themselves whether they are the same person who entered cryopreservation or if they are someone entirely new. The philosophical conundrum deepens when considering the possibility of memory disruption. Cryonics carries the risk of damaging or losing memories during the preservation process. Because they shape our sense of self and the story of our lives, memories are an essential part of human identity. A person's continuity of identity is called into doubt if memories are lost or destroyed.

Conclusion

A field where science, ethics, and metaphysics come together is cryonics. Its central thesis is a deep and intricate challenge to our comprehension of the personal identity. Cryonics compels us to wrestle with the philosophical dilemma: Can the person who enters cryopreservation genuinely be the same individual who might be revived in a far-off future?

In contemplating this philosophical riddle, we've entered into the heart of personal identity—a concept deeply ingrained in human experience. Cryonics is not merely an experiment in science; it is a testament to the enduring curiosity and resilience of the human spirit. Can the person who enters cryopreservation genuinely be the same individual who might be revived in a far-off future? This search with a profound sense of wonder, humility, and reverence for the mysteries of existence tries to make a critical analysis of the concept of personal Identity and Cryonics.

Chapter - 3

Emergent Illusionism: A Solution to the Enigma of Personal Identity in Cryonics

Introduction

Cryonics, the practice of preserving individuals at extremely low temperatures with the hope of future revival, confronts us with profound philosophical questions, especially in the realm of personal identity. Traditional notions of who we are and what it means to persist over time are challenged by the possibilities cryonics presents. Here we embark on a philosophical journey to explore how cryonics encourages us to seek a new philosophy of personal identity. If an individual is preserved in a state of suspended animation, does their personal identity persist? Or does the cryopreservation process introduce a rupture in the narrative of their life?

3.1. The Hard Problem of Personal Identity in Cryonics

The hard problem of personal identity in cryonics stands as a formidable challenge. The hard problem dives into the essence of subjective experience. It poses the question, "Why and how do certain patterns of physical and chemical processes in the brain give rise to personal identity experience?" The hard problem suggests that there would still be an explanation gap for the "what it's like" component of personal identification even if we completely understood the neurological systems behind perception, memory, and other cognitive tasks. It's akin to knowing every detail of how a piano works but still not comprehending why a particular melody evokes emotions. The unique context of Cryonics forces us to rethink the traditional notions of personal identity.

3.1.1. Cryonics a Unique Twist

Cryonics introduces a unique twist to the hard problem. The process involves lowering the temperature of a person to the point where biological processes virtually cease. The aim is to halt cellular degradation until such time when advanced future technologies may revive and potentially repair the individual. Herein lies the dilemma: What happens to personal identity during the cryopreservation process? When biological functions come to a halt, does personal identity cease to exist anymore as well? If so, can it be rekindled upon revival?

3.1.2. The Continuity of Personal Identity

Another dimension of the cryonics puzzle is the continuity of personal identity. Does personal identity persist during the cryopreservation process? If not, how can we reconcile the potential revival of an individual with a significant gap in their subjective experience? However, David Hume argued that when we introspect, we do not find a stable and enduring self but a series of distinct perceptions and experiences.[62] There is no permanent "I" that runs through them.

Another pillar of personal identity is memory. Locke's memory theory suggests that identity is contingent on memory, which can be fragile and subject to distortion. We often define ourselves by our memories, believing that the ability to recall past experiences is what binds us to our former selves. This view is criticized by Thomas Reid. However, Sven Bernecker contributes in his *Memory: A Philosophical Study*, which states that memory cannot be used as a criterion to define personal identity because memory does not imply it. Bernecker adds memory does not imply past or present justification, memory does not imply past or present belief, and memory does not imply a true past representation.[63] Nonetheless, it implies a true memory representation, which seems to lead to the anti-Fregean consequence (Frege explicitly recognizes that human beings practically need notations because our memory is limited) [64] that a change in the world can convert a false memory into a true one, or a true memory into a false one, even if the causal and the content conditions are met.

Furthermore, as Marya Schechtman argues that "a person creates his identity by forming an autobiographical narrative—a story of his or her life."[65] Our sense of self is closely tied to the narratives we construct about our lives. Cryopreservation interrupts the process of constructing narratives. The question remains, is the revived individual the same person as the one who was preserved? Or have we entered into a philosophical realm akin to the Ship of Theseus paradox, where the continuity of physical components is challenged?

[62] Hume, *A Treatise of Human Nature*, 252.
[63] Sven Bernecker, *Memory: A Philosophical Study* (New York: Oxford University Press, 2010), 61.
[64] Landon D.C. Elkind, "Frege's Curiously Two-Dimension Concept-Script," *Journal for the History of Analytical Philosophy* 9, no. 11, (1996): 29.
[65] Schechtman, *The Constitution of Selves*, 93.

3.2. Illusionism as a Theory of Personal Identity

Illusionism, in the context of personal identity, challenges the deeply held belief in the substantial and enduring nature of the self. It posits that personal identity, as commonly conceived, is an illusion—a compelling but ultimately misleading narrative created by the mind. At its core, illusionism is inspired by the idea that consciousness itself is an illusion, or at least not what it seems.

3.2.1. Illusionism as the Obvious Default Theory of Consciousness

Philosopher Daniel Dennett is a prominent advocate of this view. He argues that the self is a "center of narrative gravity," a construct the brain uses to weave together a coherent story of one's life. From this perspective, personal identity is a product of the brain's storytelling, a useful fiction that helps us navigate our social and experiential worlds. Dennett claims that the conscious mind developed from the unconscious processes of natural selection.[66]

Illusionism posits that phenomenal consciousness, the subjective and qualitative aspects of conscious experience, is not what it seems. According to this theory, our introspective intuitions about the richness and vividness of conscious experience are fundamentally mistaken. Instead of being a fundamental and irreducible aspect of reality, consciousness is framed as a cognitive illusion generated by the brain.

3.2.2. Keith Frankish on Illusionism: Revisiting the Nature of Consciousness

In the realm of contemporary philosophy of mind, Keith Frankish's stance on illusionism has emerged as a captivating and provocative perspective. At the heart of Keith Frankish's philosophy is the thesis of illusionism about consciousness. Frankish contends that what we commonly perceive as phenomenal consciousness—the subjective, qualitative aspects of our conscious experiences, often referred to as "what it's like" to experience something—is illusory. In essence, he challenges the very existence of these ineffable and private aspects of consciousness.[67] Frankish is in line with the belief that philosopher David Chalmers' "hard problem of consciousness" is a misdirection. He contends that realizing that phenomenal awareness is an illusion produced by the brain's cognitive processes would help to overcome the challenges presented by this issue. Frankish proposes that the cognitive

[66] Daniel Dennett, *From Bacteria to Bach: The Evolution of Minds* (London: Penguin Books, 2018), 20.
[67] Keith Frankish, ed., *Illusionism as a Theory of Consciousness* (Exeter: Imprint Academic, 2017), 7.

unconscious is a key factor in creating the illusion of awareness, as opposed to advocating a fundamental separation between conscious and unconscious thoughts. He contends that the brain generates self-representations or self-models that give rise to the perception of conscious awareness. These self-models construct a narrative of a conscious self, even though, according to Frankish, there is no subjective experience accompanying these processes.[68]

3.2.3. The Prospect of Zombies

Political Philosopher Robert Nozick, in his book *Anarchy, State and Utopia (1974),* introduced the concept of zombies. Later David Chalmers popularized "philosophical zombies' through his book *The Conscious Mind*. One of the pillars supporting illusionism is the idea of philosophical zombies—hypothetical beings that are behaviorally indistinguishable from conscious humans but lack subjective experience. The very conceivability of zombies, according to illusionists, implies that conscious experience is not necessary to explain behavior. The argument runs as follows: If we can imagine beings that behave precisely as conscious individuals do but lack consciousness, it suggests that consciousness might not be an essential ingredient for explaining those behaviors.[69] Susan Blackmore then uses the concept of zombies in her illusionistic view of consciousness, where a *conscie* and *zombie* would do exactly the same things, and therefore, evolution cannot distinguish between them.[70] Illusionism addresses the illusion of unity in conscious experience. We often feel that our conscious experiences are seamlessly integrated into a continuous stream, creating the impression of a unified self. However, illusionism suggests that this unity is yet another cognitive illusion. The brain constructs a narrative that connects disparate cognitive processes and experiences, creating the sense of a continuous and unified self.

3.3. Personal Identity as Emergent Illusion

I would like to propose the notion of personal identity as an emergent illusion. Fundamentally, the idea is that our sense of self is an emerging and dynamic construct rather than a solid, static reality. Rather than a single entity, the self is really a constellation of mechanisms and experiences that create the illusion of the internal you. We only emerge as a product of those around us as part of the different

[68] Keith Frankish, "The Meta-Problem is The Problem of Consciousness," *Journal of Consciousness Studies* 26, no. 9/10 (2019): 85.

[69] David Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (New York: Oxford University Press, 1996), 139.

[70] Susan Blackmore, "State of the Art: The Psychology of Consciousness," *The Psychologist 14*, (2001): 523.

storylines we inhabit from the cot to the grave. This understanding of personal identity goes along with Nietzsche's conception of self. According to him, the concept of self as the permanent substance is an interpretation imposed upon the flux of becoming. It is our creation for practical purposes.

3.3.1. Components of the Emergent Illusion

The components of personal identity as an illusion are intricately woven together, collectively forming the dynamic construct of how we perceive ourselves. Memory and experience play a pivotal role in shaping this illusion, as we construct our sense of self by sifting through and interpreting past events and recollections. Our self-perception, encompassing beliefs, values, emotions, and self-reflection, adds another layer to this intricate needlepoint. In the quest for continuity, we desire a narrative that offers a semblance of unity and consistency in our identity, even though the reality is far more fluid. The interplay of memory, experience, self-perception, and the human longing for consistency underscores the subjective nature of personal identity. This dynamic interplay of components contributes to the construction of an emergent illusion of personal identity.

3.3.2. The Illusory Nature of Stable Personal Identity

Personal identity has always been seen to be the constant, unchanging core of who we are. It suggests that we all have a fundamental "self-identity" that doesn't change throughout our lives. The term "illusion" does not imply that personal identity is unimportant or denies its existence in the everyday sense. I don't deny the subjective experiences of seeing, hearing, feeling, tasting, smelling, etc. But deny that the experiences involve awareness of non-physical, private mental qualities, presented like a show to some kind of inner observer or a personal identifier.

The conscious experience of personal identity is essentially an informational process. It is like a news report. This report isn't in a human language, but it is in the brain's internal language of neural signalling. Sensory systems pass their reports directly to the brain's control systems, which generate the psychological, physiological and behavioral responses. This creates personal identity, the self as the sum of all activity.[71]

[71] Daniel Dennett, *Consciousness Explained* (New York: Little Brown, 1991), 114.

3.3.2.1. Continual Evolution and Adaptation

The word "emergent" implies that a person's identity develops gradually or becomes apparent over time. We are in a state of perpetual evolution, adaptation, and response to the ever-shifting conditions of existence. Our sense of self can change when we come into new encounters, pick up information from our interactions with others, and acquire new experiences. This continual evolution of personal identity challenges the idea that there is a fixed, unchanging self to discover.

3.3.2.2. Subjectivity and Introspection

The emergent illusion is subjective. It is how each individual perceives themselves and constructs their own sense of self. Two people may experience the same events differently and, consequently, construct their personal identities in unique ways. However, this experience of subjectivity does not create an inner observer. Although introspection prompts us to affirm the existence of an inner observer, Illusionists like Keith Frankish hold that introspection, like sense perception, depends on the sub-personal mechanisms of reporting and acting.[72]

3.3.3. Rejection of Inner Show

I deny personal identity as an inner show. There is no inner observer. But then I accept for practical requirements of living the existence of personal identity which is created out of the illusion. Thus, personal identity exists out due to the illusion. Even Science tells us that the things we experience aren't what they seem to be; colors are actually light-reflecting properties of surfaces, sounds are pressure waves in the air and tastes are molecules in our food. But they appear to us as non-physical qualities.[73] Let's look at an example. Suppose you are in a busy city that you've never visited before. An old woman in a colorful dress emerges from the crowd, smiling and holding something out to you. She tells you to take it and examine it. Intrigued, you do so. It's a small wooden box with a small hinged lid, a clash and a peephole in the top. It's completely empty. The woman tells you to close the lid, fasten the clasp and hold the box tight. She waves her hand around, utters a spell and invites you to look through the peephole. You are surprised to see a huge, colorful beetle inside. The woman repeats her performance and tells you to open the box. As before, it's empty. She takes back

[72] Jack Symes, ed., *Philosophers on Consciousness: Talking About the Mind* (London: Bloomsbury Academic, 2022), 94.

[73] Ibid., 94.

the box, smiles and waits patiently for the tip.[74] You'd have three options. First, you might think that the episode was miraculous, and that the woman did, in fact, have paranormal powers. Second, you might assume that there must be a scientific explanation of what happened; perhaps the was some hidden mechanism that allowed the beetle to sneak in and out of the box. And the third, you might suspect that it was an illusion. There was never a beetle in the box; perhaps the woman just made it seem as if there was. Similarly, we can understand there was never an inner observer.

3.3.4. Emergent Illusionism: A Solution to the Problem of Personal Identity in Cryonics

Cryonics challenges our conventional understanding of personal identity. When people choose cryopreservation, they essentially enter a condition of suspended animation where their biological processes are stopped. This raises an important query: How does this process affect an individual's sense of personal identity? Our understanding of personal identity as an emergent illusion has solved this problem. Here the frozen is in a state of suspended animation, along with his or her frozen personal identity. After the process of successful reanimation, the individual will generate a new or continued illusion of personal identity. Of Course, the illusion stops during the cryopreservation process. But this illusion being the natural part of personal identity, we have to cope with its effect. Alternatives like Whole Brain Emulation, advancements in Nanotechnology and Artificial Intelligence would help to recreate the continued form of the original illusion of personal identity. This illusion shall not be understood as a denial of personal identity, but we are understanding here that the generation of personal identity is due to the illusion within us. Hence this must be understood as natural.

3.4. Metaphorical Reflections and Philosophical Insights

The principle of uncertainty formulated by the German physicist Werner Heisenberg in 1927 reflects a metaphorical relation to the idea of personal identity as an emergent illusion. We also come across the sharing of philosophical insights between emergent illusion in personal identity and the concept of anatta in Buddhism reveals profound alignments of thoughts.

[74] Ludwig Wittgenstein, *Philosophical Investigations*, trans. G.E.M. Anscombe, 3rd ed. (Oxford: Blackwell, 1986), 100.

3.4.1. Emergent Identity and Uncertainty Principle: A Metaphorical Reflection

Heisenberg Uncertainty Principle, a fundamental concept in quantum mechanics, serves as a metaphor to highlight the dynamic and illusionistic nature of personal identity. This principle states that it is impossible to simultaneously know with arbitrary precision both the position (or location) and the momentum (or velocity) of a subatomic particle, such as an electron.[75] While it might seem like a highly abstract and esoteric concept, its effects can be observed in various real-life situations and have several practical implications including electron microscopes, MRI machines, quantum mechanics and electronics, nuclear physics, navigation systems, and quantum cryptography, all these work with uncertainty.[76] Even Artificial Intelligence, which is an ongoing debate topic that concerns personal identity, works with uncertainty techniques, including Bayesian probability models, and probabilistic graphical models. The inherent uncertainty in quantum mechanics and other fields mirrors the nature and emergence of the illusion of personal identity.

3.4.2. Anattā and Emergent Identity: Shared Philosophical Insights

Anattā is a composite *Pali* word consisting of ‘an’ (not, without) and ‘attā’ (soul). The term refers to the central Buddhist doctrine that "there is in humans no permanent, underlying substance that can be called the soul."[77] In Buddhism, anatta underscores the idea that there is no permanent, unchanging self or soul. Rather, the self is a collection of impermanent, interconnected elements. Similarly, the emergent illusion perspective acknowledges the transitory nature and rejects the so-called existence of personal identity. In this shared view, both perspectives emphasize the impermanence and illusion of the self and the need to let go of rigid notions of identity. They guide us to appreciate the beauty in the continual evolution of the self and to recognize that personal identity, like the river, is a flowing and interconnected phenomenon.

[75] Paul Busch, Teiko Heinonen, and Pekka Lahti, “Heisenberg’s Uncertainty Principle,” *Physics Reports* 452 (November 2007):156. https://www.researchgate.net/publication/303546773 (accessed October 10,2023).

[76] D. Sen, “The Uncertainty Relations in Quantum Mechanics,” *Current Science* 107, no. 2 (July 2014): 208.

[77] Anattā, *Scholarly Community Encyclopedia*. https://encyclopedia.pub/2334 (accessed on 22 October 2023).

Conclusion

Cryonics proponents argue that the revival of preserved individuals in the future would effectively continue their personal narratives. According to our concept of emergent illusion, this revival may be perceived as the resumption of the narrative illusion, rather than the awakening of an incessant or ceaseless self. This subtle distinction challenges traditional notions of personal identity while offering a viable framework for understanding identity in the context of cryonics.

Personal identity as emergent illusion in cryonics adds depth to our exploration of this intriguing field. Personal identity as emergent illusion and its application to cryonics offers a compelling solution to the problem of personal identity in the face of suspended animation. As we grapple with the complexities of cryonics and personal identity, emergent illusionism provides a novel framework for understanding the enduring narrative of the self, even in the frozen realms of the unknown.

General Conclusion

Cryonics has a bright future. This philosophical analysis of the problem of personal identity in the unique context of Cryonics enlightens us to understand personal identity as an emergent illusion. Our understanding of personal identity as an illusion solves the hard problem in Cryonics. This viewpoint implies that even in cases when there are large gaps in experience and memory, a person who has been cryopreserved and may one day be awakened would generate personal identity. In the context of illusionism, the question of whether personal identity would continue with the identity of the previous self or not, has no place. But rather it is understood as the natural process of illusion that creates an identity. Metaphorically like the process in Heisenberg's Uncertainty Principle, illusion is created without any certainty. This illusion could be understood as a work of the ultimate source of all things i.e., God. Memory and all other factors that contribute to the generation of personal identity are treated with lesser importance. What matters is that a self emerges due to illusion. The discontinuity of personal identity during cryopreservation implies a form of "mind-transporter" scenario. If personal identity is interrupted, and a new instance of personal identity arises upon revival. The emergent illusion acknowledges that personal identity is not a static entity but rather an evolving story, and the revived individual would be a new chapter in that narrative. The relationship between emergent illusionism and cryonics is thought-provoking and invites further exploration and reflection.

In addition, the advancement of machine learning and artificial intelligence may be crucial in overcoming the difficulties associated with resurrection. Based on information gathered prior to cryopreservation, AI systems may be able to rebuild a person's personality, interests, and thought processes, facilitating their reintegration back into society. However, the road ahead for cryonics is fraught with challenges. The future of cryonics offers a tantalizing glimpse into the potential for extending human life and conquering the boundaries of mortality. It is evidence of humanity's never-ending search for understanding, discovery, and the ongoing pursuit of what is beyond the realm of what is now conceivable. While numerous obstacles remain, the continued advancements in regenerative medicine, neuroscience, and technology, along with ongoing ethical discussions, offer hope that cryonics may one day become a viable means to extend and potentially restore life.

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