

Ethical and Legal Considerations Within the Quantitative Research of Cryonics

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ABSTRACT

Despite the extensive research within the cryonics field dating back to the early twentieth century, very little is known regarding its paired legal and ethical complications. Resulting of society's expansive fundamental ways, the community within modern times has expanded tenfold and scientific research such as cryonics has too. This study analyzes the vast legal implications that came from the increasingly popular yet prolonged use of cryonics within everyday life. Through imperative law, this study analyzes the ethical standards of the rising practice of cryonics by referencing past court cases ranging from American and global policies, laws, and amendments. An analysis of such documents yields a common justifiable explanation for cryonics' justified legal position and its inadvertent ethical protections. This study is part of a growing body of research reflecting American and foreign perspectives on the rising practice of cryonics within modern society. In analyzing a large source of legal policy within American and foreign affairs, this study will contribute to further analysis and research on cryonics.

Freezing Dead People: Is It legal?

In 2016, a British fourteen-year-old girl from the United Kingdom destined to die of cancer went to the British High Court for permission to undergo the process of cryonics. Soon afterward, controversy ensued over the decision of the court to permit her request (Pradeep). The earliest form of modern cryonics was introduced when Robert Ettinger, a Michigan professor at Wayne State University published *The Prospect of Immortality* in 1962 (Watson). Five years later, the standard procedure for modern cryogenics came with the invention of the cryo-tank at the hands of James Bedford, “an emeritus professor of psychology at the University of California” (Gwynne). Cryonics is the process where legally dead patients are packed in ice and stored in facilities. For many, the field’s limited results deterred them from supporting cryonics. However, others value cryonics for the possibility it offers for the future. The ongoing debate has sparked varying legal analyses discussing the benefits and drawbacks of the practice. While there are both pros and cons, there are more pros. Recently, scholars such as Robert Pommer, a compliance enforcement legal attorney, argue that cryonics has become a “legally limited and controversial” practice that can “be permitted under certain circumstances” such as if it is “benefitting the public good” (Pommer). Cryonics should remain legal because it is beneficial for society, legally protected, scientifically backed, and promotes both bodily autonomy and faith.

Cryonics has prompted great strides within society in the form of medical advancement. In the twenty-first century, scientists continue to expand their understanding of cryobiology. Cryonics has already been popularized by its odd practice of instrumentally freezing tissue, sperm, and organs that can then be administered to live subjects later in time (Bojic). The development of these processes marks the transformation of the effectiveness of American medicine. These life-saving processes mark the beginning of the work being conducted in the practice. After several decades, the practice of cryobiology has grown significantly. Head of the genetic chemistry department at the University of Warwick, Alex Murray, says that in merely seventy years, cryobiological science changed from freezing “spermatozoa using glycerol, to vitrifying tissues, and even small organs

using complex multi-component solutions" (Bojic). The advancement of cryonics guarantees many opportunities for society (Ekpo). Great advancements in the cryonics field have already been made in less than a century. Advancements within medicine such as digital neural reconstruction and stem cell therapy are both byproducts of research conducted by cryobiological specialists (Ekpo). In the future, with centuries of work in the field, society will benefit from the field's scientific breakthroughs. Cryonicists have already created new techniques to push the limits of their research in hopes of further aiding their quest for cryonics. Doctorate Student and cryobiologist at Central State University, Marlene Ekpo argues that "New organ replacement techniques and methods such as 3d tissue printing, and biodegradable organ construction" along with "neural prosthesis, and even nanobot cellular repair" have been created by scientists and "soon might hit the market" (Ekpo). As scientists continue to search for a solution to mortality, society benefits and prospers from the results of scientific discoveries. These discoveries include new medical processes and techniques. The National Science and Technology Policy, Organization, and Priorities Act of 1976 (NSTPOP), created to protect scientific institutions, affirms that any scientific research "fostering progress toward human freedom, dignity, and well-being by enlarging the contributions of American scientists and engineers to the knowledge of man and by utilizing technology in support of the United States" should not be limited in any way (NSTPOP). Therefore, according to this act, the research conducted by scientists in the cryobiology community contributes to the advancement of technology in the United States. The United Nations General Assembly asserts in Article 15 of the International Covenant on Economic, Social, and Cultural Rights that countries must, "recognize the right of everyone to enjoy the benefits of scientific progress and respect the freedom indispensable for scientific research" (ICESC). Currently, the United States has five ratified treaties protecting the rights of scientists (ICESC). If any analyst is conducting research safely and legally, the United States legal system does not have jurisdiction to restrict scientific research. Without jurisdiction, practices, such as cryonics, remain protected by the legal system.

Cryonics promotes a person's right to bodily autonomy. Bodily autonomy is the power that people themselves, or a loved one, have over their bodies (Raday). Disputes regarding the rights of those who wish to be sent to cryonics facilities have been at the heart of the topic's controversy. Daniel Spector, an estate attorney, argues that though cryonics appears to "violate society's notions of common decency. . . once it has been admitted that a certain person has the right to burial" they can choose how the corpse be treated postmortem, "as long as it does not outrage public decency or amount to a public nuisance" (Spector). Therefore, the justice system cannot prosecute anybody choosing to be relocated to cryonics facilities as they are legally protected. In *Seaton v. Commonwealth*, controversy erupted. A father of a dead boy was put on trial for having buried his son's ashes in his backyard within a wooden box (Spector). In the end, the court ruled in favor of the father. Though the boy's burial location aroused public controversy, nothing could be done because it was the father's right to bury the corpse as he sees fit. Similarly, *Alcor Life v. Richardson* occurred after a patient's family, against the patient's wishes, sued for custody of a patient's body stored in a cryonics facility (Pradeep). Alcor Life, a cryogenics facility, quickly won the case, however, and the patient stayed at Alcor. Alcor's patient was protected by their right to bodily autonomy because they desired for their body to remain cryogenically frozen at Alcor. Both *Seaton v. Commonwealth* and *Alcor Life v. Richardson* are important because they establish the precedent that, if the dead want a specific burial, they have sole control over their bodies, legally protecting the practice of cryonics.

Several legal doctrines legally guarantee cryonics' right to remain a practice. The legal doctrines backing the field of cryonics include the Human Rights Act and the United States Statewide Health and Safety Codes. These legal doctrines have been created to protect the interests of scientific practices such as cryobiology. The Legal Information Institute of Cornell Law School and the United States Department of Energy both define property as anything that can be owned. Property is something that somebody can have, transfer, use, or throw away (LII and DOE). In this case, the cryobiology tanks' cryonics patients are placed inside qualify as property. Furthermore, Article 1 of the 1988 Human Rights Act declares that "every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the

public interest and subject to the conditions provided for by law” (Human Rights Act). Patients who are holding property are allowed to maintain that property if legal. Because the tank in cryonics facilities qualifies as property, patients are allowed to keep residing in the tanks. Cryonics institutions and non-profits alike are protected by statewide safety codes. These safety codes are relatively similar across all states. Alcor Foundation is located in California. Stephen Bridge, former president of the Alcor Foundation, argues that California Health and Safety Codes 7150-7157, “give an individual the ability and the right to donate their body or organs for medical research or transplant” (Bridge). Beginning with safety code 7150.5, the code allows “an individual who is at least 18 years of age to make an anatomical gift” (Bridge). An anatomical gift refers to the donation of all or part of the human body after death. Furthermore, California safety code 7153 permits “the following persons to become donees of anatomical gifts: a procurement organization, for transplantation, medical education, research, or advancement of medical sciences” (Bridge). Stephen Bridge has argued that Alcor’s main goal is to “research and push the advancement of medical sciences” (Bridge). In this case, Alcor is one representation of the varying cryonics organizations nationwide. Because Alcor desires to advance medical science, Alcor qualifies under California’s listed Health and Safety Codes. As a result of both safety codes 7150.5 and 1753, both the donor and donees are protected. If both the donor and donees are protected, the practice of cryonics can remain legal.

The practice of cryonics can be regarded as a form of faith. Cryonics has been known to be a controversial field due to its lack of scientific proof. Many argue that cryonics instead runs on religious belief. As a result, cryonics faces the possibility of qualifying as religious credence. The United States Department of Labor argues that the Equal Employment Opportunity Commission (EEOC) defines "religious beliefs" to include “theistic beliefs, a belief in God, as well as non-theistic moral or ethical beliefs about right and wrong that are sincerely held with the strength of traditional religious views” (Department of Labor). In most cases, whether or not a practice or belief is religious is not an issue. However, religion typically concerns "ultimate ideas" about "life, purpose, and death," (Department of Labor). For some, cryonics is a strategy for coping with the fear of death like religion. As a result of the increased religious fervor surrounding the field, cryonics qualifies for the same benefits as other religions. Therefore, the law cannot impose restrictions or persecute cryonics because it is arguably a form of religion. Regarding Title VII of the Civil Rights Act, the United States Customs and Border Protection argues that “for purposes of Title VII, religion includes not only traditional, organized religions, such as Christianity, but also religious beliefs that are new, uncommon, not part of a formal church or sect, only subscribed to by a small number of people, or that seem illogical” (Civil Rights Act). In terms of cryonics, there might be a group of people who are all terminally ill and bound to die. Somebody who is terminally ill with an incurable form of cancer will not turn to any dictated religion for an answer. With such circumstances, they might choose to turn to unproven sciences because it's their only chance. Though unproven, experts estimate the success rate of the cryonics procedure is 5 percent (Cron). However, even that small of a success rate is enough for many to instill their faith in cryonics because they desire to live (Cron). In turn, cryonics to them is Protestantism to a Protestant. Both groups turn to set faith in search of order within their lives. Moving forwards, the Civil Rights Act VII protects all institutionalized acts of religion by making it “unlawful to discriminate against someone” based on their form of religion (Civil Rights Act). Meaning, cryonics cannot face lawful impediments as a result of its close ties and affiliation with religion. As a result of the practice being popularized by a marginalized group of people, Title VII of the Civil Rights Act, the declarations of the (EEOC) and the affirmations of the (Civil Rights Act) all inadvertently legalize the practice of cryonics under religious order. The religious sectors of belief surrounding the institution of cryonics legally protect the practice.

Scientific research has theoretically justified the cryonics process. While cryonics has not been physically proven, various scientists have offered scientific research justifying the practice. Doctorate Student and cryobiologist at Central State University, Marlene Ekpo argues that cryonics was created based on the assumption that science would advance enough in the future to allow for the cryopreservation of complex organs to be

possible (Ekpo). When cryonics was just beginning, scientists relied on hypothetical research backing the process of organ freezing. After many years, the physical process of freezing organs became successful. Ekpo is implying that the field of cryonics is again undergoing the stage of medical hypothesis. The lack of physical proof regarding cryonics does not justify its possible non-existence. Rather, its lack of physical proof means that scientists are still working towards a viable physical solution. Benjamin P. Best, a biomedical researcher and the president of the Cryonics Institute, argues that “the scientific justification for the practice of cryonics is based on several key concepts: low temperature slowing metabolism and low temperatures stopping chemical changes for centuries” (Best). Best is arguing that if the processes supporting cryonics like low temperature-freezing and chemical change halting can hypothetically be proved, they can be physically proved too. Just like Ekpo, Best argues that replicating the processes allowing cryonics to succeed is not impossible, it will just take longer. It is not a crime for researchers to rely on hypothetical research when searching for physical solutions in their field. During the COVID-19 pandemic, leading scientists relied on hypothetical vaccine research when developing the COVID-19 vaccine. Though the physical development of the vaccine was not proven, scientists used it as a basis to create the real product. The creation of the vaccine was not impossible, it just took researchers time (Maragakis). The research within the field of cryonics will merely take longer to physically develop.

Hence, society must permit the legal practice of cryonics. While the practice has remained popularly controversial in the passing years, the practice’s promotion as a beacon of faith and its direct link to possible medical advancements incentivize reason for its continued support. If cryonics remains a legal practice, many will notice its impact after several years. While circumstances like the field’s lack of physical proof or reliance on faith were reasons why many disapproved of the practice; In modern times, cryonics continues to pave the way for other medical practices to assert greater involvement within society. Because cryonics is scientifically and legally backed and has the potential for advancement within decades, it is clear that the practice is something that society must accept and maintain legally.

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