

CRYONICS

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EDITORIAL MATTERS

Please note that the price for an individual subscription to CRYONICS has been raised to \$15.00. This is equal to the cost of an Associate Membership in the Institute for Advanced Biological Studies, so new and renewing subscribers will be considered Associate Members, (Libraries or organizations will just be listed as subscribers, not as members). This price increase is necessary because a) the average length of CRYONICS has increased far beyond our early plans, b) costs are rising in the form of increased postage and printing expenses, and c) continued expansion of our mailing list will soon necessitate the issues being assembled by the printer rather than by us. We hope that you now have confidence in both our content and in our continued existence and will not regret the increase.

To explain our new masthead: "Maat" is an ancient Egyptian word which denotes "the eternal order of things." It is more than truth alone, for truth is just a human's appreciation of reality. It might be described as "human truth which expressed reality." Maat is the ideal we strive for in our lives and in our interactions with others. As the ideal of the first culture to use technology in an attempt to conquer death, it is a fitting masthead for CRYONICS.

THE BRICKS IN THE WALL
by Michael Darwin (Federowicz)
with contributions by Stephen Bridge

Elsewhere in this issue is reprint of an article by Laurie Mann on how the Cryonics Movement died. On my desk where I sit typing there is an article from the "Indianapolis Star" newspaper with the headline "Cryonics Now Only Involves Temporary Freezing of Parts." This article blithely informs us that "the heralded cryonicist movement of the '60's seems to have been no more than a passing fad. The scientists in whom the cryonicists invested their trust did not believe in cryonics." We are told elsewhere in the same article that "cryonics is dead, as dead as its thawed adherents." For a long time journalists have said that cryonics wouldn't work. Now some are already saying it didn't work. This lack of research and this matter-of-fact attitude toward something which seems so necessary to us is one of the main frustrations about pounding our heads against the wall of public indifference.

If we wished instead to dismantle the wall or find our way around it, we must educate ourselves about its construction. Why has the general public failed to accept cryonics as a logical idea? The first step toward an answer is the realization that there is no single or central reason for this failure. There is a host of reasons, some very small, others larger and more critical. In any individual the various reasons combine and act synergistically to create a determined barrier to understanding. Here is what we have to work against.

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Another Crazy Sect.

Before you even discuss cryonics with someone, you must deal with the commonly held notions that "enthusiasm denotes insanity" and "if I didn't already believe it, it can't be real." People are so inundated with supporters of philosophical cure-alls that they learn to block out automatically all new approaches to life. We all do that to some extent. I (Steve) was recently struck by the realization that, when I talk about cryonics, some people give me the same look that I reserve for people who want to tell me about the glories of Scientology or the Divine Light Mission. "Poor deluded fellow, he can't think for himself, so he must follow some bizarre sect." It is ironic to hear this line of reasoning used toward cryonics. It has been our experience that thinking for oneself is so common in cryonics groups that it is rare to get any three members to agree on anything (except the need for extended lifespan -- and IABS once had a member who didn't really believe in that!). But it must be also admitted that cryonics has attracted more than a few undeniably bizarre characters in its history, and that these strange people could certainly appear to be cultists. Although we are not a cohesive group trying to run the lives of its members, we must be aware that our initial approach can make us seem that way. Since I have discovered that most people distrust fervor in anything, I try to encourage relaxed discussions about cryonics and wait for questions, rather than launching into an enthusiastic lecture.

Distraction and Denial.

Once you get by the initial problem of being heard, there are an entire series of further barriers you must confront. The first of these is that it is a fundamental part of human nature to ignore unpleasant things. Death is one of the least pleasant aspects of existence, so people ignore

it especially well. The supposed new openness in conversations about death has really not not deeply affected most people. Life insurance still does not sell itself, even with huge television advertising campaigns about the need to "protect you family," etc. Ultimately, it takes the religious zeal of salesmen like Kurt Vonnegut's Fred Rosewater who "knew that lump in his throat had to be there and it had to be real, or he wouldn't sell any insurance." Since life insurance currently has the advantage of being recognizable and socially acceptable product, it can use zeal more effectively than cryonics. However, if the social and cultural conditions ever become right for the freezer program, nothing short of the same zeal and tirelessness will sell it. Respectability for cryonics will not make it any easier for most people to think about death.

Protests that "freezing people sounds so unpleasant" (or "morbid" or "crazy") are not reasons, they are excuses to avoid the subject at all. Most of the immediate negative questions you will get are not asked so that the questioner can hear a logical answer. They are easy forms of denial of the subject of death, in an attempt to start a discussion of "definitions" or other trivia and avoid confronting the reality of death. Most of those accusing us of denying death have actually done a better job of avoidance than any cryonicists could possibly do.

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Distraction is another form of denial. "If I don't have time to think about it, it isn't real." People who are good prospects for cryonics because of above-average intelligence tend to stay especially busy. People who are constantly distracted, with little time for reflection, are difficult to reach with matters of life and death.

Solved Problem Paradox.

At some point in our lives each of us must confront the fact that we are going to die. Even involvement in cryonics does not obviate this necessity. Most people deal with death at an early age in terms of deciding its personal significance and forming working attitudes toward it. It would behoove Immortalist psychologists to find out what the average age is at which this process occurs. I (Mike) have the feeling that this is one of the most prominent barriers to penetration of cryonics into the culture. Once a child or young adult decides how to deal with death, then the matter is a closed subject, a solved problem. If someone decides that death isn't real, that Jesus Saves and Keep, then he probably isn't interested in being frozen. If he decides that death isn't important, that it is inevitable or even beneficial, then once again he becomes closed off to cryonics. There are an almost limitless series of permutations of beliefs from reincarnation to Kubler-Ross. Anyone who has bought one of these belief packages is likely to stop questioning death, although later death experiences may weaken the person's grip on a particular attitude and again open him up to new ideas. At that time, a presentation of cryonics may have a chance to break through the emotional and intellectual armor. Still, we must remember that it had probably not been a pleasant experience for the person to have initially confronted his own mortality. Cryonics requires a lot from the individual, including the removal of a lot more defenses than this one. Cryonics will not sound easy and certain enough for most people to use as the quick replacement solution they may seek.

Worldview.

In order for an idea to succeed, it must emerge as an extension of the

culture's worldview. If an idea is very unusual and does not interface well with the rest of the culture, it will not come to wide acceptance. The idea of being frozen is an alien one to this culture. There are few precedents for such an act. We have an entire culture built on the principle of a changeover of generations, with young individuals as replacements for dead ones. The idea that people should not die is a difficult one for such a culture to absorb. Additionally, we do not have a religious structure such as the Egyptians, which emphasized immortality and strict physical preservation of the dead. We do not have good techniques for preserving organs or other animals, which could help prepare people for the idea of suspended animation. In the United States, where billions are spent combating cancer and cardiovascular diseases, there is a bitter irony in the blind spot which researchers and leaders have in the areas of aging and life-extension. Success in these two areas would provide cures for cancer, heart disease, and many other human killers. Comfortable existence is imaginable; continued existence is not.

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Cryonics call for a very different worldview of the nature of life and society. As resuscitation technology begins to erode the old idea that "Dead is dead," more people will become aware of the possibilities of continued existence. In the celebration of the United States Bicentennial, there was the assertion that 200 years is a long time. Compared to the time scales used by most people, it is an enormous time. Most people continue to define their lives on a very trivial time scale, brushing teeth, going to work, and dealing with the problems of the next few days. The upper limit for human planning is still retirement at age 65, and even that consideration takes up an immeasurable small fraction of a person's planning time. However, in a society of extremely love-lived individuals, 200 years would seem the equivalent of perhaps planning on where to go to college. The timescale perceptions of our society must start to become stretched to consider centuries-long planning for our world before many people will consider such planning for themselves.

Delayed Gratification.

Cryonics isn't a product in the sense of food, automobiles, or even life insurance. The gratification we are selling won't come for possibly hundreds of years. Most people's time scales cannot conceive of anything happening in several hundred years and certainly cannot view themselves as part of it. Telling the individual that he won't feel it as hundreds of years, since he will be frozen, is completely beside the point. He can't see anything past his own death.

Few Social Benefits.

Many religions promise delayed gratification, but they give their followers much current gratification as well. Religion is much more than the salvation business. It is the self-esteem business, the social club business, the professional club business, and the security-of-belonging business much more than it is the "save me from perdition" business. Cryonics offers fewer opportunities for business and social contacts. The self-esteem aspect of cryonics also fairly low, since advocating it generally causes your friends to question your sanity. And it is hard to sell cryonics as security because of the few and widely-spread out current adherents.

Religion also offers promises and offers to take care of all of a person's decision making. The follower can follow the rules and be assured

of success in the afterlife and here on Earth. Cryonics can offer no such relief from personal responsibility.

No Cosmic Truths.

Cryonics does not offer any cosmic truths about the nature and purpose of existence. It doesn't tell people what their lives are for or why they should get up in the morning and go through another day. It doesn't tell people what to eat, how to dress, or how to interact with other human beings. Perhaps most importantly, cryonics does not offer answers to the seeming indifference of the universe or to the fundamental problem of human mortality. It is merely a piece of technology to give us more time to seek the answers. The social organizations which have grown out of cryonics stem from problems and inadequacies involved with the technology. They do not provide

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much in the way of philosophy. If suspended animation were a perfected technology, it is doubtful that there would be any participatory organizations built around it. (Does anyone belong to automobile repair clubs?) Because cryonics doesn't offer any answers to the deep questions which confront all thinking individuals, it has failed to gain any kind of following as a "movement" or a "cult."

Quality of Life.

Life is not a pleasant thing for many people in this world, even for a number of them who would appear to be successful. Whether because of limited resources or lack of confidence or some missing joy in their life, these people see no reason to prolong existence. They will bear their burden as long as "nature" requires them to, but they ask for no extra time. They think of death as a long rest from the troubles of life. Existence of this sort seems quite hopeless and meaningless to these people, and it is pretty much a waste of time to sell them on cryonics (unless you have the time and resources to improve their lives first).

Lack of Scientific Credibility

Partially due to poor political handling and sensationalism, and partially due to the nature of the idea itself (based as it is on limited knowledge and insight, best guesses, and faith in the future), cryonics has not attracted the support of the scientific community. Indeed, it has generally attracted hostility and censure. Physicians and other health-care providers simply do not recognize a treatment until it has been given a scientific seal of approval. Dying patients and their families will generally not have confidence in a procedure unless it is recommended to them by the health-care provider.

Note: Scientific objections are often the most common excuses used to avoid serious discussion about the idea of future life or cryonics. When they are being used in this way, you will notice that your logical scientific responses are ignored.

Lack of Technical Confidence

No one frozen before 1973 (with the possible exception of James Bedford) remains in suspension. A variety of technical, financial, and logistic problems has resulted in the loss of all patients from the early days of cryonics. Although today's groups appear to be stable, the failure

of one of them or of some group which does not yet exist could continue the process for several years. Each failure, especially highly publicized ones such as the collapse of Cryonic Interment, erodes people's confidence that they will remain frozen. In addition, our society's reliance on short time-scales makes it difficult for prospective donors to understand what kind of organization could continue for hundreds of years.

This fear is frequently combined with a general lack of confidence in the future of this society. Bombs, economic collapse, repressive governments -- you've heard it all before. All you can do is remind these people that there is no guarantee of anything in life; we can only keep trying to do our best to survive. The world may indeed end tonight -- but I think I'll go ahead and buy groceries just in case it doesn't. Playing to win doesn't guarantee you will

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win; but playing to lose guarantees you will not win.

Loss of Others

Many people who believe that cryonics may work from a technical standpoint are not afraid so much of physical compromise as they are of alienation from family and friends. The science fiction writer (and former cryonics spokesperson) Fred Pohl typifies this attitude when he states that a good part of what he is flows from his daily relationships with friends, colleagues, and loved ones. Cryonics offers the prospect of a profound uprooting. It guarantees that the individual will be thrust into a completely different time and place. It means the possibility of permanent separation from loved ones and friends or, maybe even worse, reunion with loved ones and friends whose values and personalities may have changed beyond recognition.

It one reads Kubler-Ross and other psychologists of death and dying, it is apparent that much of the emotional turmoil people feel over their impending deaths stems not from a realization of their own non-existence, but from grief over the loss of important relationships. Cryonics offers no magic or religious plan to solve the kinks in human relationships that the passage of time could create. The prospect of awakening alone in a different and alien world remains a terrifying one for most people. The improvement of technical and financial odds will make little difference to these people. Simply, they are being asked to take on an immense challenge, and most people hate even minor challenges.

Loss of Self

As Robert Ettinger has pointed out in "The Prospect of Immortality" (Chapter VIII), cryonics may bring us to the point where the question of "What is identity?" becomes a practical and legal matter, rather than one of philosophy. Debates on this will flourish like those on "What is the difference between life and death?" do today. A person contemplating being frozen may be frightened by the thought of his body becoming a zombie with no "soul," or by the question of "how much change in memory or personality can I undergo and still be me?"

Many cryonicists share my (Michael's) view that individuals are nothing more than dynamic rivers of information which can only be described statistically and approximately. However, many more cryonicists and the majority of all people appear to cling to nonrational sources of identity, either of a spiritual nature or of a physical nature. Most cryonicists insist on physical continuity with the resurrected self and refuse to consider bioduplication and memory transfer to be a valid recreation of

"self." Viewing human beings as just packages of information in flux raises questions about the very existence of identity. Indeed, as Ettinger concludes, we may be forced to accept the idea "that there is really no such thing as individuality in any profound sense. . . (Let us recognize) that identity, like morality, is man-made and relative, rather than natural and absolute. . . . It is only partly existent and partly invented. Instead of having identity, we have degrees of identity, measured by some criteria suitable to the purpose." (p. 142 of the British ed.)

The concept of identity is so intricately intertwined with ideas about death, that this may be one of the most difficult barriers to

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overcome. While it may not directly be a hindrance to everyone's acceptance of cryonics (witness all of the cryonicists still debating the point), it is likely to be a hindrance to the acceptance of the less-than-perfect procedures now existing, with their potential for greater damage and memory loss.

Loss of Position

This is closely related to the previous problems. As Robert Ettinger puts it, many people are afraid of "finding themselves little fish in a big pond." They have carved out their territory in this life and don't want to or don't have the confidence to do it again in the next life. They would rather be nothing than only a small something. "How could I adjust to a world completely different from today's?" is one of the most common complaints against cryonics.

Moral Objections

Some people are afraid that cryonics will work and believe that it is morally and socially wrong. They apparently have strong objections to any idea of a greatly expanded lifespan. They believe that old people should die and let a new generation take over. Often the reasons given for this belief are religious or in the form of "Death is natural." But more and more people are now objecting to the potential for over-population, lack of individual movement within society, and the stagnation of culture itself. They are unable to visualize positive results of a societal involvement with immortality. Isaac Asimov is one of the leaders of the "Death is an essential part of Nature" camp. Included are many of the writers of books on death and dying for colleges and even for children.

An even farther-out variation on this philosophy is that of Elisabeth Kubler-Ross, with the attitude that "Death is a very good thing." Kubler-Ross has actually stated that "Death will be your last and best experience." It is obviously very difficult to discuss cryonics with either of these groups.

Cost and Uncertainty

Cryonics costs a lot and gives no guarantees. We can't even tell a prospective donor that the odds are on his side. The odds for success are completely unknown. How can anyone evaluate the cost-effectiveness of such a proposal? And for this unknown, possibly minimal, chance of future life, we are asking this fellow to reduce his pleasure in the present life -- to the tune of \$28,000 to \$60,000, depending on the company. Granted, if everything works out well, then the payoff will be incredibly rich. Unfortunately, it is the nature of reality that things often don't work at all. Results frequently fall short of expectations, especially in new and

complex endeavors. Cryonics is a good deal more complex than adding a new room to your house or designing a new car. Whole areas of technology which we can scarcely imagine will have to come into existence and succeed before suspended animation is truly possible. And certain assumptions we already hold must be proven true, e.g., that memory is encoded in some stable and redundant form which can survive our particular perfusion and suspension techniques, as well as ischemia and freezing. There are some suggestive experiments on this need,

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but no hard evidence. These uncertainties make the cost appear even higher to many people.

Conclusion

We don't intend for this discussion to prevent you from trying to interest other people in cryonics. Obviously those walls can be broken in some people, or none of us would be involved. We want you to know what you are up against, to know what kinds of bricks make up the wall. Perhaps you won't be as discouraged about failures to persuade friends about the value of cryonics if you understand what motivates their resistance. And perhaps this understanding will help you get through to at least one.

CONFRONTING THE SKEPTICS by Steve Bridge

"Lan's Lantern" is an irregularly published, but influential science fiction fan magazine published by George Laskowski. In 1979, thinking that science fiction readers would be a receptive audience for cryonics, Carolyn Doyle and I sent articles on cryonics to George for publication. The reaction from SF fans was astoundingly hostile and uncomprehending. Some of the comments included:

"I doubt that the restoration of brain function can be achieved, even if the question of playing Frankenstein and re-animation a dead body can be answered."

"When my time comes, it'll come."

"Consider the cultural shock of being awakened in a distant future."

"I think not too often on the subject (death) -- I figure it will take care of itself."

"No, to me there is something oddly comforting about the fact that I won't live forever. I'm part of nature, part of the endless cycle of birth and death."

"I have no real desire to go to sleep for X years and wake up in a world even stranger to me than midtown Manhattan would be to Shakespeare."

These are people who claim to be interested in the future?!!!! We are now convinced that SF fans in general are only interested in fantasizing about the future and that most of their talk about being special people who will influence the future is a bunch of bull. We do not plan any further attempts to influence SF fandom. (We are not knocking SF readers, which most of us happen to be, just the people who spend more time being "fans" than they do being readers or doers.)

One writer, Laurie D.T. Mann, did do a lot of research (although her sources tended to be products of poor research) and wrote a long critical article which was published in "Lan's Lantern" last year. It is reprinted here, with the permission of the author and the publisher, together with Mike Darwin's letter in reply to Laurie. Mike's letter will be published

in the next issue of "Lan's Lantern," also.

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HOW THE CRYONICS MOVEMENT THAWED OUT
by Laurie D.T. Mann

"Probably the most extreme expression of our present-day denial [of death] is the cryogenic movement. The members of this association believe that biological death is not necessary at all. Testimony to that belief lies in the fact that there are now several dozen corpses immersed in liquid nitrogen in various repositories throughout the country, waiting for the day when medical science discovers the cure for what killed them. It is believed by that time science will also have solved the problems associated with restoring a frozen body to life" (1)

Robert Fulton

As human being, we have two things (and only two things) in common -- that we have been born and that we shall die. People "deal with death" in a variety of ways. Some chose to view themselves as technically immortal, since they feel the universe ends when they die. Others immerse themselves in a religious organization which promises immortality to the true believers. Others come to understand their mortality, accept it as part of their lives, and live accordingly: since life is finite, live it to its fullest. And others never even think of death at all.

Members of the cryonics movement have chosen an unusually technocracized view of death. They believe that if they are put in capsules of liquid nitrogen, they will one day be raised from the dead, healthy and whole, to enjoy an immortal future. This is, of course, a gross over simplification. There is much more to the cryonics movement than that. However, to read the articles by Carolyn Doyle and Steve Bridge in LAN'S LANTERN #8, one might get that very impression. In order to understand the cryonics movement for the past thirteen years, a history of the movement would be very useful.

The concept of freezing someone, in hopes of reviving him/her at a later date, probably first appeared in a science fiction story by Neil R. Jones in 1931 called "The Jameson Satellite." It turned out little Bobby Ettinger had read the same story at around the same time (2). Bobby Ettinger grew up to be Robert C.W. Ettinger, a physics professor. After World War II, he became interested in the concept of freezing tissue at very low temperatures. He reasoned that if tissues and organs can be preserved, then humans could be frozen and later revived. In 1962, he had his book, THE PROSPECT OF IMMORTALITY, privately printed and circulated. In 1964, the book was picked up by a major publishing house and received nationwide attention. By 1966, groups promoting the book's ideas sprang up in several major American cities. However, at that time, the actual technology involved in building a freezing capsule had not been developed.

(1) Robert Fulton, DEATH AND IDENTITY (Bowie, Maryland: The Charles Press Publishers, Inc., 1976), p.7.

(2) Frederick Pohl, THE WAY THE FUTURE WAS (New York: Del Rey Books, 1978), p.254.

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Curtis Henderson, a New York lawyer, was very impressed by Ettinger's premise. With Saul Kent and Karl Werner, he formed the Cryonics Society of

New York. Enthusiastic about the initial response to their organization, Curtis Henderson and Karl Werner (*1) took a cross-country trip in the summer of '66 to visit some of the other cryonics groups.

"In Springfield [Ohio], it turned out the three men behind the cryonics scene had dubious scientific credentials. One was a used care salesman, and the second, a man who somehow made money buying up bankrupt companies. The third was a newspaper man who had been guaranteed a Pulitzer Prize if he stuck with the other two." (3)

Like the group in New York, the Springfield group had not figured out how to freeze a body after death. Despite this "set-back," Henderson and Kent continued westward. In Las Vegas, they went to visit a man who had sent them a one-thousand dollar contribution. There, they were briefly arrested because their benefactor had been thrown in jail for counterfeiting.

They finally made it to California where they found several people who had a vague notion of engineering, trying to build a freezing capsule. Somewhat heartened by the discovery, they returned to New York. Over the next year, an early procedure for freezing was developed, and a man who had died of lung cancer was the first person to undergo cryogenic interment, in 1967.

Members of the cryonics groups had many similarities: they tended to be ". . . Atheists with above average education and lower-middle to middle socio-economic status. Many are devotees of science fiction." (4)

"The cryonics movement has apparently attracted a large number of individuals who cannot face the thought of decomposing after death. In all interviews conducted, references were continually made to the repulsiveness of decaying, rotting, or decomposing after death." (5)

". . . Members . . . were conventional, serious people who said it was the logic of the idea that first appealed to them. 'This is so obvious -- how can anyone not do it?' they thought. In addition, they frequently mentioned 'not wanting worms to get them.'" (6)

Aside from the fear of physical destruction after death (which, interestingly enough, is what children fear most about death), another theme researchers have found repeated in cryonics groups is the notion that cryonics groups are almost cultish in nature: "Ettinger was their prophet and THE PROSPECT OF IMMORTALITY," their holy writ. The true believers awaited their marching orders." (7)

"The motto of this movement, appropriately, is 'Freeze, wait, reanimate.' While the adherents of this movement believe themselves to be the ultimate secularists, it would appear that they are contemporary practitioners of what might be termed 'refrigerated Christianity.'" (8)

In her article, Ms. Doyle seems to be a "true believer," but is open-minded enough to say:

"We ask not for blind faith, but for interest. Queries and arguments are welcome -- we will listen to them, think about them, and will admit you are right if you are even if it means we're wrong. We realize we have much to learn, but we also insist we have something to teach, and to talk about . . ." (9)

One problem that has plagued cryonics societies since their inception has been the lack of money. Cryonics is extremely expensive. In the mid-Seventies, Curtis Henderson said that cryonics cost about \$12,000 for the

initial interment, then about \$100 per month "for death." People who wish to be frozen must either be very wealthy or spend a good bit of money buying insurance or setting up a trust fund. Less than thirty people have been frozen in the past twelve years. Of this thirty, one was removed from cryonics interment by his wife and buried, and several others were in danger of "losing their capsules" because their trust funds could not cover the cost of cryonics. Once, in the New York chapter, a "memorial dance" was held as a fund raiser to keep two corpses interred. In at least one other case, the son of a frozen man has attempted to break his father's will, which left the bulk of his estate in trust to pay for freezing upkeep. The judge ruled in favor of the dead man and did not break the will.

By 1973, it was generally acknowledged that the cryonics movement was dying. The New York chapter went from a high of about 130 members in the late Sixties to about a dozen in the mid-Seventies. Some businesses formed to make cryonic capsules and other materials folded. Plans for a 150 capsule "cryatorium" in California were scrapped. Most of the bodies are either in California or New York, although at least one New Jersey man has his frozen wife in a "crypt" in his back yard.

Serious publications have rather mixed sentiments about the future cryonics. The 1977 edition of the ENCYCLOPEDIA BRITANNICA said although cryogenics has been very successful in freezing organs, sperm, and tissues, ". . . the prolonged preservation of whole animals, especially men, is now considered impossible due to the complex and varied nature of the body."

(10) In 1976, SCIENCE DIGEST

(3) Steve Berman, "Frozen Immortality: An Idea Whose Time Has Gone," SCIENCE DIGEST, vol. 80, #1, July, 1976, p. 74.

(4) Clifton D. Bryant and William D. Snizek, "The Iceman Cometh: The Cryonics Movement and Frozen Immortality," SOCIETY, vol. 11, #1, Nov/Dec, 1973, p.59.

(5) Ibid., p.60.

(6) Arlene Sheskin, PhD., "Forever Flasks," HUMAN BEHAVIOR, vol. 7, #10, Oct, 1978, p.58.

(7) Bryant, op.cit.,p. 57.

(8) Fulton, loc.cit.

(9) Carolyn "C.D." Doyle, "A Bid for Immortality," LAN'S LANTERN 8, March, 1979, p.6.

(10) "Applications of Cryonics," ENCYCLOPAEDIA BRITANNICA, " 15th edition, vol. 5, p.319.

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said "Cryobiologists don't discredit the idea, but they don't think such a freezing job is possible either." (11) And TODAY'S HEALTH in 1976, stated experts don't consider cryonics ". . . utterly impossible, given a future of unknown discovery that may 'extend for thousands of years.'" (12) However, no one, except for those cryonics groups, seems to take cryonics very seriously now.

There may well be a resurgence of interest in cryonics, at least according to Carolyn Doyle and Steve Bridge. None of the articles I surveyed on the subject of cryonics mentioned either the Institute for Advanced Biological Studies, Inc., or LONG LIFE magazine, implying that these are either very small or very new. According to the READER'S GUIDE TO LITERATURE, only one article on cryonics appeared in a major magazine in 1978, two in '75, one in '74, and one in '73. If the movement is starting to pick up momentum, the media has not paid it much attention. Television, when it mentions cryonics, has taken a hard-line, scientific approach. The flaws of cryonics are emphasized: it is expensive, currently there is no

technique for reviving frozen individuals, and the entire technology is unproven. A human body ought to be seen as more than the sum of its part; just because some parts of the body can be frozen, and revived, then function properly, does not mean the entire body can.

Frederick Pohl discusses his ideas about cryonics in his autobiography THE WAY THE FUTURE WAS. Although he has been an enthusiastic promoter of cryonics in the past, he has no intention of being frozen after death. His eloquent explanation is:

"The reasons I have for not signing up to be an immortal superman are philosophical and economic. Philosophical: what makes my life desirable to me is the network of relationships and the endless iterative series of projects I am always involved in. Stop them and restart them at some future time and they are no longer the same. Economic: freezing costs. I estimated what I first heard of it that it would take easily fifty thousand dollars cold cash to make and protect a corpsicle. Now I would put it at a lot higher. So buying the chance of future postfreeze life costs some sacrifice in this one; and it seems to me that I'm more interested in the quality of my life than the quantity of it." (13)

I think Fred Pohl's analysis of why he did not decide to be frozen after death is worth noticing. I agree with him that it is the people of our lives which makes life worth living. Although the premise of future knowledge is certainly tempting (especially for SF fans), living one's life for a slightly possible future seems to be a waste of time. After doing some research into cryonics, I am not at all convinced by it; it is too chancy. And that is the basic flaw in the logic of both Carolyn Doyle's and Steve Bridge's articles: cryonics is much less than even a bid for immortality. Even if the technique for "thawing back to life" becomes perfected, geneticists still doubt the possibility of reversing the aging process. So, once a person is revived and cured of whatever it was that killed him/her, s/he would still have the aging body s/he died with.

Most articles written about cryonics make it clear that most people who get involved in the cryonics movement do so because they are terrified of death. Instead of facing up to death in a rational manner, they deny it by saying that they will be frozen, and "therefore," immortal. It's not that I'm against progress, technology, or feel that cryonics is essentially against nature; I believe that people must come to terms with their mortality even if they decide to be frozen. When potential freezees "put their faith in the future," there is still an excellent chance that they wont have a future after freezing.

(11) Berman, op.cit., p.76.

(12) Don Kowet, "Never Say Die," TODAY'S HEALTH, vol. 52, #7, July 1976, p.22.

(13) Pohl, op.cit., pp.258-259.

AFTERWORD
by Steve Bridge

After Mike wrote his letter, Laurie Mann wrote a letter to Mike with further explanation. Laurie re-emphasized most of the points she made in her original article. She especially notes the idea that cryonicists deny death and mentions Robert Fulton again (who seems never to have talked to a cryonicist). I would like to recommend to Laurie Mann and to all our readers a thoughtful and well-research book by Dr. Arlene Sheskin, "Cryonics: A Sociology of Death and Bereavement" (Irvington Publishers,

1979). Dr. Sheskin wrote her book from the viewpoint of a sociologist and is not a cryonicist. She interviewed a number of cryonicists and their relatives and found that their beliefs had been badly misunderstood by journalists and sociologists. It is difficult to summarize her well-documented conclusions, so I will quote from her final chapter, "Perspectives on Death."

"It seems clear that cryonic practices refute the assumptions that this culture is a death-denying one. We have seen that by embracing this new death practice cryonicists overcame their own problems with regard to death, and that these problems could be dealt with only when the reality and possibility of death were acknowledged and accepted. The stigma of death had to be lifted for cryonics to be accepted, and once lifted, individuals could feel empowered to do something about death. If the likelihood of death had been denied or repressed, cryonicists would have been unable to see the practice as anything other than 'bizarre' or 'weird.'

"All this raises the issue of what denial is and what its theoretical utility is for sociologists interested in understanding death and bereavement . . . The focus upon the observer as the arbiter of denial underscores its limitations as a concept for sociologists. Who, after all, can vouch for the observer's opinion or for his/her characterization of another's reality? Sociologists have shown that observers' opinions and interpretations are heavily tinged with assumptions that are unexplicated because they are so taken for granted. They are no more real or valid than those the observer is studying.

"Given the difficulties with the concept of denial, one cannot easily discount the efforts of cryonicists as denial techniques. To assert that cryonicists are the greatest death deniers of all -- that their embrace of the practice represents a desire to ultimately circumvent and deny death -- is too facile. Certainly cryonicists are trying to circumvent death, or to cure the disease of aging, but to characterize this as denial overlooks the fact that death must be confronted for cryonicists to do something about it. Thus, those who would explain cryonics on the basis of our respondents' inability to handle death overlook the reactions of individuals who could not accept cryonics. When such reactions are examined, one must wonder who it is that has problems with death. In this regard, it is interesting to note the reactions that this research evoked from friends and associates.

"When I began the research, I expected friends to find cryonics interesting and perhaps unusual. I was most surprised to find that reactions to the research as well as to the practice were extreme and sometimes hostile. People told me that cryonicists were 'sick' and that I must have something wrong with me to be spending time with them.

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Individuals who felt it wrong and/or depressing to talk about death charged that cryonicists had unresolved problems with death that a 'normal' person did not. When I talked about the possible benefits to be accrued from the suspension of one's relatives, a friend told me that she would not and could not discuss her mother's death and that she did not think she could survive the eventual event. Consequently, she could not bring herself to discuss any of the possible benefits, or detriments, of cryonics since she could not bring herself to accept the condition which would precipitate the practice. Of course, many others told me that there was a time to live and a time to die and that it was unnatural to affect these times through freezing, although they all admitted to being in favor of curing terminal disease. Finally, one friend -- a nurse -- walked out of the room whenever cryonics was discussed because she felt it to be an unnatural practice. So

again, we must ask who has the problems with death and who denies it?"
(p.163-65)

Dr. Sheskin goes on to say that in accepting cryonics, the cryonicists had much healthier attitudes toward death than most people. "In doing this, they gained much that is denied others who have not confronted death. Most immediately, they could relax and sometimes joke about it. They could also deal with the prospect of others' death as well as deal with deaths after they occurred. In short, death and bereavement could be coped with more easily."

I feel the Sheskin book provides a much more balanced treatment of cryonicists than do the articles quoted in Laurie Mann's article for "Lan's Lantern." I think it probable that her remarks might have been toned down if she had found the Sheskin book first.

AN INTERVIEW WITH SAUL KENT
by Michael Darwin

Saul Kent has been involved with the cryonics movement almost from the start. It was Saul's efforts as secretary of the Cryonics Society of New York that brought many of today's cryonics activists into the movement. Certainly Saul can be credited with my own involvement. It is a measure of his foresight and sensitivity that he was willing to correspond with a naive thirteen year old from an unheard of place called Indianapolis. Never judgmental or cruel, Saul was always willing to take time to explain things I didn't understand and encourage my growing enthusiasm for cryonics.

To no small degree Saul has been doing the same thing for the rest of the world. Saul has authored two popular books dealing with cryonics and life extension, "Future Sex" and "The Life Extension Revolution." Saul is also president of the newly created Life Extension Foundation in South Florida.

The following is an interview conducted with Saul on September 10, 1981 at Cryovita Laboratories in Fullerton, California.

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MD: When and how did you first get interested in cryonics?

SK: I first heard about the idea when I picked up the June, 1964 issue of "Playboy" magazine. There was an article entitled "Intimations of Immortality" by Fred Pohl, the science fiction writer. A couple nights later I was listening to the Long John Nebel radio program and Bob Ettinger was a guest. I listened to the show all night long, got up after a few hours of sleep, and acquired what may have been the first copy of "The Prospect of Immortality" ever sold in New York City. I read Ettinger's book on the beach that day and realized immediately that this was the greatest thing I'd ever heard of.

MD: How did you become involved?

SK: I wrote a letter to Ettinger requesting information about organizations. He sent me a short note back saying there were two organizations; one was the Life Extension Society (LES) and the other was the Immortality Records and Compilation Association (IRCA). So I wrote a letter to Ev Cooper of LES and one to Tom Tierney of IRCA. I never heard from IRCA but I got a letter from Eve Cooper about three pages long telling

me about the sort of things they were doing and assuming that I was ready to do all sorts of things as well. Ev expected me to join immediately and asked me if I wanted to be LES coordinator for New York City. I wrote him back and told him I just wasn't ready for all that yet!

Ev's response was to suggest we meet to discuss matters further. I met Ev a short while later along with his wife and three other people who were interested in forming an organization. We formed a group and the first meeting of the LES branch in New York City was held in some obscure bar in the heart of Queens. Fairly soon we decided to try to really build LES in New York City, so we wrote to Ev Cooper requesting a list of names and addresses to others who had written him from our area requesting information. Ev refused our request. He said the only way he would do this would be to have these people write to him first and give permission for us to contact them. We thought this was a bit slow and cumbersome, certainly not very likely to produce results. We couldn't understand why Ev was acting this way, especially since Jim Sutton, the LES coordinator for New York City, was making the request. There was considerable unhappiness over this which resulted in a fight. Jim resigned as LES coordinator and the organization broke up. I went off to the beach for the summer. A few months later, Jim Sutton contacted me and indicated he wanted to form his own organization. We met with a lawyer named Curtis Henderson and a designer named Karl Werner. I recall this meeting to be in August of 1965. One of the first things we discussed was what to call the organization. After about fifteen minutes of discussion Karl Werner said, "How about Cryonics." So we called it the Cryonics Society of New York.

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Karl Werner deserves credit -- or blame -- for thinking up the name.

About a year later I started the newsletter "Cryonics Reports." We had about 25 members at that time. Of course, once we started the newsletter we were able to reach a lot more people. Meanwhile both Ettinger and I were doing radio and TV shows attempting to promote the idea.

MD: In what way do you think Ettinger's handling of "The Prospect of Immortality" and dealing with the media has influenced how things have turned out? Do you think a different approach would have changed the outcome any?

SK: Well, that's a very interesting question. When Ettinger's book was published there was truly a great deal of interest in cryonics. I think those who have become involved later can't truly appreciate how much interest there was on the part of the public and the media at that time. There was even considerable interest in the scientific community.

Interestingly enough, there were a number of prominent cryobiologists who in private seemed to support the idea. There were others who even in public seemed supportive. Based on their subsequent radical change in attitude towards cryonics my interpretation of their initial support is that they thought there might be money in it for them. I don't think any of them had any real interest in the idea. It was mostly just the lure of the money.

Most of the interest at the time was fueled by Bob Ettinger's appearances on national television. Incidentally, getting on national TV is not an easy thing to do. Ettinger was on the Johnny Carson show, the Merv Griffin show, and several other syndicated talk shows several times. In general I thought he did well on the TV shows. However, there were a couple ways in which I thought he could have done better. For one thing, at that time Ettinger was not interested in organizations. He never joined the Life Extension Society, and he did not really support what Ev Cooper

was doing. Also at that time he had no organization of his own. There was no Cryonics Society of Michigan. It would have been very useful if when on national TV he would have given out the names and addresses of organizations. But Ettinger was not organizationally minded.

MD: Yes, it seems like Bob spent a lot of time waiting for other people to pick the ball up and run with it. I think he saw his role simply as being to state the idea clearly enough that others would be compelled to act. Do you think if Bob had been more organizationally inclined and more focused on seeing facilities take shape that things would have turned out better for cryonics than they have?

SK: Yes, they would have, but that's not the kind of person Bob is. He couldn't have done that. Certainly not at that time. Someone else could have done it, and Ev Cooper did make some

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efforts in that direction. But at that time Bob was very interested in private enterprise and he thought a number of major companies would get involved. I can recall seeing a report of his remarks to the Second Annual Freeze-Wait-Reanimate Conference held in December or January of 1965. In fact, I can get the issue of the LES newsletter that discusses Bob's talk and quote directly:

"Bob Ettinger began the afternoon discussions by presenting plans for opening a commercial venture to prepare, freeze, and cryogenically store humans. If non-profit hospitals or medical schools are relied upon to physically initiate freezing, he feels we might have a long, long time to wait. Bob believes that it is crucially important to make these facilities available, and that the fastest method of creating them is through the profit incentive." ("LES Newsletter," Vol. II, No. I, January 1965)

MD: Bob has certainly changed his opinion since then.

SK: It must be remembered that Bob had contact with people in high corporate positions such as A.P. Rinfret at Linde. And there were others. The point is he was high on the idea of major companies getting involved and spending money in the field. I think that's interesting because in recent years he has argued so strongly against private companies being involved in cryonics. Even very small companies like Trans Time.

MD: That are losing money.

SK: Yes, that are losing money and earlier he thought that private enterprise was the way to go.

MD: Well, the entire "Prospect of Immortality" is strongly slanted towards a free enterprise approach.

SK: In fact, a first example of that and I think one of his mistakes -- indeed, one of the mistakes he's made all along the way and which I think he can be faulted for -- is that on occasion he would report the claims that other people gave him without looking into the matter and finding out if they were true.

A very good example of this, which most of your readers will know nothing about, involves a company called Cryo-Life in Kansas City, Missouri. Basically Cryo-Life was a couple of con men. They were two funeral directors who told Ettinger that they were going to start a series of cryonics centers around the country. These centers were going to be

beautiful, containing the finest freezing and storage capabilities. They produced a drawing of one of those facilities which Bob showed on the Johnny Carson show. Ettinger basically repeated their line. It was utter nonsense. Now, it didn't really hurt the movement except that it raised people's expectations to a point that never was remotely realized.

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MD: Do you feel your efforts with the Cryonics Society of New York and Cryo-Span were productive?

SK: I think we succeeded in a couple of ways and failed in some others. We were successful in that we certainly spread the word to a lot of people who had not heard about cryonics beforehand. We encouraged other people to become active, some of whom did. I think we did more than anybody else at the time to spread the word to the general public. I think for example we got mostly good publicity from the freezing of Steven Mandell. That got a few people interested.

The mistakes we made? Well, first of all, underestimating the amount of money it would take to freeze someone, and not reacting fast enough once we began to get some experience of what the costs were. In essence, not charging people enough for services.

We might also be faulted perhaps for not making a greater effort to do the freezing better. Although we did make efforts in that direction. We tried to get doctors and scientists and we couldn't. We ended up with Fred Horn, a funeral director, because that was the best we could do at that time. Perhaps we could have made greater efforts and found other people who would have done it in a more professional manner.

Our problem in one respect was that we hoped that the initial freezings would just be the beginnings of a groundswell of support leading to improvements in every area, including perfusion.

Another thing we should not have done was to get the relatives of patients more deeply involved in matters. The reason we did that was that there were so few people we could count on. We figured, "These are the relatives of the patients, let's see if we can get them involved in more than just being customers." That was a mistake. It might not have been a mistake if the people were different, but it is probably a mistake in general.

Of course, we had to go to these people after quoting them a certain price and say, "Well, we've got to charge you more money because this is costing us more than we thought." That inevitably led to them becoming more involved. Of course, if we'd quoted them the right price in the first place most of these people wouldn't have been frozen or would have been frozen with an adequate amount of money.

MD: Why weren't you charging enough money?

SK: The reason that we didn't was that we were looking, for numerous reasons really, to charge as little as possible. We felt uncomfortable asking for a huge amount of money. We said, "Let's find the cheapest price that we can do it at." I think that's been one of the problems with cryonics all along. You have to ask people for a whole lot of money and people don't like to come up with a whole lot of money.

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We may have made a mistake in freezing anybody who didn't have insurance. I say that because the great majority of people who have been

frozen by relatives have subsequently been thawed for one reason or another. There's no doubt that it's far more effective if you've got money that the person left for his freezing. But there are several reasons why we didn't wait for that kind of case. First of all, there were relatively few people signed up and most of them were young and in good health. We were really anxious to freeze somebody and it turned out that all of our opportunities were cases which presented at time of need.

If everybody had waited for the other kind, there might not be anybody frozen to this day. Who knows, this might have been good. But I suspect not. At that time interest was high and we had reason to believe that if we started freezing people it would lead to bigger and better things. I really can't fault us for acting as we did on that point. If someone were to have said, "You might have to wait 10 years for a responsible freezing," we would have said, "That's ridiculous!" We couldn't have waited that long.

MD: Do you still think cryonics is a workable idea? Do you have any reservations?

SK: Yes, I think it is an eminently workable idea. The problem is the way people commit themselves to it. That has been a major, major problem right from the start and will probably continue to be a problem for quite some time to come.

Another problem with cryonics is the problem of raising money. There are three approaches to raising money and by far the worst is reason. Next to reason is emotion. The best is coercion, like the government saying, "We are going to throw you in jail if you don't pay your taxes." Cryonics depends too much on reason. The emotion that's involved touches on areas that most people don't want to face. The emotional aspect of cryonics, which to a few people is very compelling, is very repelling to a majority. The whole idea of death and frozen bodies really turns people off.

Clearly, we have no coercion involved, so we've got to depend mainly on reason, the least persuasive thing we can use. That's the problem with cryonics: It's hard to convince people about it, and you are dealing with the prospect of a person's own death, a notion which people will avoid dealing with at all costs.

MD: As a pioneer in cryonics, do you have any opinions on the quality of services available today?

SK: In some areas they are by far the best that have ever been available. They are not as good as they could be, but really no one involved can be faulted for that.

Anyone that is going to be frozen here at Cryovita is going to be frozen better than anyone has been frozen before. A similar situation exists in the Bay Area as well.

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As far as Michigan is concerned -- I have not visited Michigan in a number of years. In part that is because they would not let me. Several years ago when Jerry Leaf was going to make his first visit to Michigan, I asked if I could meet with Jerry, Bob Ettinger, and the Michigan group. Bob Ettinger told me he didn't want me to do that. So, one of the reasons I don't know much about the Michigan group is that they don't want me to know. In any case, I don't know first hand what their facilities are like. I certainly would not recommend, based on my lack of knowledge, that anybody sign up with them.

MD: That's a very strong statement.

SK: Well, if Jerry Leaf had visited them and told me that they have top flight facilities, then I would recommend them because I trust Jerry Leaf. But he has not told me that. In fact, Jerry has told me that it is somewhat less than that.

I think it's important that there be facilities in as many places as possible. I certainly think that it's important that any organization selling suspension memberships and taking people's money have the capabilities they claim they can deliver.

Florida, which I have much greater knowledge of, has only poor capabilities at this point. There are now efforts underway to upgrade those capabilities and there is some chance that within the next year they will be considerably upgraded. If that happens, I may trust my body to them because I live there. But I'm certainly not ready to do that at this point.

MD: What do you feel your chances for success with your newsletter and Foundation are in Florida?

SK: I came down to Florida a little over a year ago because I was presented with an opportunity to do things with more money than I, or anyone else, has been given up to this point. I started "Antiaging News" because that was a fairly simple way of going, and because it could lead to other things very easily. Since then we've incorporated the Life Extension Foundation. My main aim in the next ten to 20 years is to do everything I can to raise money for research. Nothing matters unless the research gets done. People can be frozen from here until doomsday and it won't matter unless someone figures how to bring them back. The same is obviously true of aging.

One of the most important things I've done in the last year is to start a computerized mailing list with 10,000 names on it. This is in addition to the current 1,100 subscribers to "Antiaging News." The computer allows me to reach these people instantly. This list will be used not only to reach people about antiaging developments, but also about cryonics -- for those who are interested.

MD: How soon do you anticipate significant funding for the Life Extension Foundation?

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SK: Hopefully within a year we will be to the point where we can start giving out money for research. As far as large sums that would really be meaningful. . . within two or three years I would hope.

MD: Do you expect gerontological research to significantly extend your life?

SK: I think there's a reasonable chance that it will. One thing is clear: if there are any major breakthroughs it will greatly stimulate research. When there is an effective antiaging therapy there will be a tremendous surge in research. Also, a breakthrough might allow us to live long enough to take advantage of other, even more significant breakthroughs that will come later.

MD: Which line of gerontological research do you think should be most vigorously investigated now?

SK: In general I'd like to see research that has practical applications in the foreseeable future.

MD: Interventive gerontology?

SK: Yes. There's a fair amount of research being done that has little or no likelihood of being practical in the foreseeable future. I'd like to see therapies that show promise in animals tried out in humans.

MD: What do you feel is the most important issue confronting cryonics today?

SK: By far, it is how are we going to grow so that we can survive.

MD: Thomas Donaldson doesn't feel that way. In fact he has argued that we don't need to grow, just not shrink, in order to survive.

SK: I disagree with that completely. I think that unless existing organizations grow substantially, then the chances of us surviving are extremely slim. We have to grow to the point where we have acceptance within society. If we do not command substantial funds we will not succeed. I think that growth is possible, too.

MD: What is your top priority if all of our efforts should really succeed and we reach a "Golden Age"?

SK: Taking a vacation. I think that vacations are subversive as long as your house is on fire and you've got to put it out. Once the fire is put out, then you can take a vacation.

I like to go to the beach, which I don't get to do now. I'm thinking of taking a vacation of maybe ten or 15 years and just lie around the beach. I'd like to have a sun of my own and go off to a planet which has lots of water, trees, and mountains. I like mountains.

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CASE STUDY OF NEUROPRESERVATION: CRYONIC SUSPENSION OF L.R.

Jerry D. Leaf, President, Cryovita Laboratories, Inc.
Arthur D. Quaiife, President, Trans Time, Inc.

Introduction

There are two distinct clinical cryostasis procedures being developed for cryonic suspension: whole body preservation, and neuropreservation. The more conventional, whole body preservation, has been reported previously (1,2,3). A neuropreservation (brain preservation) case report will be presented herein. Manrise Corporation previously documented a neuropreservation case, but did not publish a report. Trans Time, Inc. previously reported on the current case (4), but in summary form.

The reasons for developing isolated brain preservation (neuropreservation) have been discussed by Michael Darwin (5). Whatever clinical justifications may be put forward for neuropreservation, there are also research goals. All cryonic suspensions are experimental, and will hopefully contribute research data relevant to the long range goal of human suspended animation. Neuropreservation provides a unique opportunity to work with the human central nervous system as an isolated entity. In

addition, samples from other organ systems can be isolated and preserved for studies of the effects of long term liquid nitrogen storage on human tissues.

The cryobiological studies with diverse human tissues and organs may provide insight into any species-specific differences between human and animal models, if their cryobiology is different. In these and other ways, neuropreservation as a clinical cryostasis procedure has much to offer.

Medical Status

L.R. was a 76 year old female, Caucasian, height 1.68 m, weight 57 kg. L.R. was 2 years post right mastectomy for adenocarcinoma. Medical history before mastectomy included arthritis and vein stripping. In November 1978 an examination was made to determine the cause of a sudden onset of difficulty in breathing. The patient was admitted to the hospital. The patient presented with large left pleural effusions, and a liter of fluid, which proved to be positive for adenocarcinoma, was removed by thoracentesis. Bone scan was positive for possible metastases in T6, T7, C7, the 7th rib, and the left posterior pelvis. A liver-spleen scan indicated involvement of the right lobe. The patient was begun on Diethylstilbestrol and given oxygen by nasal prongs. Metastases to the lungs were responsible for pleural effusions and worsening shortness of breath. The patient was given Methotrexate, Fluorouracil, and Cytoxan. No neurological problems were evident. The patient was discharged for home care by relatives and a visiting nurse. The following medications were prescribed: Elixophyllin w/codeine, Dolmane, Darvocet-N, and home oxygen. The expected outcome was terminal cancer.

Preparations for Suspension

Suspension arrangements were made in advance with the Bay Area Cryonics Society (BACS) (6). Neuropreservation was chosen because of the metastatic cancer and the economics of long term storage. The family physician was advised of his patient's suspension arrangements.

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The suspension was planned to take place at the Trans Time facility in Emeryville, due to the proximity of the suspension patient's home. The Northern California Suspension Team was alerted to an impending suspension. Trans Time provided the equipment and supplies to be kept in L.R.'s home for the transport protocol. A close relative caring for L.R. was trained to use the equipment, to place an intravenous catheter, how to administer pharmacologicals, and to use the instant (chemical) ice packs for surface cooling (see Table 1). In addition a cardiac monitor, from Trans Time, was used to monitor the patient's cardiac status.

Transport

At 9:20 a.m., January 22, 1979, L.R. had a cardiac arrest while the attending relative was at her bedside. The family physician and Trans Time Emergency Line doctor arrived within 15 minutes, pronounced legal death, assisted to the extent that he placed the intravenous catheter, and signed the death certificate. The pre-treatment pharmacologicals were administered according to the transport protocol (7). Jim Yount and John Day, the Trans Time personnel living closest to the patient, arrived to assist. The ambulance service, which had previously agreed to provide transportation, arrived. The HLR was disconnected, the patient transferred

to the ambulance gurney, and the HLR restarted. More ice packs were placed and the patient was ready to transport. Jim Young stayed with the patient in the ambulance. With sirens sounding, red lights flashing, and the HLR operating, the suspension patient was transported to the Trans Time facility at Emeryville, where the suspension team was assembling.

This transport of a suspension patient represents the achievement of an ideal, for current transport techniques using an HLR. The key elements that made it possible were: (A) Complete suspension membership in a responsible non-profit organization [BACS] capable of receiving an anatomical gift and arranging for suspension and storage; (b) A BACS contract with a corporation [Trans Time] that has the technical capability of doing a proper patient transport; (C) Cooperation of the suspension patient's immediate relatives, and in this case the patient's doctor.

Surgical Procedure and Perfusion

While the suspension patient was being supported by the HLR and ventilated with 100% oxygen, surface cooling with ice packs continued. A body core temperature of 15°C was selected for washout with Phase I perfusate. The reduced metabolism at 15°C is protective against additional ischemic injury from an asanguineous perfusion. A rectal thermistor temperature probe was placed to monitor core temperature. During surface cooling the heart-lung machine was set up for perfusion (see Fig. 1 for circuit diagram). Perfusate and surgical preparations were completed.

The core temperature had reached 12°C (see Fig. 2) when the HLR was removed. Another temperature probe was placed in the pharynx and the surgical prep began. Hair was shaved from the head and the eyelids were taped closed to protect the eyes. The surgical team masked, gowned, and gloved. The head and neck, extending below the clavicles in front and equally in back, were prepped with povidone-iodine solution. Sterile surgical technique were used throughout the procedure.

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The patient's head was wrapped with sterile 6" bias cut stockinette and a sterile drape was placed under the head and shoulders. The head was stabilized and protected by a head rest made by rolling a surgical towel into a doughnut shape of about 8" diameter, and wrapping the towel with Kerlix gauze. (A manufactured version of this head rest, made of sponge rubber, is now available.) Top drapes were placed leaving the neck exposed, and the Mayo stand with surgical instruments was moved into place.

An incision 3 cm long, level with the cricoid cartilage near the anterior border of the sternomastoid muscle, was made with a #10 scalpel blade on the right side. The right internal jugular vein and the right common carotid artery were dissected free. The proximal ends of the jugular and carotid were tied off, using #1 black silk ties. A bulldog clamp was placed on the distal carotid and an umbilical tape placed to encircle the artery. An arteriotomy was made, using a #11 scalpel blade. The arterial blood was bright red and looked well oxygenated. A 12 French arterial cannula (USCI Type 1966) was placed in the common carotid artery. The bulldog clamp was removed and placed on the right distal internal jugular. An umbilical tape was placed to encircle the jugular and a veinotomy made with a #11 scalpel blade. A 16 French venous cannula (USCI Type 1967) was placed in the internal jugular. The left common carotid and internal jugular were also cannulated, using the same type cannulas and technique. The bilateral arterial and venous cannulas were connected to the perfusion

lines from the heart-lung machine (see Fig. 1).

The perfusate was pre-filtered through a 0.2 micron Pall filter into a sterile 2 liter Travenol cardiotomy reservoir, cooled by circulating through a Sci-Med heat exchanger and filtered with a Pall 40 micron arterial line filter before entering the carotid arteries. The perfusion system was designed for recirculation so that more gradual change could be made from one cryoprotective agent concentration step to the next.

Perfusate temperature ranged between 3 and 6°C, averaging approximately 4°C. Perfusate design is given in Table 2. DMSO was used as a cryoprotective agent. Phase I washout was done using the base perfusate, 10 liters without DMSO, which required about 30 minutes. Perfusion pressure was monitored as illustrated in Fig. 3, using a Statham pressure transducer and Sanborn bridge amplifier. Pressure amplifier failure caused us to rely on controlling perfusate flows within physiological range. Arterial flow ranged between 190 and 290 ml/min. Cryoprotective Phase II perfusates used were 2 liters 5%, 2 liters 10% and 6 liters 15% DMSO (v/v). Phase II perfusion required about 30 minutes, with little recirculation. At the conclusion, pharyngeal temperature was 3.6°C.

The cannulas were removed and the distal carotids and jugular ligated. A

skin incision as made with a #10 scalpel blade at the base of the neck, about 80% circumscribed. The skin was undercut with Metzenbaum scissors and freed back to the 5th cervical vertebrae. An electrocautery and #10 scalpel blade were used to transect muscle, trachea, and esophagus down to the 5th cervical vertebrae. Significant vessels, trachea, and esophagus were ligated. A Satterlee bone saw was used to transect the C-5 vertebrae. The remaining connective tissue and

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skin were dissected, completely freeing the head from the torso. The excess skin extending over c-5 was trimmed and used to create a skin flap over the end of the transected neck. A single suture line was created by approximating the anterior and posterior skin margins with interrupted 2-0 Ticron sutures. Closure was completed using an Autosuture skin stapler, KD-25. Parke-Davis spray-on bandage was used to cover the suture line.

The bias cut stockinette was removed. Thermocouple temperature probes were placed on the skin surface of the face and in the pharynx. The head was placed within a plastic bag, and surrounded with a layer of 1/8" Ensolite-M insulation. Additional Ensolite was added inside the top and bottom of a heavy walled aluminum container, and the head placed within. The container was placed within a Linde LR-40 dewar, and a bath of isopropyl alcohol and dry ice added, attempting to achieve a skin surface cooling rate of about 1°C/min. After about 5 minutes it was decided that cooling was not proceeding rapidly enough, so the container was transferred to another LR-40 to which liquid nitrogen at -196°C was slowly added, keeping the vent hole of the container above the liquid level. Cooling curves are given in Fig. 4.

Tissue Samples

A left thoracotomy incision was made between the 4th and 5th rib. Parallel tissue specimens were taken from fat, connective tissue, liver, and intestine. For each tissue type, two samples were prepared of approximate size 6mm x 6mm x 3 mm. One of the two samples of each type was placed in a

2 cc Cryotube (A/S Nunc). The tubes were filled with a 50-50 mixture of Medium 199 (Grand Island Biological Company) and Cryoprotective Medium (Microbiological Associates) which consists of 15% DMSO in Basal Medium (Eagle) with Hanks' BSS. The resulting solution thus contained 7.5% DMSO. After allowing about 20 minutes for partial penetration of DMSO into the samples, they were cooled to -79°C at a rate varying between 2-5°C/min. The samples were then rapidly cooled in liquid nitrogen vapor to -196°C.

Samples of the second set were placed in Cryotubes filled with Trypsin-EDTA Solution (Grand Island Biological Company) to dissociate the samples into single cell suspension. They were incubated for about 20 minutes at 37°C, then centrifuged for 10 minutes. A syringe was used to remove the supernate, and the tubes refilled with the same 7.5% DMSO solution as used for the untrypsinated samples. They were frozen to -196°C in the same manner. All of the Cryotubes were then wrapped in aluminum foil and affixed to the patient container with wire.

The tissue sample incision sites were closed with 2-0 Ticron on a cutting needle. The body remains were picked up by a cooperating mortician and disposed of by cremation.

Retrospective

It is our policy after each cryonic suspension to seek criticisms and suggestions regarding procedures used. The following is the result of Jerry Leaf's thoughts, and the critique of the Northern California Suspension Team.

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Too much time was required to bring the body core temperature to 15°C by surface cooling with the HLR. As a remedy, extracorporeal circulation via the femoral vein and artery would allow rapid cooling and oxygenation of the blood. After extracorporeal circulation has been established, the HLR could be disconnected.

There is a problem with common carotid artery perfusion. The vertebral arteries have a communication with the carotids through the circle of Willis, hence perfusate can leak into the systemic circulation, resulting in a loss of perfusate. In addition, blood from the system circulations may enter the recirculating perfusate. This contamination of the circulating perfusate introduces an unknown variable in the effluent samples, making it impossible to accurately determine the amount of cryoprotective agent uptake in the tissues

Systemic blood contamination and loss of perfusate may be eliminated by opening the thoracic cavity and perfusing the aortic arch. If the aorta is clamped proximal and distal to the great vessels, the left subclavian ligated and the right subclavian ligated just beyond the vertebral artery, the open vertebral problem would be solved.

John Day observed that layering of perfusate was occurring in the cardiotomy reservoir. Stagnation of perfusate in this manner results in poor mixing and temperature differentials at different levels in the reservoir. The cause of layering was the reservoir design, where all the inlet and outlet ports were at the bottom of the reservoir. We have replaced the Travenol cardiotomy reservoir with designs that have inlet ports at the top and outlet ports at the bottom.

In addition, discussion of the suspension with Michael Darwin brought out the fact that we should have weighed the head. The weight, with other data we have available, would allow us to make estimates of adequacy of the perfusion, in terms of the quantities of cryoprotective agents used. The maximum DMSO concentration we may have achieved in the brain, assuming complete equilibration, is about 10%. This would be a cryoprotective level of DMSO.

Trans Time Suspension Team, Northern California

Trans Time supports two suspension teams, one in Northern California and one in Southern California. This was my (JDL) first experience in conducting a cryonic suspension with the Northern Team. I was gratified to find that our Northern Team is quite capable and deserving of praise for their performance. With this experience behind me, I am confident in stating that the top two suspension teams in the United States are both working here in California.

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NORTHERN CALIFORNIA TEAM

Jerry Leaf	Head of Team, Surgery
Jerome White	Surgery
Dr. Lewis Shepler	Surgery
John Day	Extracorporeal Perfusion
Art Quaife	Circulator, O.R.
Dr. Paul Segall	Physiological Monitoring
Jim Yount	Tissue Sample Preservation
Eric Warnick	General Assistance
Tammy Russo	General Assistance
Bert Stafford	General Assistance

Photography

Photographic documentation of the L.R. suspension was done by Patricia Kelley. Pat has worked with us before and continues to produce her usual professional quality photographs. Thanks to Pat for her assistance.

References

1. Federowicz, M.D., "Perfusion and Freezing of a 60-Year-Old Woman," *Manrise Technical Review* 3:7-32, March 1973.
2. Leaf, J.D., "Cryonic Suspension of Sam Berkowitz: Technical Report," *"Long Life Magazine"* 3:30-35, March/April 1979.
3. Leaf, J.D., "Case Study: K.V.M. Suspension," *"Cryonics"* Issue #13, August 1981.
4. Quaife, A.W., "Trans Time Suspends Seventh Patient," *"The Cryonicist"* Issue #8, March 1979.
5. Darwin, M.G., "Neuropreservation: A Serious Alternative to Whole Body Clinical Cryostasis," *"The Cryonicist"* Issue #14, April 1980.
6. Bay Area Cryonics Society, Inc., 7710 Huntridge Lane, Cupertino, CA 95014.
Trans Time, Inc., 1122 Spruce Street, Berkeley, CA 94707.

7. Quaife, A.W., "Emergency Hospital Instructions for Cryonic Suspension Patients," "Long Life Magazine" 2:100, September/October 1978.

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TRANSPORT PROCEDURES AND PHARMACOLOGICALS

Goal	Method
Blood Circulation	Sternal Compression, HLR
Oxygenation	Respiration, mask
I.V. Pharmacologicals	I.V. Catheter, percutaneous stick
Buffer Acidosis	Tham, 0.3 molar, 500 cc
Anticoagulation	Heparin, 30,000 units
Edema Prevention	Mannitol, 2 mg/kg
Metabolic Rate Reduction	Surface Cooling, ice packs
Muscle Relaxation	Anectine, 60 mg
Membrane Stabilization	Solu-Medrol, 200 mg

Table 1

PERFUSATE

Agent	Grams/Liter
MgCl ₂ . 6 H ₂ O	4.06
NaHCO ₃	1.26
Disodium glycerophosphate . H ₂ O	12.59
Glucose	1.80
PVP-40	35.00
KCl	5.59
DMSO - sterile H ₂ O	to one liter volume

Table 2

 TYPIST'S NOTE:

TABLE 2 WAS A DIAGRAM OF THE PERFUSION CIRCUIT FOR THE LR NEUROSUSPENSION.

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 TYPIST NOTE:

THIS PAGE HELD THREE DIAGRAMS:

FIG. 2 -- A TIME VS. DEGREES C GRAPH OF BODY SURFACE COOLING.

FIG. 3 -- A DIAGRAM A CANNULA ARRANGEMENT USED IN THIS PROCEDURE.

FIG. 4 -- A TIME VS. DEGREES C GRAPH OF HEAD COOLING, BOTH SURFACE AND INTERNAL TEMPERATURES.

APPEAL TO MEMBERS OF CALIFORNIA CRYONICS ORGANIZATIONS

Art Quaife

You are surely aware the Cryonic Interment, a long defunct cryonics service organization based in Los Angeles, allowed about ten patients under its former care to thaw, without notifying relatives who were paying maintenance bills. This scandal, and an accompanying lawsuit, have received widespread publicity over the past two years, and has caused several California officials involved in funeral and cemetery regulation to publicly express a very dim view of all cryonics activity. John Gill, Executive Secretary of the Cemetery Board, asked the Attorney General's office for an opinion on two legal questions raised by our program. The opinion offered by that office was:

1. The holding of human bodies in cryonic suspension does not constitute the operation of a cemetery.
2. Arranging to have one's body placed in cryonic suspension does not meet the requirements of the Uniform Anatomical Gift Act (UAGA).

The first of these opinions is quite favorable to us, but the second opinion raises problems for our program. All Suspension Members of the non-profit cryonics organizations have signed Authorizations of Anatomical Donation; this is the legal mechanism by which these organizations obtain custody of your body for the purpose of cryonic suspension.

It should be noted that these are only opinions, and do not have the force of law. But State agencies do place weight upon Attorney General opinions in the absence of clear law. Our attorneys are working on several approaches to circumvent the second opinion. But in the meantime, the possibility exists of State interference in our attempts to suspend deanimated Members. The best resolution to the problem would be for the California legislature to explicitly include cryonic suspension under the provisions of the California version of the UAGA.

For that purpose, on February 19, 1981, Dr. Paul Segall petitioned by letter State Senator John W. Holmdahl (who had previously attended seminars on life extension at which Paul spoke) to amend the UAGA so that appropriate cryonics organizations could take custody of legally dead persons under its provisions, to place them in suspension. Senator Holmdahl did agree to sponsor such a bill. Subsequent correspondence led to Paul, Jerry White (BACS President), and myself proposing draft wording of a bill in a letter of April 10, 1981 to Senator Holmdahl. Unfortunately we missed committee deadlines for the bill to be introduced and considered in the 1981 session of the legislature. Senator Holmdahl's aide George Stannis has just informed me that he will try to have the Senator's office reconsider the bill by mid-November, to determine if he will introduce it in the 1982 legislative session.

So far Senator Holmdahl has only heard from three of us cryonicists, which is quite a small interest group. So here is the APPEAL: Please write a letter to

Honorable John W. Holmdahl, State Senator
3082 State Capitol

Sacramento, CA 95814

urging him to introduce legislation placing the donation of a body, for the

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purpose of cryonic suspension, under the provision of the Uniform Anatomical Gift Act. You can recommend the language of the bill prepared by Dr. Paul Segall, Jerome B. White, and Arthur Quaife, in their letter of April 10, 1981 (I will be happy to send a copy of this draft bill to any interested party). If you have executed an Authorization of Anatomical Donation to one of the membership cryonics organizations in California, emphasize that fact. State your reasons for believing that the cryonic suspension option should be available to you. Try to send the letter as soon as possible, before Senator Holmdahl's office again considers the bill in November.

IF the legislature will pass such a bill, it will virtually assure that we can receive patients for cryonic suspension without State interference. So place sharpen your pencil and WRITE!

*** TURKEY ROAST ***

For those who have not attended previous Turkey Roasts, this is an informal potluck party hosted by ALCOR for the pleasant purpose of consuming large quantities of food and drink in a convivial atmosphere of friendly conversation (or heated debate, if you prefer), renewal of old friendships, formation of new friendships, opportunity for members or interested newcomers to get acquainted with the Cryonics and Cryonicists in an informal "party" setting. Guests especially welcome.

This year's ROAST will be held at the home of:

(SUN, 6 DEC 1981)	Dick Jones
	10427 Valley Spring Lane
PARTY STARTS AT 1 PM	North Hollywood
TURKEYS CARVED AT 2 PM	Tel: (213) 761-3895

It is requested that each person attending the Turkey Roast bring some potluck food or drink item to the party. ALCOR will supply the turkeys (and no, we are not referring to the board of directors). This year, coordination of potluck items is being handled by the ebullient and efficient Maureen Genteman. If you plan on attending, please phone Maureen by November 30th to let her know what you are bringing (or she can supply suggestions), at: (213) 386-2265.
See you there!

The January meeting will be at the home of:

(10 JANUARY 1982)	Jerry Leaf
	13512 S. Blodgett
	Downey
	Tel: (213) 531-2708

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THE BROTHER FOX CASE REVISITED by Thomas Donaldson, Ph.D.

Recently in CRYONICS we discussed the case of Brother Fox, in which hospital officials refused to remove Brother Fox from a respirator because of possible charges of murder, and about who has erupted a legal case in New York, already running to a cost of \$100,000. A still more recent article in the NEW ENGLAND JOURNAL OF MEDICINE (July 9, 1981, p. 75) gives us further details as to the outcome of the suit. Things haven't turned out TOO badly for cryonics, although the problem still deserves both attention and thought.

The New York State Court of Appeals has now laid down a decision both in the case of Brother Fox and the case of another similar case, the case of John Storer. In brief, the Court of Appeals has refused to follow the lower court in decreeing an elaborate set of procedures before allowing any "right to die." The Court also upheld a form of the right of personal determination in so doing.

In the case of Brother Fox, the Court of Appeals found that the major and controlling fact of the case was that Brother Fox had previously made known his desire not to be treated by extraordinary means, just before his hospitalization for the operation which led to his cardiac arrest. The New York Court of Appeals judged that this fact conclusively settled the matter; proof of the patient's refusal was based upon "clear and convincing evidence," which the Court judged sufficient in this case. (Other demands for evidence, such as "beyond all reasonable doubt," would apply in other cases such as murder.) The Court referred this case to the common law right of a competent person to refuse treatment, which is enforceable even during a period in which a patient is incapable of expressing any further wishes. However the Court of Appeals refused to lay down any further general rules on how such cases must necessarily be treated in the future.

The case of John Storer, decided at the same time, has further implications about how such cases will resolve themselves in the future. John Storer was a severely retarded man aged 52, whose guardian was his mother. He suffered from a terminal cancer (of the bladder), and needed frequent blood transfusions to control his condition. His mother refused further consent to these transfusions, and hospital officials brought court suit to obtain authorization to continue treatment.

The Court of Appeals laid down a distinction between the case of Brother Fox and the case of John Storer. Brother Fox, while a competent adult, had clearly stated that he did not wish to continue being treated by extraordinary means. His guardian was merely trying to carry out his wishes. John Storer, on the other hand, had never made any statements about how he wished to be treated. Indeed he had never been competent to make any decisions about treatment. According to common law, guardians can only act for the benefit of their ward. On this basis, the Court held that John Storer's mother was NOT able to refuse consent to the transfusions on his behalf.

I believe that the main cryonics lesson from these two cases is that we should leave some sort of evidence, in the form of an affidavit or otherwise, laying down broad criteria for how we would wish treatment in the case of incapacitating and (most important) expensive terminal illness. If anything, legal problems of this kind are likely to increase with time, since medical

capability to keep someone forcibly alive (though neither competent nor healthy) is bound to increase. It probably would help the legal situation a lot merely to have a written, signed, and witnessed statement of our desires: for instance, that we do not wish placement on a respirator unless a substantial probability of recovery exists, or as part of procedures involved in our cryonic suspension.

CARL SAGAN ON "CRYONICS"?

The following is a quote which is taken from the first chapter of Sagan's recent book on the joys of science, "Broca's Brain." The reason cryonicists will find this quote intriguing is self evident. What we are wondering is; has anyone told Carl Sagan about cryonics?

"And here was Broca's brain floating, in formalin and in fragments before me. I could make out the limbic region which Broca had studied in others. I could see the convolutions on the neocortex. I could even make out the gray-white frontal lobe in which Broca's own Broca's area resided, decaying and unnoticed, in a musty corner of a collection that Broca himself had begun.

"It was difficult to hold Broca's brain without wondering in some sense whether Broca was still in there -- his wit, his skeptical mien, his abrupt gesticulations when he talked, his quiet and sentimental moments. Might there be preserved in the configuration of neurons before a recollection of the triumphant moment when he argued before the combined medical facilities (and his father, overflowing with pride) on the origins of aphasia? A dinner with his friend Victor Hugo? A stroll on a moonlit autumn evening, his wife holding a pretty parasol, along the Quai Voltaire and the Pont Royal? Where do we do when we die? Is Paul Broca still in his formalin-filled bottle? Perhaps the memory traces have decayed, although there is good evidence from modern brain investigations that a given memory is stored redundantly in many different places in the brain. Might it be possible at some future time, when neurophysiology has advanced substantially, to reconstruct the memories or insights of someone long dead? And would that be a good thing? It would be the ultimate breach of privacy. But it would also be a kind of practical immortality, because, especially for a man like Broca, our minds are clearly a major aspect of who we are."

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AN EDITORIAL REPLY by Thomas Donaldson, Ph.D.

ON COOPERATING WITH CRYOBIOLOGISTS

Recently in CRYONICS Michael Darwin has argued that we as cryonicists should give some material assistance to the Society for Cryobiology and their journal, CRYOBIOLOGY, in the form of institutional memberships whenever possible. I write this to argue that we should not.

For a long time within cryonics a lot of tension has existed on the relation between cryonics and science. Fundamentally, cryonicists are pro-science and would be the last people ever to want to discourage research, particularly into cryobiology. However, unfortunately, all previous approaches to cryobiologists to involved themselves seriously with us have in the past either a) have been rejected out of hand or b) culminated in the demand by these cryobiologists for large amounts of money to conduct research into cryobiological questions which THEY ignorantly saw as relevant to cryonics. There are biologists and cryobiologists (even) involved as individuals in cryonics; and all of these scientists feel considerable fear for their future career prospects as a result of this involvement. At the same time, as scientists, these people feel a need to have their beliefs accepted by the body of concerned scientists. This need has led in the past, and probably will lead in the future, to many attempts to engage in dialogue with cryobiologists. The sad outcome of all such past attempts convinces me that all such attempts, in any near future, are doomed to failure. I think that it would convince any objective cryonicist of the same. Any attempt to relate to these people by such things as "Institutional Memberships" should be seen as merely one more attempt to carry out a dialogue with people who do not want a dialogue, and indeed who are prepared to take strong measures, even flatly immoral measures, to prevent the subject ever from raising its head.

From this perspective, I learn with great JOY of rumors that the Society for Cryobiology is suffering problems with membership and funding, and that cryobiologists generally are having trouble in funding. Cryonicists generally should greet the demise of the Society for Cryobiology as they would greet the demise of any other malign institution; the thought of us spending our own money to shore it up, when we might instead spend it in some small way to actually do cryonics research, strikes me as an absurd waste.

It may be said that the demise of the Society for Cryobiology may mean a considerable setback in cryobiological research. However I must point out that the major body of members of this Society have done nothing whatever to advance cryobiological research related to CRYONICS, nor will they ever do anything to advance such research. Furthermore, except for unnamed cryonicists, these members who HAVE done research helpful to cryonics seem to have done so very much by ACCIDENT rather than design. For our purposes it is all so much irrelevancy. We are particularly concerned with brains. Should we then support endless papers on the freezing of blood? It is true that we have only small resources to spend on research; but we never did have any more resources than these, and the demise of the Society for Cryobiology will not mean that we will have less resources. It will only explicate our real situation. We must support the necessary research out of our own funds, with those scientists who are sympathetic to our cause. We knew this already and should cease begging for approval from those who deserve none and get on with the job.

Furthermore, for those who worry about the demise of cryobiology itself if the Society should collapse, I can say that cryobiologists themselves will

never cease to exist. They will even devise some means to get themselves published, and whatever indirect benefit this work provides us will still go on. Nevertheless, the demise of their glossy Journal should not rank high in our worries.

I have also read the recent report of the Board of this Society relating to cryonics. It illustrates the problem far better than anything I might

say: while it "does not choose to involve itself in a discussion of the degree of remoteness of this possibility" (i.e. that suspended patients might someday be revived) the Board arrogates to itself the right to make VALUE JUDGEMENTS about the social value of cryonics and how WE should choose to spend OUR OWN MONEY (what objective scientific information about cryobiology gives the members of the Board any expertise in ethics, morality, or our personal economics???), deciding that cryonics has no social value, and "borders more on fraud than either faith or science." Of course no SANE person could hope to make judgements about the moral value of freezing WITHOUT involving themselves in discussions of the degree of remoteness of the possibility of revival, but then I was talk about SANE people. And then, having first declared that it was everyone's right to do with their cadavers whatever they wished, the Board decides to deny anyone who has ever had anything to do with cryonics the right to join, for conduct "no in accord with the scientific and moral standards of the Society." I believe that the appropriate response to the Board and to the Society for Cryobiology itself would be for us to judge that they remain devoid of scientific and social value and are inconsistent with the ethical and scientific standards of cryonics.

Dialogue with cryobiologists (other than those whom we already know, but who will not reveal themselves) is NOT POSSIBLE> They have driven all those biologists who favor us to use pseudonyms and talk in riddles only; if they will go as far as that, who out there seriously believes that they are fit subjects for dialogue????

"There is a gnostic myth that tells us that God, gazing intently into the water of light, generated a female being called Barbelo. In her turn, Barbelo, gazing intently at God, bore a son who become Lord of the Universe, after which, in a series of descents from light, the world went from bad to worse. If the tale is true, it may explain why, when we see Victor Frankenstein's creature lurching across a movie screen of a darkened theater, we intuit that we and the creature are in the right place. There he stands, lifting first his eyes and then his hands to the mysterious light, compelled into life by Mary Shelley's vision. His hands waver, but despite error and pain, despite confusion and terror, he keeps reaching upward to an eternal fire. True, his task and ours is hopeless, but that stumbling flesh has a responsibility to reach toward light is always clear."

-- Leonard Wolf
Introduction to "The Annotated
Frankenstein," Clarkson N. Potter,
Inc., Publishers, New York, 1977.