

Article

Frozen Bodies and Future Imaginaries: Assisted Dying, Cryonics, and a Good Death

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Abstract: In October of 2018, Norman Hardy became the first individual to be cryopreserved after successful recourse to California's then recently passed End of Life Options Act. This was a right not afforded to Thomas Donaldson, who in 1993 was legally denied the ability to end his own life before a tumor irreversibly destroyed his brain tissue. The cases of Norman Hardy and Thomas Donaldson reflect ethical and moral issues common to the practice of assisted dying, but unique to cryonics. In this essay, I explore the intersections between ideologies of immortality and assisted dying among two social movements with seemingly opposing epistemologies: cryonicists and medical aid in dying (MAiD) advocates. How is MAiD understood among cryonicists, and how has it been deployed by cryonicists in the United States? What are the historical and cultural circumstances that have made access to euthanasia a moral necessity for proponents of cryonics and MAiD? In this comparative essay, I examine the similarities between the biotechnological and future imaginaries of cryonics and MAiD. I aim to show that proponents of both practices are in search of a good death, and how both conceptualize dying as an ethical good. Cryonics members and terminal patients constitute unique biosocial worlds, which can intersect in unconventional ways. As temporalizing practices, both cryonics and MAiD reflect a will to master the time and manner of death.

Keywords: cryonics; medical aid in dying; euthanasia; assisted death; assisted dying; anthropology; religious studies; transhumanism; human augmentation; death

1. Introduction

In October of 2018, Norman Hardy became the first individual to be cryopreserved after successful recourse to California's then recently passed End of Life Options Act. This was a right not afforded to Thomas Donaldson, who in 1993 was legally denied the ability to end his own life before a tumor irreversibly destroyed his brain tissue. The cases of Norman Hardy and Thomas Donaldson reflect ethical and moral issues common to the practice of assisted dying, but unique to cryonics. In this essay, I explore the intersections between ideologies of immortality and assisted dying among two social movements with seemingly opposing epistemologies: cryonicists and medical aid in dying (MAiD) advocates. Cryonics advocates and terminal patients constitute unique biosocial worlds, which can intersect in unconventional ways. As temporalizing practices, both cryonics and MAiD reflect a modern will to master the time and manner of death. How is MAiD understood among cryonicists, and how has it been deployed by cryonicists in the United States? What are the historical and cultural circumstances that have made access to euthanasia a moral necessity for proponents of cryonics and MAiD? In this comparative essay, I examine some similarities between the biotechnological and future imaginaries of cryonics and MAiD. Considering their discursive disagreements and shared medicalized histories, I aim to show that proponents of both practices are united in search of a good death, and both conceptualize dying as an ethical good.

Conceptualized as philosophical and discursive opponents, cryonicists and advocates for the practice of MAiD employ similar narratives of self-determination, individuality, and choice in defense of

their practices. Although their desired outcomes post-mortem differ, terminal patients and cryonicists navigate a medical system that aims to master the time and manner of death, altering what it means to die well. While cryonics is portrayed as offering a means of transcending death, it nonetheless directly engages the realities of dying in ways that align with discourses around MAiD. This alignment is particularly evident with respect to the call to legalize cryoethanasia, which is the practice of causing death in the hopes of extending life through cryopreservation. While some cryonicists defend cryoethanasia as more morally permissible than traditional medical aid in dying, I aim to show how both practices share similar narratives and are situated in the context of highly medicalized deaths. I begin by offering brief descriptions of cryonics and aid in dying, before moving to my cryonics case studies. These case studies are supplemented by interviews with leading cryonicists, living cryonics members, death doulas, and others.¹ Through participant observation, interviews, virtual ethnography, and an examination of primary texts, I examine the discursive formations that unite and divide these technologies of dying. I am especially concerned to show how, in both cases, the concept of a good death has become a moral necessity in the making of future bodies—dead, liminal, or alive.

In our contemporary Western deathscape, where dead bodies are routinely injected with formaldehyde to arrest decay, placed into hermetically sealed caskets, and interred within cement vaults, it could be argued that preserving corpses in liquid nitrogen is an extension of our contemporary funeral culture (Krüger 2010). Yet cryonics and transhumanism generally are often maligned and misunderstood by the wider public, who tend to imagine heads floating in jars, cryopreserved bodies shattering, or reanimation in a future dystopia. This view of cryonics is particularly prevalent within the loosely affiliated “death positive” movement, which has made support of assisted dying a cornerstone issue and tends to dismiss cryonics as a death-denying technology. Media attention has largely focused on grotesque or extreme examples of cryonic suspension or offered the simplistic argument that cryonicists are in denial of their mortality. Transhumanism as a worldview and philosophy, and associated life-extending technologies have garnered an abundance of academic attention (Farman 2020; Bernstein 2019; Bialecki 2017; Mercer and Trothen 2014; Bainbridge and Roco 2005). With few exceptions, however, ethnographic engagement with this large movement is lacking (Farman 2020; Boss 2020; Bernstein 2019; Singler 2019; Romain 2010). Anthropologists, sociologists, theologians, and religious studies scholars tend to focus their attention on the leaders of the various life extension and human augmentation movements or concern themselves with the theological and bioethical implications of technologies of immortality, with less concern for individual lived experiences. While MAiD has its detractors and has given rise to religiously informed objections, the practice is more normalized than cryonics in the Western world. However, as with cryonics, media sensationalism has obfuscated what is at stake for supporters of the practice of MAiD. This essay is my attempt at locating *death in the margins*, to discover its presence in unlikely places, and to complicate the already complicated narratives around our future imaginaries.

2. Definitions

This research was conducted as part of my larger dissertation research into immortalist communities in North America. In 2018 and 2019, I toured Alcor Life Extension Foundation in Scottsdale, Arizona, speaking with its co-founder Linda Chamberlain, and spending time with cryonics members and other life extension activists. As part of my research, I attended the 2018 and 2019 editions of the Revolution Against Aging and Death Festival (RAADfest) in San Diego, California, and Las Vegas, Nevada, respectively. This yearly conference is presented by the Coalition for Radical Life Extension, which is a partnership between several life extension activists and communities, including

¹ A cryonics member is a living person who has either paid for their future cryopreservation, or is paying in installments, usually through their life insurance. A cryonics patient is the legally dead body and/or brain of a cryopreserved member. Cryonicists do not consider their “patients” biologically dead. Not all transhumanists are cryonicists, and not all cryonicists self-identify as transhumanist.

People Unlimited Inc—my main research community in Scottsdale, Arizona—and the Church of Perpetual Life in Florida—billed as the world’s first transhumanist church. At these field sites, I have met with several life extension leaders, cryonics members, and future-tech enthusiasts, including the leading cryonics insurance salesperson, and members of the United States Transhumanist Party². I have also attended numerous death positive-themed conferences, and funeral industry conventions, and have spoken extensively with front-line MAiD advocates. As part of the ethnographic elements of this article, I interviewed several death doulas during fieldwork in California and through online interviews about their experiences with MAiD. It was during my second visit to Alcor, in 2019, as my wife and I toured the facility, that we were introduced to the story of patient A-1097, Thomas Donaldson. Within this center where death was a technological problem waiting to be overcome, I heard the story about a direct confrontation with mortality that I had not expected. Donaldson had fought for his right to die in a way familiar to me through discussions within the larger death positive community.

2.1. Cryonics

Cryonics is the practice of preserving legally dead human beings at temperatures below -120°C in the hopes of reviving them in the future. Once an individual has been declared legally dead, their heart and lungs are kept functioning artificially, their body is cooled with ice, and their blood is then pumped out of their body and replaced with a chemical protectant. This process is called vitrification, which involves partly replacing water in cells with a mixture of chemicals that prevent ice formation. Individuals can choose to have their entire body cryopreserved or just their head, in which case they are known as neuropatients. In either case, once the cooling and vitrification process is complete, the body and/or brain are sealed in a large vat of liquid nitrogen called a dewar at a temperature of -196°C . At Alcor, each regular dewar can fit four full bodies, and up to nine neuropatients. There are at least three cryonics facilities in the United States, including Cryonics Institute in Michigan (CI), Oregon Cryonics in the State of Oregon, and Alcor Life Extension Foundation (Alcor) in Scottsdale, Arizona. As of 2020, CI has over 1700 paying members, and 196 patients ([Cryonics Institute 2020](#)). As of 2020, Alcor has over 1300 paying members, and 181 patients, and as of 2019, Oregon Cryonics has 8 neuropatients. Cryonics is the brainchild of Robert Ettinger, who published *The Prospect of Immortality* in 1962, in which he laid out a detailed road map for cryonic suspension of the recently deceased. Cryonics is predicated on the assumption that what constitutes legal death today is liable to change, just as it has at numerous times in history: “The prevailing argument that cryonics advocates express is that death is pronounced only because medical progress is not yet so advanced as to make more types of illness curable” ([Stan 2016](#), p. 72).³ Thus, while those who are cryopreserved are legally dead, they are not considered technically dead by cryonicists. Cryonics is considered part of the larger transhumanist movement, which counts as its prime objective to overcome human suffering and death through enhancement technologies ([Singler 2019](#), p. 164).

2.2. Medical Aid in Dying

Medical aid in dying (MAiD), also referred to as euthanasia, physician-assisted death (PAD), or assisted suicide, is the process of hastening death to alleviate an individual’s suffering ([Kastenbaum 2007](#), p. 287). The major distinctions within the practice of MAiD are between active and passive forms of euthanasia. Active euthanasia refers to “actions that are intended to end the life of a person or animal that is suffering greatly and has no chance of recovery” (p. 287). An example is when a physician, nurse, or death doula administers or prescribes a substance that causes the death

² People Unlimited are an immortalist community, and most members do not self-identify as transhumanist. However, they are in support of any efforts to reverse aging and mitigate disease and death.

³ Robert Ettinger’s second book, *Man into Superman*, was published in 1972, four years after the Harvard Medical School Report introduced the category of brain death (initially termed irreversible coma), which redefined biological and legal death ([Kastenbaum 2007](#), p. 43).

of the person who has requested it. Passive euthanasia is the intentional withholding of treatment, such as when a terminal patient hastens their own death by voluntary refusal of foods and fluids (VREF), when life supporting equipment such as a ventilator keeping a person alive is switched off, or when a patient is prescribed painkilling medication, ostensibly with the intention of relieving pain, but in a sufficiently high dose that it will hasten death. This latter practice highlights the thin line between morally admissible and impermissible forms of MAiD in jurisdictions where its active variant is not allowed (Hanning 2019, p. 61). In these cases, the ethical principle of the “doctrine of double effect” permits managed deaths to occur when doctors administer pain medication with the unspoken intention of ending a patient’s life (Dimmock and Fisher 2017, p. 136). Since its legislative enactment in Canada in 2016, over 6700 patients have undergone active euthanasia. In Canada, over 93% of aid-in-dying drugs were administered by physicians, and most patients died in hospital or at home. While the numbers are difficult to ascertain with respect to the United States, roughly 4200 prescriptions have been written for MAiD drugs, and 3703 of those patients used the drugs to end their lives. Unlike Canada, in most jurisdictions in the United States where MAiD is allowed, the drugs are prescribed by physicians, but the ingestible cocktail of medication is mixed and taken by patients. In both countries, MAiD tends to be utilized in larger urban centers, and by higher income, Caucasian individuals (Health Canada 2019; Al Rabadi et al. 2019). Cancer-related illness is the most frequently cited underlying condition associated with those receiving MAiD, with neurodegenerative diseases as a close second.

Medical aid in dying highlights the ways in which the values of choice, liberty, and privacy conflict with equally strongly held American ideals about the value of life, caregiving, and refraining from interference with nature. These conflicting ideals play out in the experience of Jill Schock, a 35-year-old deathcare worker who lives in Los Angeles. Jill runs Death Doula LA, where she provides end-of-life services to terminal patients and their families under California’s End of Life Options Act (EOLOA), which came into effect in 2016. Jill has a friendly face, with long brown hair and large, rectangular glasses. During my two-month fieldwork in California, Jill and I spoke at length about MAiD, her patients, and larger philosophical questions surrounding death and cryonics. Jill is in a privileged position as she is one of the few active death doulas with a clinical background. This means that beyond helping the terminally ill and their families handle their end-of-life affairs, she can legally administer life-ending drugs. I asked Jill about the type of person who chooses MAiD upon being given a terminal prognosis. The question of autonomy is paramount to a good death, and terminal patients who decide to pursue life-ending options have an activist mindset, Jill tells me. “One of my clients was a business owner. He was always on top of his own shit, he always made his own decisions and just always wanted to be in charge.” Interviews conducted by scholars with terminal patients substantiate Jill’s experiences. The people who choose MAiD do so for many of the same reasons as those who choose cryonics: the desire for autonomy, and for the management of and relief from unbearable pain (Dees et al. 2011).

2.3. A Good Death

What constitutes a good death is temporally and spatially dependent, and is legitimated as such by cultural, social, political, and economic factors. A good death encompasses institutions and practices unique to the time and place in which they are utilized, and although notions of a good death have played important roles in the history of European Christianity—such as the *Ars Moriendi* tradition in the Middle Ages—today we must contend with how to die well in our supposedly post-religious, secular world. While there is no single definition of a good death, I agree with thanatologist Robert Kastenbaum, who proposes that some forms of death are empirically terrible, that a good death should enact the highest values held by society, that a good death affirms our most significant personal relationships, that a good death is a transfiguring experience—the moment of death is the peak experience of our lives—and that a good death is the final phase of a good life (Kastenbaum 2007, pp. 131–34). A bad death, on the other hand, is one where the individual experiences suffering, their

autonomy is violated, or death does not occur at the time and place of their choosing. Anita Hannig notes that with regard to MAiD, “If there is one aspect of assisted dying that seems clearly to reinstate the agentive involvement of the patient, it is the potential for a good death the practice affords, in contrast to either the diminishment wrought by the end of debilitating illness or the classically bad death of suicide” (Hanning 2019, p. 71). A good death by cryonics standards aligns with the criteria outlined above, but focuses on the location of death, and the condition of the body and brain, due to their importance for future reanimation. A good cryonics death would be one where the patient has relocated close to their cryonics facility of choice, the time of death is known, a team has been dispatched and is waiting for legal death to occur, and successful vitrification can begin right away. A bad cryonics death would occur far from the chosen cryonics facility, be the result of an accident, occur after a terminal prognosis but without the benefit of MAiD, or if the vitrification process caused damage to the body or brain. Thus, one can have a good death, and a good cryonics death. One could have a good death, but a bad cryonics death. One could have both a bad death and a bad cryonics death, and one could have a bad death but experience a good cryonics death.⁴

3. Case Studies

3.1. Thomas Donaldson—Patient A-1097

Thomas Donaldson was forty-three when he was diagnosed with grade II astrocytoma. The brain tumor had not affected the regions of Thomas’ brain responsible for thinking, at least not yet, but would lead to the progressive deterioration of his physical capabilities. Thomas’ case attracted worldwide media attention, and subsequent academic attention as well, though mostly confined to legal journals (Madoff 2010; Shuster 1994; LaBouff 1992) and bioethics publications (Schwarcz 2017; Cron 2014; Pommer 1993). Born 1 January 1944 as World War II ended, Thomas had three sisters and two attentive parents (Donaldson 1990, p. 7). Thomas became interested in cryopreservation in the early 1970s and joined Alcor as a paying member in 1975 (Schwarcz 2017). In 1988, the same year of Thomas’ diagnosis, the Hemlock Society undertook unsuccessful efforts to put a law for euthanasia on California’s ballot, and cryonicists were some of the lead supporters of this effort (Donaldson 1989, p. 43). On 1 May 1990, Thomas filed suit against the Attorney General of the State of California for the right to a pre-mortem cryopreservation. Thomas argued that the United States Constitution and the California Constitution gave individuals the right to end their lives through the practice of active euthanasia (Donaldson 1990, p. 8). In the end, the California court “drew the line at post-mortem cryopreservation and refused to extend the right to include preservation methods that require the performance of assisted suicide” (Sullivan 2010, p. 72). While his cancer went into remission for several years, it returned in 2004 while Thomas was living in Australia. As his condition worsened, he flew to Scottsdale, Arizona, where he remained in hospice until his legal death. Thomas, who became Alcor patient A-1097 on 6 January 2006, had wanted to end his life before his brain tumor produced irreversible damage. This was not a right afforded to him, or to anyone in the State of California for that matter, until MAiD was legalized in 2016. Given that Thomas’ brain was irreversibly damaged prior to cryopreservation, the hope is that by the time vitrification is reversed, the technology will exist to repair any tumor-related brain damage.

3.2. Kim Suozzi—Patient A-2643

“Reddit, help me find some peace in dying young (I’m 23).” This post was written by Kim Suozzi, Alcor patient A-2643, who was diagnosed with terminal brain cancer in 2011 at the age of 23 (Suozzi 2012). Suozzi, who posted under the Reddit username u/pizzarules1000, first appealed to

⁴ For example, if I were not able to utilize MAiD, or I had to withhold food and fluids to die, this would be considered a bad death. If this situation occurred at a hospice facility near Alcor or CI, and my body or brain were successfully vitrified after my legal death, my death would be a good cryonics death. However, if lack of access to MAiD resulted in the deterioration of my brain tissue before my death, this would be considered a bad cryonics death.

the r/Atheism subreddit. “My prognosis looks pretty bleak at this point, and though I am hoping to exceed the 6–10-month median survival, I have to prepare to die,” she wrote on 17 August 2012. Kim was diagnosed in 2011 with recurrent glioblastoma multiforme, a highly aggressive form of brain cancer. By the time of her diagnosis, she was preparing to graduate from Truman State University with degrees in psychology and linguistics, and a minor in cognitive science (Alcor 2013). Kim had an inquisitive mind and became interested in cryonics after reading a Ray Kurzweil book in college. When conventional treatments failed, Kim appealed to the atheism community on Reddit for help funding her cryopreservation: “I had always planned on establishing cryopreservation plans through life insurance, I was caught off guard when I was suddenly diagnosed during my last month and a half of college” (Alcor 2013). Kim knew that the prospects of future reanimation were slim, but “the way I see it, it’s a better bet than decomposing or getting cremated.” Kim grew up in a religious, Christian household, and her parents were not pleased with her decision, worried that her soul might not make it to heaven. While her mother ended up accepting her wishes, her father did not, and refused to help fund her end-of-life plans. Suozzi’s age and her fundraising attempts attracted significant media attention, which painted her as a naive young adult who was duped by the snake-oil salesmen at Alcor. “Suozzi became one of the youngest people ever to undergo an expensive form of ritualistic corpse mutilation called cryonic preservation,” quipped journalist Corey Pein. “A sober look at the case would have revealed it to be but the latest botched mortuary procedure conducted by a gang of creepy scam artists” (Pein 2016, p. 84). Regardless, Kim was able to raise USD 7000 online before the Society for Venturism took over fundraising efforts with help from Alcor.⁵ Kim relocated to Scottsdale, Arizona, which does not have right-to-die legislation. At that point, the options available to Kim were to wait until the cancer metastasized, irrevocably destroying her brain matter, or she could undergo voluntary refusal of food and fluids (VRFF). She chose the latter and died after eleven days on 17 January 2013. Cryonicists believe that its patients have the greatest chance of revival if steps are taken immediately upon legal death to halt the breakdown of the body. Kim’s relocation meant that doctors and the Alcor staff could vitrify her brain once legal death was pronounced. Thus, Kim’s death, not “good” by most measures due to her VRFF, was considered a good death by cryonics standards.

3.3. Norman Hardy—Patient A-1990

Alcor patient A-1990, Norman Hardy, holds the distinction of being the first person to utilize California’s End of Life Options Act (EOLOA) before being cryopreserved. Born to Alfa and Clyde Hardy in Pomona, California in 1933, Norman would gain degrees in mathematics and physics from UC Berkeley, before working for IBM where he helped build the first transistorized supercomputer (Hardy n.d.). While at IBM he met Ann. They soon married and had two daughters together. In his 80s, Norman was diagnosed with Stage IV cancer and given a terminal prognosis. An Alcor member, he was placed on their watch list, though he never relocated to Scottsdale. According to Alcor’s case report, “Mr. Hardy had been diagnosed with terminal metastatic prostate cancer that had spread to the bones, and lungs. His pain had been poorly managed, and Norman had been looking to end his life as soon as possible” (Alcor 2019). For reasons that remain a mystery to Alcor, Norman had not informed them that he planned to use the newly enacted EOLOA. Alcor was eventually notified, though they had to convince Norman to wait a week in order for a team to fly out to California with the proper supplies, rather than to end his life in two days’ time as he had planned (Alcor 2019). Once legal death was pronounced, the Alcor team went to work cooling his body with ice and artificially circulating blood and oxygen. An air ambulance was dispatched, and the vitrification process was completed in Scottsdale. Norman was a neuropreserved patient and was pronounced legally deceased on 30 October 2018. Norman’s death was a good death by MAiD standards, but a bad death by cryonics standards.

⁵ The Society for Venturism is a religious organization, which attempts to use religious exemptions to prevent autopsies and other destructive post-mortem, pre-cryopreservation techniques.

The trip from California to Arizona by air ambulance, as well as errors during the vitrification process, resulted in greater-than-anticipated damage to his brain tissue.

4. Future Imaginaries

4.1. Creating Opposites

The death awareness movement, also known as the death positive movement, has become a small but vocal grassroots movement in the West over the last two decades (Walter 2019; Kastenbaum 2007). The movement is a loosely affiliated community of bloggers, death doulas, MAiD advocates, deathcare professionals, entrepreneurs, and others. Some of the aims of the movement are to normalize conversations around death and dying, support alternative disposal methods such as green burial, and shift responsibility for the dead away from professionals and back into the hands of the public through participatory and home funerals. For death doulas like Jill, who is active within the death positive movement, part of normalizing death means accepting people's right to end their lives when suffering becomes unbearable. Generally, the death positive movement tends to be in support of MAiD and opposed to cryonics, which it views as being a death-denying technology. For its part, many cryonicists and transhumanists tend to view the death positive movement with equal derision. When I have spoken to life extensionists about the death positive movement, most respond with bewilderment that anyone would be "in support of death" (fieldwork notes). The comments on the "Cryonics" episode of the YouTube series *Ask a Mortician* are largely representative of the death positive position on cryonics, describing it as a death-denying technology meant for sci-fi nerds and those who are out of touch with reality.⁶ Responding to a supporter of cryonics, a YouTube user wrote in the comments to the episode, "When you die, you're not figuring out anything. Brain activity stops. You are simply a dumbass in death denial. You will simply be a frozen dead dumbass!" Asked by *Bitch Magazine* about her thoughts on transhumanists in general, author and death positive activist Caitlin Doughty told reporter Sonya Vatomsky: "It's this weird conflict where I feel very sorry for the gentlemen of the transhumanist movement, because every time they speak about death it seems so personal, real, and tragic for them. It seems like their mother died and they have never been able to get her death out of their mind, and so it is now their mission to do everything possible to extend life and keep themselves alive. And they can't even fathom why we would want culture at large to engage with their mortality and accept their mortality" (Vatomsky 2017). For death positive activists, transhumanist technologies like cryonics are spaces of privilege for white, upper-class males, and are incongruent with the larger aims of the death positive movement, which advocates for the acceptance of death as an inevitable and natural event.

Cryonicists and transhumanists are largely in favor of MAiD. However, the "deathist" discourse in support of MAiD is understood by many to be problematic.⁷ One commentator on an "Anti-Deathist" FAQ website writes, "Deathism is really getting old. Women like Caitlin Doughty are promoting death and gaining followers. It's sad that she's more popular than Aubrey de Grey and other anti-aging researchers" (Carinisation 2014). On Twitter, one user who was upset about increasing death awareness wrote, "Deathists can just fuck off—I don't care how old they are, if a good person dies it's a tragedy AT ANY AGE, get it?" In a blog post criticizing an upcoming death positive conference, a transhumanist blogger wrote, "It's not just this one conference either - every time I've seen someone say they're 'death positive' they've let slip that they're against life extension and actively want to die." Worse yet according to the blog's author, "The phrase 'death positive' does not have the meaning stated by its proponents, it very clearly has the actual literal meaning of the phrase—these people actually want to die, but worse—they want you to die and me to die and they will pull out every excuse in the book to

⁶ The YouTube channel *Ask a Mortician* features videos on topics such as natural burial, iconic corpses, changes in the funeral industry, and cryonics. The videos are all made by Caitlin Doughty, who is an author, former mortician, and leader in the growing death positive movement.

⁷ "Deathist" is a derogatory term to describe death positive activists.

justify why that is the good and natural thing.” While internet comments are rarely representative of a broader movement, I bring these examples into this paper to highlight the epistemological divide between many proponents of MAiD and the larger transhumanist and cryogenics movements. The antagonistic discourse occurring between the two camps tends to obfuscate the common aims of both with respect to access to technologies that hasten death, and to what end a death can be considered “good.”

4.2. *Hope and/in the Future*

As I toured the Alcor facility with its co-founder Linda Chamberlain as my guide, the future was on my mind. Alcor’s stucco exterior, beige walls, and sanitized environment are not what most would imagine a cryonics facility to resemble. During my last tour however, the dewars were being filled with liquid nitrogen, and the storage room with its neon blue lights and metallic containers was covered in a thick billowing white mist. I asked Linda about what Alcor members’ future goals were beyond reanimation. The hope, she told me, “is to bring people back to youth.” Most cryonics members, and life extensionists in general, aim not only for the defeat of death, but the reversal of aging as well. According to Linda, twenty-seven is the average age most cryonics members hope to return to in embodied form. Robert Ettinger also imagined a future of limitless possibilities for reanimated patients: “The freezer program represents for us now living a bridge to an anticipated Golden Age, when we shall be reanimated to become supermen with indefinite life spans” (Ettinger 1964, p. 84). Linda shared with me her anticipated future: “I imagine being able to transform my body with the help of nanotechnology anytime I want. I have always wanted to walk on the ocean floor, and maybe in the future my lungs can be made to breathe underwater? If I am worried about my safety, maybe I could have the nanobots transform my body into a killer whale temporarily?” Linda’s vision aligns with the cryonics ethos, which considers the body as an accessory that houses the brain, or “a carcass or ‘package’ that can be rejuvenated or recreated altogether through bio-engineering, regenerative medicine available by genetic advancement and extended use of 3D bio-printers” (Stan 2016, p. 75). The hope of life after death is not unique to cryonicists. Sarah, a death doula from California, tells me that most of her terminal clients consider themselves to be “spiritual but not religious.” Though they may not envision themselves ascending to a heavenly realm, some do imagine themselves as energy beings who will be reincarnated in the future.

4.3. *Hope and/in a Good Death*

Euthanasia in its modern form, as a life-ending technology, is a paradox; even though it is the practice of ending life when hope is lost, it is an extension of an avenue of hope made possible by the modern medicalization of the deathbed. Detailing the emergence of euthanasia in the 20th century, sociologist Shai Lavi writes that “For proponents of euthanasia, the second half of the twentieth century stands for the triumph of human choice over the domination of medical technology and conservative values” (Lavi 2008, p. 60). With the jurisdictional authority over the terminally ill gained by medical authorities, the act of dying itself became a problem. Death was now seen as a failure, while medicine offered “an intelligible hope in the face of a hopeless existence,” argues Lavi (p. 57). The clinical gaze “redefined the existential status of the dying individual into one that emphasized the triumphs of science and diminished the spiritual needs of the patient about to pass out of this life” (Laderman 2005, p. 4). Paradoxically, the medicalization of the deathbed resulted in the hastening of death in some cases and the prolongation of life in others. Both processes reflected a new way of experiencing dying, and a new will to master death. Quoting Lavi:

“This modern sensibility replaced the older ‘hope’ that characterized the traditional deathbed and the Christian belief in redemption, which had prevailed in earlier American *Ars Moriendi* ... But as modern medicine clearly could not offer the promise of an otherworldly salvation, physicians opted for a more tangible and limited hope: not the promise of a world to come,

but a this-worldly guarantee that as long as life persisted, something could always be done for the dying patient". (Lavi 2008, pp. 62/58)

As chronic diseases replaced acute ailments, and advances in biotechnology pushed lifespans to new limits, the dying process itself became prolonged. Today, death can become a long, drawn-out process, as "the question about how to die well today is how to live for months, or even years, knowing that we are dying" (Walter 2003, p. 219). Therefore, people today suffer longer, lonelier, and more painful deaths: "People do not die in the places they wish or with the peace they desire. Probably too many die alone, in pain, terrified, mentally unaware, without dignity, or feeling alienated. People who are poor, from ethnic minorities or marginalized may have even worse deaths" (Clark 2003, p. 174). Thus, in the wake of medicalized hope in prolonging life has come the hope of ending suffering with the help of MAiD, against competing state interests in preserving life. Patients are empowered by access to euthanasia against the control of doctors over the process of dying; patients can choose to fight their diseases or accept death as an inevitable end.

Questions over life and death are constantly renegotiated through law, culture, politics, and other institutional and highly medicalized forms. Both healthy and sick individuals can come to constitute biosocial communities, which are organized around the experience of illness, and who "form collectives to work to change the prospects faced by future people" (Roberts and Tutton 2018, p. 205). Future bodies are actively created within biosocial groupings, which are made up of what Paul Rabinow and Nikolas Rose have called individual "biological citizens" (Rabinow and Rose 2006). These new biosocial realities, including biosocial communities for pre-symptomatic people, are based on the idea that biology is "knowable, mutable, improvable, eminently manipulable" (Rose and Novas 2005, p. 439). Hope is a vital part of biosocial groupings. As Nadine Ehlers and Shiloh Krupar (Ehlers and Krupar 2019) write, in the biocultural arena, "Hope incites particular behaviors, it induces certain forms of community and belonging, and it encourages us to believe in the possible transcendence of bodily limits and/or temporal constraints" (p. 20). Within biosocial groupings, people reconceptualize their illnesses so that they are no longer suffering from disease but are activists against it. Especially in the early days of MAiD legislation, terminal patients seeking euthanasia had to be vocal advocates for themselves and others as public support has been essential in changing legislation. Although Thomas Donaldson lost his initial court case in California, he continued writing in support of, and advocating for, the right to a good, medically assisted death for others. As aging itself has come to be reconceptualized as an illness category, biosocial groupings have formed around life extension activism. Cryonics member Alex, a middle-aged healthy man from Florida, told me that cryonicists view themselves as "mavericks" who are freezing themselves today in the hopes of helping science reanimate bodies in the future.

4.4. Cryothanasia

KrioRus, the only cryonics facility in Russia, recently crowd-funded their new initiative "Cryogen." Besides the goal of successfully reanimating patients in the future, Cryogen plans to build a facility in Switzerland with the intent of utilizing the country's MAiD laws for the purpose of cryothanasia: "Switzerland is situated in the centre of Europe and has no prohibition on euthanasia, thus making possible the best quality cryonics services at the moment" (Cryogen 2017). As part of Cryogen's roadmap, the organization hopes to offer cryothanasia within an on-site palliative care center. Medical aid in dying has had to grapple with the ethical consequences of its multifaceted implementations, legal, illegal, and quasi-legal. For example, what is the distinction between writing a prescription for MAiD, or administering a little too much morphine for pain control, knowing that it will arrest the body's functions? After receiving their terminal prognoses, the immediate concern Kim Suozzi and Thomas Donaldson faced was ensuring their access to both a good death, and a good cryonics death. Donaldson and Suozzi are two examples of individuals whose cryonics deaths would have benefited, by cryonics standards, from cryothanasia. This is because cryothanasia, the act of administering MAiD to a terminal patient with the express intent to cryopreserve them immediately upon legal death, would provide patients a greater chance at successful reanimation in the future. Although I was told

by Alcor employees that the organization does not advocate for access to MAiD in the courts, the Alcor website details the options available to terminal patients with cryoethanasia in mind. Given that MAiD is illegal in Arizona, but that the best cryonics death would occur in Scottsdale, “the safest such strategy, if one has a diagnosed terminal illness, appears to be voluntary stopping of eating and drinking” (Perry 2012). Given that the only option for European cryonicists who wish to utilize MAiD is to have their bodies flown to the United States, Cryogen hopes that their facility will provide their members with an opportunity for both a good social death and a good cryonics death.⁸

Interestingly, while fighting for the right to legally end his life in 1990, Donaldson and his supporters framed his right to death as a right to life. As one defender argued in a December 1991 issue of Cryonics Magazine, “I believe that “this is an assault on Donaldson’s well being” since his Right to Life is questioned by the State which has no justifiable interest in the outcome of his life” (Cryonics 1991, p. 6). The transhumanist philosophers Francesca Minerva and Anders Sandberg argue that “administering ‘euthanasia’ and subsequent cryopreservation is ethically different from administering euthanasia, and thus that objections to euthanasia should not apply to cryoethanasia” (Minerva and Sandberg 2017, p. 527). While the ethical argument against euthanasia typically states that any act causing death is wrong, Minerva and Sandberg argue that cryoethanasia would be permissible because “cryoethanasia is an act that causes certain death to become an uncertain possibility of death” (p. 529). In other words, regardless of its future success, the goal of cryonics now is the preservation of life. The preservation of life, they maintain, aligns with the ethical stance against euthanasia, thus satisfying both camps:

“Cryonics presents a paradox for many anti-euthanasia arguments. Extending health and life is the goal of medicine, and typically such arguments claim euthanasia is contrary to these goals. Since cryonics would have the greatest chance of success if the patient were euthanized before her health greatly deteriorates, such terminally ill patients want euthanasia in order to—paradoxically—extend their lives”. (p. 527)

Cryoethanasia is unlikely to satisfy those who hold objections to euthanasia, however supporters argue that it would provide terminal cryonics members with both a culturally prescribed good death, and a good death by cryonics standards.

5. Final Discussion

5.1. Is Cryonics a Death-Denying Technology?

The charge of death denial assumes that cryonics members do not have a positive relationship with mortality, which in turn assumes that those who utilize MAiD, or are part of an activist community in support of it, directly engage with death in healthier ways. The reality is much more complicated. Research with end-of-life patients suggests that even during the late stages of terminal disease, patients and their families will maintain hope for life until the moment of death itself (Dees et al. 2011). The desire to prolong life means that some patients will forgo taking their MAiD medication any time their pain and suffering subsides (Yun et al. 2018). Death doula Jill told me that one of her patients waited a year before taking his euthanasia medication because his family could not bear his death. It was not until the pain became visibly intolerable that the family reluctantly agreed to “allow him” to take the life-ending medication. Studies with end-of-life patients suggest that bad deaths are more likely to occur when the dying person or their primary caregiver remained in denial of their terminal prognosis. Death denial was correlated with worse care and violations of the patient’s autonomy,

⁸ In 2016, 14-year-old “JS” ended her life through physician-assisted death after a ruling by the British High Court. This option was granted to her by the judge based on her rights to personal autonomy. Diagnosed with brain cancer, JS wanted to utilize MAiD in order to be cryopreserved. “I don’t want to be buried underground. I want to live and live longer and I think that in the future they might find a cure for my cancer and wake me up. I want to have this chance. This is my wish” (Huxtable 2018, p. 477). JS’ body was then flown to the Cryonics Institute in Michigan.

especially with regard to their desire to die at home (Reese 2000, p. 15). The death denial thesis itself may become abstracted from the realities of dying, as a meta-analysis conducted by Camilla Zimmermann suggests. Zimmermann (2007) found that while death denial can act as a barrier to palliative care or access to euthanasia, both of these options are in fact examples of our shift towards a more death-accepting society (p. 308). Greater autonomy may be correlated with societies that are more open to the invitation to speak about death (p. 309). As public health scientist Jocelyn Clark writes about the result of the modern problem of prolonged death, “Indeed, it seems the fear of death is being replaced by the fear of dying” (Clark 2003, p. 174). A good death is now about managing the latter, rather than coping with the former.

Transhumanists and cryonicists would likely argue that there are no good deaths, which critics would point to as an example of *unhealthy* death denial. Historian Jens Lohmeier notes that researchers often suggest that “The option for cryopreservation is associated with an attitude of fear towards death and negatively correlated with the spiritual or religious belief in the existence of an afterlife” (Lohmeier et al. 2015, p. 276). Yet it is not lost to many cryonicists and transhumanists that death is a given, and how one dies remains important. At Alcor’s Life Extension Conferences, the longest held conference on life extension, the aim to mitigate disease is the core theme. Even at RAADfest, where death is called out as the ultimate enemy by presenters on stage, engagements with mortality are visible. For example, at RAADfest in 2018, invited speaker Natasha Vita-More, professor of ethics and innovation, took to the stage to argue in defense of pragmatic death acceptance and stated that rather than turning a blind eye to the inevitability of death in today’s world, facing it head-on is at issue. Vita-More, along with CEO and President of Alcor, Max More, were the earliest proponents of transhumanism as a worldview and philosophy. Vita-More, who is the Executive Director of the transhumanist organization Humanity+, told the crowd in a passionate and firm tone, “I know death is not something we want to refer to, but we must! I know what it is like to be a caretaker. People are dying. We need to have compassion. Go to hospice and spread compassion. People who do want to die, have compassion for them.” Minerva and Sandberg argue that “the practical reality of cryonics actually makes the possibility of death a far more salient aspect of life. Having to plan for one’s terminal stages and being aware of the limited chances of a proper cryopreservation due to unavoidable accidents seems to be the very opposite of denying death” (Minerva and Sandberg 2017, p. 530). Dennis Kowalski, the founder and president of Cryonics Institute in Michigan, writes on the CI website: “Having a death plan, or simply telling people what you want to happen to your body, will ultimately allow you to live a more comfortable, death-positive life, instead of denying an inevitable reality—even if that means trying to cheat death with cryonics” (Guinness 2020). When I asked John, an Alcor member in his 60s, about death denial, he counselled me to read Atul Gawande’s *Being Mortal* if I wanted a better understanding of suffering at the end of life (Gawande 2014). While fear of death may speak to individual motivations, I have found engagements with mortality amongst cryonicists and transhumanists in unexpected ways.

5.2. Autonomy and the Good Death

“Cryonics is the second worst thing that can happen to you” Max More told the crowd of around 40 people gathered for the yearly Life Extension Christmas party in Southern California. Death is the implied worst thing that can happen. A “Who’s Who” of immortalists, transhumanists, AI researchers, and a friendly anthropologist, the annual Christmas party is an opportunity for anti-aging researchers to introduce “cutting-edge” longevity science, and an opportunity for guests to help direct the future of the life extension movement. Following talks on longevity science, and the possibility that positive thinking can alter our gene expressions—thus extending our lives—Max More presented his yearly update on the state of cryonics at Alcor: “Cryonics is an ambulance to the future . . . If all you do to stay alive doesn’t work, there is always cryonics.” More continued: “I know nobody wants to talk about this stuff, but if you’re going downhill, move to Phoenix.” Listening to Max in that moment, I wonder what the phenomenological experience of dying, and then waking up in the future would

be like. I was attending the party as part of my fieldwork, and I spent the evening moving between groups of researchers, friends, acquaintances, and a few members of the interested public. As many of us stood on the patio consuming keto-friendly wine, I spoke with cryonics member and science fiction author Gregory Benford: “Cryonics allows us to die with hope,” Benford told me, and he maintains that a hopeful future is what we should all strive to achieve.

Hope and autonomy cannot be disentangled. The ability to hope for a future change depends on the ability to bring that future about. Autonomy is the bedrock of modern medicine in both a legal and individualistic sense. Jill tells me that her clients value the ability to determine the moment of their death above all else: “When things take a turn towards suffering, they just want out immediately.” Suffering is highly subjective, and for some terminal patients, suffering does not take the painful trajectory many might imagine: “Suffering for some people is just incontinence. I know a man who shit his pants at 9 a.m. in the morning and took the medication at 4 p.m. because he had just had it.” Lack of control and lack of autonomy have been found to positively correlate to one’s acceptance of hastened death through euthanasia. Once individuals believe they might be a burden to their families, on top of the fear of pain, they are likely to consider employing MAiD (Yun et al. 2018, p. 5). Jill worked with one client whose insistence on controlling the deathbed experience meant that she carried her advance directives with her whenever she went on vacation or flew on a plane. Control of the deathbed experience is a salient feature of our modern future imaginaries of a good death. This control is what Thomas Donaldson and Kim Suozzi had wanted, and a right Norman Hardy eventually won. Control extends beyond legal death as well. Linda Chamberlain shared with me the story of one Alcor patient who had requested that Alcor wait 300 years before reanimating him, even if the technology to revive him becomes available beforehand. The patient hoped this delay will allow technology to catch up to the ideal future they had imagined. For Alcor member John, the choice over life or death is paramount. John tells me he does not want to live forever but wants the ability to choose when and how his life ends. If John does not find pleasure in the future he is reanimated into, “I can just end it”, he tells me.

The creation of future bodies links to questions of autonomy and transforms death processes into moral necessities. Kim Suozzi’s case demonstrates what can happen when end-of-life options are limited. Here, a lack of options for euthanasia resulted in a prolonged dying experience for Kim and her family. Advocates of cryoethanasia, like Thomas Donaldson, argue that allowing the practice would satisfy the moral imperative to have a good death, while protecting an individual’s autonomy by allowing them to die and have their bodies handled in the manner of their choosing (Donaldson 1989, p. 43). Access to cryoethanasia would offer another ethical good, argue supporters. Namely, they claim that, where end-of-life options remain illegal, people still find ways to end their lives. Before California’s EOLOA, terminal patients would hoard pills or would visit an underground “Hemlock Society” where they could be painlessly assisted to die, death doula Sarah told me. “All of this was underground, and this was for people who wanted an option out at the end of life regardless of its legality.” Even in post-EOLOA California, legal barriers and uneven access have meant that underground euthanasia remains an active practice. Sarah told me about one person—an “old hippie type”—who offers euthanasia to willing terminal patients by placing a hood over their heads before killing them with helium gas. Such a death likely violates Kastenbaum’s good death propositions, even if it respects autonomy to an extreme degree.

6. Conclusions

It is hard to miss Rudi Hoffman at RAADFest. Rudi is a towering presence, with short gray hair and large glasses, which give him a boyish face. His pastel-green polo has the words “ASK ME ABOUT YOUR CRYONICS INSURANCE” stitched on the back in large white letters. Rudi is the leading cryonics insurance salesperson and has been offering his services from his home in Florida for over 27 years—in which time he has only had 12 of his roughly 1500 clients become patients. Most people pay for cryopreservation using their life insurance policies. Alcor requires a minimum of USD 200,000 for whole-body storage, and USD 80,000 for neuropreservation (Shaw 2009, p. 516), and will send

prospective members to Rudi. Rudi tells me during one of our many conversations that beyond the price tag, cryonics has been rather slow to catch on, even amongst life extensionists. Rudi believes that cryonics has had trouble attracting members from the life extension community because “Cryonics has all the ickiness of death and uncertainty. There is the whole certainty of death that turns people off.” Supporters of cryonics, many of whom participate in the life extension community, argue that rather than augment a fear of death, cryonics demands a direct confrontation with mortality. Reading through years of Thomas Donaldson’s writing on death and euthanasia attests to the death-oriented conversations possible within the cryonics movement. However, what remains explicit throughout is the hope that even in death, future life will be possible. Such a view is present amongst terminal patients as well. Jill tells me that she has heard of “so many different kinds of ways to describe the process of being ushered out,” including reincarnation, connections with ancestors or energy, or the belief in angel guides. For Jill’s terminal clients, death is “not without a thought process of the possibility of a higher purpose.”

“Why, in Cryonics [Magazine], is there an article on euthanasia?”, wrote Thomas Donaldson in February 1989. “For years cryonics has been a third alternative, always ignored. Any presentation of cryonics should point it out as such an alternative: among its advantages is that it doesn’t result in the death of the patient! . . . Placing cryonics in the context of no-code patients and euthanasia candidates makes it very clear that we don’t advocate freezing “well” people, or even people who can get out of bed in the morning” (Donaldson 1989, p. 43). For Donaldson, as much as cryonics was an obvious ethical good for society, especially for terminal patients, for most people, “To be “dead” is by definition to be gone forever. No amount of playing with mirrors can convince these puzzled people otherwise” (Donaldson 1990, p. 8). Thomas Donaldson, Kim Suozzi, and Norman Hardy present interrelated yet separate examples of the ethical and legal boundaries of medical aid in dying, which are complicated by the choices made for their future bodies. These boundaries are further complicated by both the divisive realities of euthanasia debates, and the public’s unease over human cryopreservation. The Donaldson case calls into question what rights we have as autonomous individuals. Donaldson was not allowed to legally end his life through MAiD, resulting in a bad death by cryonics standards. While the contemporary West values an individual’s autonomy, Kim Suozzi became the object of ridicule and derision for her desire to be cryogenically frozen. Suozzi’s case is an example of what proponents of MAiD consider the hypocritical realities of right-to-die bans. Though of sound mind, Suozzi was not afforded the right to choose the time and manner of her death. Instead, she had to starve herself for eleven days before legal death was pronounced. Even where the right to die is legal, restrictive regulations can result in scenarios like Suozzi’s.⁹ As mentioned, Suozzi’s death was a bad death for her, but a good death by cryonics standards. Finally, Norman Hardy was the first cryonics member in America to use the newly enacted EOLOA to end his life, but had to be flown to Scottsdale, Arizona, by air ambulance after his legal death. Hardy’s death was a good death insofar as he had the ability to choose when to die. However, by cryonics standards, the delay in getting Mr. Hardy to Scottsdale complicated his chances at a successful reanimation in the future, resulting in what is arguably a bad cryonics death. If we removed the words cryonics from the case studies I have reviewed here, they would be indistinguishable from the moral and ethical landscape of many MAiD cases. The future imaginaries may differentiate MAiD and cryonics, but the determination to have a good death remains paramount to both movements.

Future bodies are more than embodied transformations of the self yet to occur. They are conceptual, anticipated manifestations of the future lived out in the present. Cryonics and MAiD are medicalized ways of living and dying, and for some, hopefully living again, which are necessarily lived out through a present imaginary. In other words, the deceased body of a terminal patient is the product

⁹ In 2016, Jean Brault, aged 61, received a doctor’s help to end his life only after starving himself for 53 days and refusing water for 8. This occurred in the province of Quebec, Canada, where MAiD was a legal option at that point (McKenna 2016).

of individual actions, cultural and familial obligations, and personal lifeworlds, as much as it is determined by the prognosis itself. In contemporary biosocial groupings, “hope operates as a form of intimate governance that conditions responses to bodily vulnerability and uncertainty and manages the present for the future” (Ehlers and Krupar 2019, p. 20). The future cryonics body is similarly informed, with many focusing their energies on healthy living to maximize their chances of a good death. While an essential element to the futural imaginaries of cryonics and MAiD is the notion of a good death, for cryonics, the future body is an organizing feature post-mortem within a long temporal continuum. As it is “neither alive nor dead, cryonic flesh organizes a massive discourse of maintenance and repair; even in its death, the body is becoming” (Doyle 2003, p. 62). MAiD recipients may also experience highly medicalized, post-mortem encounters such as invasive autopsies, organ donations, and medical research. However, these interventions are not as temporally prolonged as cryonics. The charge of death denial against cryonicists is often connected to the perceived futility of creating future bodies—namely their preservation post-mortem. “Many cryonics activists regard being decomposed or rotten after death as repulsive, while freezing the dead body retains its lifelike look”, writes Oliver Krüger (2010, p. 9). However, as religious studies scholar Gary Laderman notes, the popularity of embalming is based on a similar preservation of the future body: “A refusal to allow the dead to disappear from the living community, a fixation on the body of the deceased, and a demand that the integrity of the corpse be perpetuated in the grave as well as in collective memory” (Laderman 1996, p. 73). Although vitrification has different signification than the process of embalming, both have the ultimate goal of preserving the body.

Hope is a powerful motivator for biosocial groupings of biosocial citizens: terminal patients and pre-symptomatic life extensionists. While MAiD and cryonics offer opportunities to escape the biopolitical realities of illness by offering empowerment against a medical system where the “psychology of illness and the institutional needs of hospitals [work] against the patient’s right to choose” (Temple 2010, p. 186), both practices are the result of modern medicine’s push for hope against the inevitability of death. “What will happen when contemporary medicine can no longer keep you alive?”, asks bioethicist Ole Martin Moen in support of cryonics (Moen 2015, p. 677). Implicit in Moen’s question is that medicine’s role in contemporary life *is* to keep people alive for as long as possible. Paradoxically, although both MAiD and cryopreservation are heavily medicalized processes, death for proponents of both becomes a moral necessity predicated on hope and autonomy. A good death for cryonicists and MAiD advocates is centered on the desire for autonomy and choice, and the minimization of suffering, which largely depends on an individual’s ability to communicate these desires, as well as a juridico-medical belief in autonomous decision making. The future MAiD and cryonics body is the product of a self that has had time to reflect, to prepare, and to think about its place in the future. The liminal moments where death is anticipated and prepared for are steppingstones, where the biosocial project of hope can be played out with death as its (possible) end. The future cryonics and MAiD body is a temporal body, one that refuses to suffer in death, is entirely organized through biomedical and future imaginaries in the present, and directly engages with the realities of dying in analogous ways.

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