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CRYONICS

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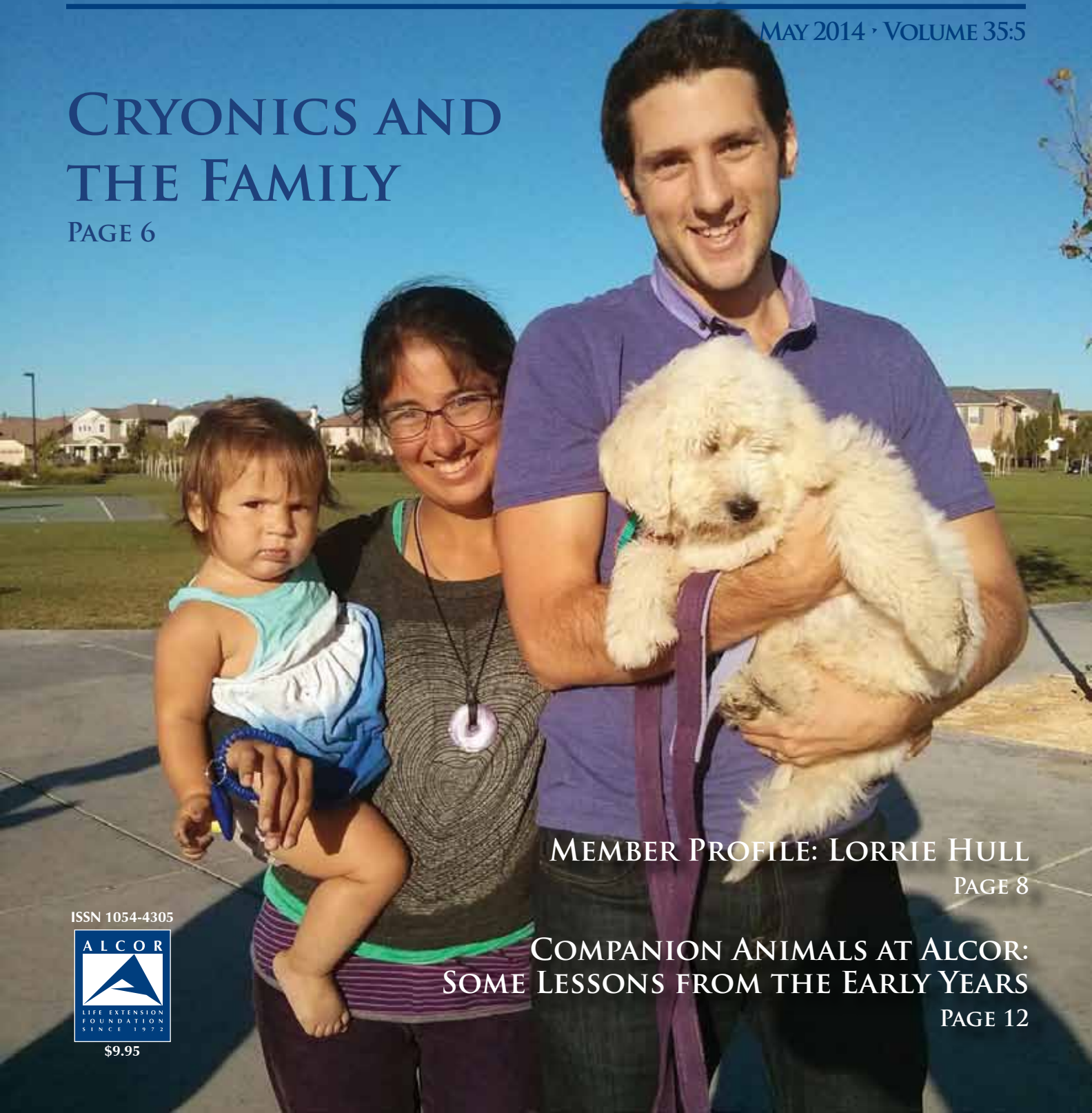

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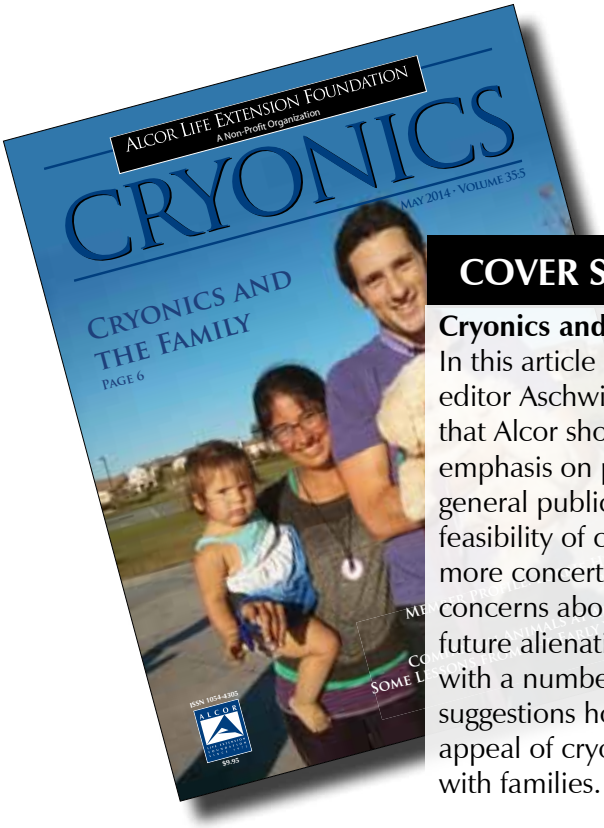
CRYONICS



COVER STORY: PAGE 6

Cryonics and the Family
In this article *Cryonics* magazine editor Aschwin de Wolf writes that Alcor should put less emphasis on persuading the general public about the technical feasibility of cryonics and make a more concerted effort to address concerns about loss of family and future alienation. He concludes with a number of specific suggestions how to broaden the appeal of cryonics among people with families.

On the cover:
Alcor member William Eden & family

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A Non-Profit Organization
CRYONICS

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Gifts have played a fundamental role in the cryonics movement since its earliest days. Dr. James Bedford, a man whose extraordinary vision led him to become the first person to be cryopreserved, and the first to make a bequest to a cryonics organization, exemplified the determination of the early pioneers of cryonics. We invite you to follow in his footsteps, and join the James Bedford Society.

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QUOD INCEPIMUS CONFICIEMUS

Photo: Cryo-Care Equipment Corporation at 2340 E. Washington St., Phoenix, AZ. Dr. Bedford's "home" in 1970 or 1971.

WHO'S LEAVING WHOM? By Aschwin de Wolf

It is well established that cryonics can be a formidable source of division within families (and people who give their unsolicited advice to them). A classic example is the claim that a person who makes cryonics arrangements has reduced the amount of money available to spend on other goods and services—and will ultimately leave less money behind after passing away. We may think that such a perspective leaves little room for financial autonomy and tolerance in a family but experience confirms that many families operate exactly like that.

A related non-financial argument is that a person who makes cryonics arrangements is "selfish" by going it alone and leaving his family to die. Naturally, this argument can be turned on its head. A friend of mine once stated that, given the interest of her boyfriend in cryonics, the decision *not* to make cryonics arrangements herself would be akin to a decision to (eventually) abandon him. From the perspective of a cryonics advocate this argument can be further strengthened. If one believes that a cryonics patient is not dead, the decision not to make cryonics arrangements would be akin to walking away from someone who is critically ill (or in a coma).

Now, in the examples so far we have faced a situation in which one person *responds* to the decision of another person. In many cases, however, the decision whether to make cryonics arrangements is the subject of joint deliberation. If we approach the subject from the perspective of not wanting to abandon a loved one there are a number of good reasons to decide in favor of a family making cryonics arrangements.

First of all, the decision not to make cryonics arrangements will lead to a predictable outcome: death (at least for the foreseeable future). And death is not a joint experience but the cessation of a family as a living entity. Why would a family voluntarily put a predictable expiration date on its existence? Good question.

Secondly, family members usually do not die at the *same time*. This not only applies to children but to couples as well. Couples think that the best they can do is to stick together "till death do us part." In principle, cryonics can break with this age-old scenario by placing one person in cryopreservation (and eventually both of them). While the relationship of the "survivor" to the cryonics patient is not identical to both being alive it is a whole lot better than throwing them in a hole or burning them because today's medicine is not able to sustain them.

But what if we consider a whole family making cryonics arrangements and some will make it and others do not? This is indeed a heart wrenching scenario but these kinds of things happen in mainstream life, too. Survivors usually do not respond by taking out the whole family but mourn, remember, and pick up the pieces. A more dispassionate response is to say that some family members surviving is still preferable in that the surviving person's situation is improved (compared to being clinically dead) without worsening the situation of the non-survivors (who are now non-existent). It is also important to emphasize here that survival is not an external event that "just happens." We can do a lot to improve the probability that a whole family sticks together by executing the right paperwork and ensuring that younger family members will be able to take advantage of rejuvenation biotechnologies.

There are examples of individuals and families who made cryonics arrangements pretty much upon hearing about the idea. Most families take a little more time (or never get to it). One good piece of advice is to take out life insurance for the whole family while rates are still affordable (especially for very young children). For most families there are very good general reasons to take out life insurance, such as providing financial stability for the surviving partners and children. So getting life insurance is a good idea while the conversation about the subject continues. It is not trivial to make last-minute cryonics arrangements, but it is impossible to get life insurance for a person who is dying or already dead and most people cannot pay for cryonics in cash. ■

Cryonics and the Family

By Aschwin de Wolf

In this short article I want to bring two themes together and explore their implications. The first theme is the increasing recognition that the technical feasibility of cryonics is not a major obstacle to its widespread acceptance. The second theme is the recognition that cryonics appears to only appeal to a very narrow demographic. The conclusion I will draw is that if we want cryonics to be embraced by more people we should put less emphasis on stressing the "rationality" of making cryonics arrangements and more emphasis on its potential to mitigate suffering and keep families together.

As counter-intuitive as this sounds, most people who first encounter the idea of cryonics are *not* interested in a dispassionate examination of our reasoning and scientific evidence. While it is true that many objections to cryonics *look* like scientific objections, the hyper-emotional and poor quality of the reasoning employed indicates that these arguments are usually secondary to more hostile gut feelings about cryonics. This explains why it can be quite common for scientists to make claims about technical issues in cryonics that even contradict the scientific consensus in their own field (e.g. cryobiologists talking about ice formation rupturing cells). When such critics are confronted about their errors, they often change the topic by claiming that cryonics is only for "the rich" or that it will lead to overpopulation or what have you. Clearly, these people are already biased against cryonics prior to examining the arguments. The question is why.

I do not think we have a definite answer here but the common denominator is that cryonics is a disruptive idea. Disruptive of the idea of living an uninterrupted, but finite, existence. Disruptive of the idea of closure after the "loss" of a dear family member or friend. And perhaps most of all, disruptive of the idea of keeping a family together. To cryonics advocates who live in a household where all members have cryonics arrangements this must be a strange observation. After all, making cryonics arrangements for loved ones is the most prudent forward-looking measure one can take to keep a family together. Then why is cryonics often perceived as being disruptive of family life, or even an obstacle to having a meaningful family life altogether?

"One element of cryonics that sets it apart from most mainstream medical treatments is what I have called the "temporal separation of stabilization and treatment."

There has not been much reflection on this topic in cryonics so I have to confine myself to very preliminary speculation here, but I suspect that an important reason for this phenomenon is that the first impression of cryonics is that it is a rather expensive procedure for eccentric individuals that does not hold much relevance for the daily life of normal families. Now we could counter that people who reason in such a way have a rather short time-preference and have not mastered the art of rationality but I doubt this perspective will be successful in introducing cryonics to a larger audience. What I think is more productive is to reflect on people's first exposure to cryonics and how it shapes how they evaluate the idea going forward.

Over the last decade Alcor has put increased emphasis on presenting cryonics as an experimental form of critical care medicine aimed at preserving lives but in many ways we still put a lot of emphasis on "winning" a scientific debate. Instead of showcasing actual families with cryonics arrangements and refuting the myth that cryonics is beyond the reach of most families, we put a lot of emphasis on trying to set people straight on the scientific facts about cryonics. As a researcher working in cryonics I think this is a laudable goal but if we waste the opportunity for people to have a favorable *initial* impression of our work and aims there is not much chance this information will be received with an open mind. Hospitals and insurance companies learned this a long time ago. When you peruse the information materials and website of these entities it is obvious that the first impression that is conveyed is that we are dealing with an organization that cares about people and saving lives. It would be rather strange to be entertained to a detailed scientific case for the procedures being offered or being educated about the mathematics of life insurance. Most people would not be able to evaluate such claims and the first thing they look for and hope to find is an organization that cares about them and their goals. If their first encounter with a cryonics organization feels like they are being persuaded to take sides, trust issues can ensue almost instantaneously, which are further being reinforced by their impression that they cannot afford the procedure.

Another problem, and perhaps a lot more difficult to address, is that cryonics is perceived as a sharp departure from the norm and most families are (implicitly) aware that bringing controversial ideas into a family can be a source of disruption. The most obvious example is that of a family member who expresses an interest in cryonics is often being perceived as *threatening* the family instead of having identified a means to remain together. Upon reflection this is a rather odd notion because it is disease and death that disrupts family life and ultimately the great divider. It is hard to believe that when people say "till death do us part" that this reflects a value system in which the desire for a "natural" death trumps remaining together. It is staggering how much money is being spent during the final stages of a serious medical condition to prolong life for even a few more months (or sometimes *days*). There is no shortage of stories in which families sell their homes and other valuable assets to gain access to unorthodox medical procedures that only offer the slightest chance of prolonging life. Clearly, these examples contradict any notion that people will not want to spend any money on "unproven" medical treatments even if it ruins the long-term health of a family. Cryonics does not ruin the long-term financial health of a family and offers the possibility of remaining together for much longer. Why the hesitation?

One element of cryonics that sets it apart from most mainstream medical treatments is what I have called the "temporal separation of stabilization and treatment." When you visit an alternative caregiver who encourages positive thinking and ridding the body of "toxins" as a cure for cancer, the expectation is at least that if this approach works the critically ill family member will recover in the present time. In the case of cryonics, not so much. Other family members may not survive, fatal accidents can happen, partners may seek out other partners, etc. There is a lot of uncertainty and most people do not like uncertainty. As some cryonics advocates have painfully observed, most people appear to prefer death over uncertainty. I do not think we can change something as hardwired as the human aversion to uncertainty and the desire for closure but I think there is at least one area where we can do a much better job. Despite our vocal claims that cryonics patients "are not dead," we do not do nearly enough to honor this outlook and let it shape our organization and the services we offer.

Let's start at our website. When a person visits our website the first things (s)he should encounter are images of members and patients in conjunction with a succinct but clear exposition of the aims of Alcor and how it is within the financial means of most people. The prospective member should not have to spend a lot of time navigating the website to see the concern of future alienation addressed. Addressing this concern can take a number of forms. First of all, we should provide ample space for depictions of a future worth living for. A future where family members will be joined together again and many of the challenges that affect our daily lives have been eliminated (without being too unrealistic or utopian). Most importantly, it should be a future that would appeal to a wide variety of potential members and not a specific view of some visionary futurist. There are a lot of things that people like about their existing lives and we should honor that. The concept of "medical time travel" is radical enough for most people. Secondly, it should be made quite clear that no (naïve) assumptions need to be made about who is going to resuscitate these patients because that is *our* mission. Just like people should not be worried about being taken care of during a coma, it is important to assure people that Alcor takes its responsibility for caring and restoring these patients to good health extremely seriously. The existence of the Patient Care Trust should be emphasized in this context because it provides real-world evidence of how Alcor has addressed concerns about the sustainability of the organization.

While much thought has been given to the subject of repair of the brain there remains a shortage of articles (or other media such as videos) to bring this topic to life and place it in a broader context of resuscitation, rejuvenation, and reintegration. In particular, the topic of reintegration is one of the most ignored topics in cryonics despite the fact that many people who encounter cryonics have great concerns about this. I think that one of the most important things we can do to create a smoother transition from the time when the patient was cryopreserved until the time of resuscitation is to keep this person "alive" as a public person. The internet and social media make such an endeavor a lot easier to do. All (full) members can be issued an Alcor email address which will be kept functional after the member is cryopreserved. If technologies change, the organization can make these changes for the member so (s)he will always be able to be contacted during cryostasis. Members who have chosen to be public about their cryopreservation can have public profiles that can be accessed by relatives, friends, or even the general public. When people realize that our patients are more than bodies in dewars and reintegration is a process that is *actively* pursued by Alcor more sympathy for our project and our patients will follow.

I want to end this article on a positive note. Yes, we can conclude that the cryonics message has not been very successful with the general public but we should also recognize that most of our efforts to change this have been more of the same or just minor variants on the same theme. It is tempting to conclude that cryonics only appeals to a very limited demographic but I think it will be premature to do so until we have presented our case in a manner that is more in line with how successful organizations that aim to save lives are approaching this. If we really believe that cryonics is an experimental medical procedure to save lives, we should put our patients at the center of our message and take concerns about friends, family, and the future very seriously. Just like cryonics itself, ideas about the presentation of our message should be considered tentative hypotheses. When people reject it we should be open to calibration and revision. I am confident that there a lot of families who will connect with us if we show that *their* concerns are *our* concerns. ■

MEMBER PROFILE:

Lorrie Hull

S. Lorraine "Lorrie" Boos Hull Smithers, Ph.D and her husband, Bill Smithers, co-host the Santa Barbara public access TV show "Just Between Us."

By Chana Phaedra

From her early days in West Bend, Iowa, to the bright lights and glitz of Hollywood, S. Lorraine ("Lorrie") Boos Hull-Smithers, Ph.D., has lived in pursuit of her dreams for 85 years. Born into a Christian family, Lorrie says she had a "wonderful childhood" and fondly recalls playing piano and organ for church services as a girl. As a teen she was valedictorian of her high school class. Later, she began modeling and acting and decided to major in theater at Drake University. While in college, at the age of 20, she eloped with her first husband and became a mom to two children, Dianne and Don.

Lorrie doing what she does best. Teaching a method acting class at the Santa Monica Playhouse.

After graduating with a BFA in 1956, Lorrie moved to Fond du Lac, Wisconsin, to teach acting as a professor at Ripon College. While there, she saw Robert Ettinger of the Cryonics Society of Michigan (later to become the Cryonics Institute) being interviewed by Johnny Carson on The Tonight Show about his book, *The Prospect of Immortality*, and about cryonics in general.

"What Dr. Ettinger said about cryonics really appealed to me," Lorrie reminisces almost 50 years later. "I joined his organization immediately. I was motivated to sign up for cryonics by a love of life and curiosity regarding my family in the future and the world."

That zest for life and love for family ultimately resulted not only in Lorrie signing up herself, but also in her obtaining memberships for several family members. Over time, Lorrie filled out membership paperwork for, paid dues on, and paid for insurance policies for up to seven members of her family, "being motivated by the hope that we all could be reanimated and rejuvenated in the future."

As an acting teacher Lorrie found herself drawn to a set of techniques for teaching actors how to create in themselves the thoughts and feelings of their characters. These techniques, known as the "system" as originally developed by Constantin Stranislavski, were later adapted by Lee Strasberg into the "Method" for American actors. An ardent teacher of method acting, Lorrie was eventually offered an opportunity to teach for Lee Strasberg himself in Hollywood. Seizing the opportunity, Lorrie packed her bags and moved to Los Angeles. It was a decision that would shape the course of the rest of her life.

Having moved to California, far from the vicinity of the Cryonics Institute, Lorrie was put in touch with Jerry Leaf, who met her for dinner several times to advise her regarding cryonics. She fondly remembers him today as her favorite cryonicist and an all-around nice and caring man. "After meeting him, I changed my membership from Cryonics Institute to Alcor" Lorrie says. On a more somber note, she still laments that Jerry was a heavy smoker who eventually succumbed to a heart attack and was cryopreserved at the age of 50. "I begged him to give up smoking," she bemoans.

Lorrie and her daughter Dianne actively attended local cryonics group meetings and gatherings during an exciting and sometimes confusing time in cryonics, with a few organizations rising and falling as people attempted various schemes for providing cryopreservation services and long-term patient care. After becoming an Alcor member, Lorrie recalls Jerry Leaf helping her deal with the complications of executing the necessary paperwork for the additional members of her family to become members.

Lorrie's other fond memories of the early days include the grand opening of the Riverside facility, attending several

Thanksgiving Feasts, and a party at Saul Kent's house at which she was interviewed about her interest in cryonics. At some point along the way, she and Dianne even found themselves, along with Dianne's toddler son Brendan, at a Thanksgiving Feast held at the home of Timothy Leary. Lorrie laughs now to think of chatting in the kitchen with Fred and Linda Chamberlain, Dianne tending to Brendan, all while Leary and a few others ("not all members, of course!" Lorrie adds) were "smoking up a storm" in another room.

Meanwhile, Lorrie spent 12 years as the senior faculty member for Lee Strasberg. Over those years, she developed a deep understanding of method acting and was the only instructor chosen by Strasberg to teach his course, "Understanding of the Method." Lorrie had obtained a M.A. from the University of Wisconsin, Madison, in 1971, and afterward began compiling what she knew about Strasberg's Method into what would ultimately become her doctoral dissertation (her Ph.D. was awarded in 1976).

She would go on to edit and rewrite her dissertation (over the course of 14 years) into the seminal text on method acting, "Strasberg's Method: as Taught by Lorrie Hull," which was first published in 1985. The book is widely regarded as essential to method actors, and Drake University bestowed an Alumni Achievement award upon Lorrie in 1990 in recognition of the impact of her work. In addition to her book, Lorrie has also hosted two instructional DVDs, "The Method" and "The Method II," which have sold many copies worldwide.

And though she had gone through a divorce from her first husband in 1977, things seemed to come together for Lorrie again when she was introduced to Bill Smithers, an actor and director whom she had met at the Actor's Studio. They were married in 1995.

Lorrie also enjoys hosting television programs. For nine years, she hosted a program called "Alive After 65" on a local public access channel in Santa Barbara. When her co-host became incapacitated, the producer asked her husband, Bill, to step in. He did, and they have since been hosting a program together called "Just Between Us," where they interview a wide cross-section of interesting people about their life's work.

One such interviewee was UCSB stem cell researcher Dr. Dennis Clegg. Lorrie is especially enthusiastic about the applicability of stem cell research to future rejuvenation technologies, so she invited Dr. Clegg to speak about his research on the show. As she does on several other episodes, during the interview Lorrie talks about Alcor, her wish to be cryogenically preserved, and "the rays of hope for cryonics via research, including [that on] stem cells."

Lorrie feels that cryonics would benefit from "people with expertise in asking for grants...to send out numerous grant requests" as a means of buffering the coffers, particularly as a safeguard for long-time members facing underfunding concerns as costs have risen in recent years.

Today, Lorrie still teaches method acting classes, as well as seminars and workshops, in and around Los Angeles and New York City with her daughter Dianne. Dianne studied in California under Lee Strasberg and was discovered by Elia Kazan, who cast her in her first movie, "The Arrangement." She spent several years acting on both stage and screen until her son Brendan was born. Dianne decided to quit acting so she could spend more time with her son, so she began teaching for Lee Strasberg as well, in both New York and California. Lorrie and Dianne were both Master teachers at the 1988 Paris Stanislavski Conference.

Besides teaching together, Dianne also still has cryonics in common with her mother Lorrie. Lorrie maintains both Dianne and Brendan's Alcor memberships and life insurance. While on a trip to visit her son Don's family in New Orleans in the summer of 2012, Lorrie and Dianne stopped in Scottsdale, AZ, to visit Alcor and meet the staff.

When speaking with Lorrie, her children and grandchildren are a favorite topic. Dianne's son Brendan, a recent graduate of Cal Arts, is a "remarkably talented composer, performer, and poet." Don's daughter, Emily, is a "caring therapist" who graduated from Louisiana State University and Houston University, and was recently named a Woman of the Year after starting a preschool for autistic children in New Orleans. She was also appointed chairwoman of the Louisiana Behavior Analysis Board by the state governor. And Don's son, Evan, is a graduate of Louisiana State University with B.A. and M.A. Degrees, who lives and works in Baton Rouge as an accountant.

With Lee Strasberg at the Actor's Studio.

And though her son's family have since dropped their Alcor memberships ("they are Christian and believe in an afterlife," Lorrie explains), Lorrie maintains the insurance policies on his children in case they decide to sign up later.

Recently, Lorrie's family gave her a set of stone DVDs (a new, very durable data storage medium) for her birthday, which she has used to place several hours' worth of family history in her Alcor memory box as well as Dianne's and Brendan's memory boxes. They contain everything from family Christmas letters dating back to 1959 to emails from the modern era, along with other information and memory "packets" for her other grandchildren, all carefully sorted, copied, and mounted using archival quality paper and plastic.

Commendably, though Lorrie's husband is not interested in cryonics for himself and considers it "a waste of money" for Lorrie, she has taken steps to ensure that her (and Dianne's and Brendan's) arrangements are protected from interference. "I gave my daughter Power of Attorney and I persuaded my husband when we first married 18 years ago to go with me to a notary public to sign Alcor's relative's affidavit. I do not want any screw-ups after all these years of paying for insurances, dues, standby, and now underfunding for my cryonic preservation!"

To other members, either new to this journey or having come the distance along with her, Lorrie advises that "the hope for peace upon death and the possibility of returning are well worth joining Alcor." And for someone so driven by a desire to continue loving and laughing with family and friends, we can all wish that Lorrie's dreams will continue to come true. ■

SURVIVAL OF THE SICKEST:

A Medical Maverick Discovers Why We Need Disease

By Dr. Sharon Moalem, with Jonathan Prince (William Morrow & Company, 2007)

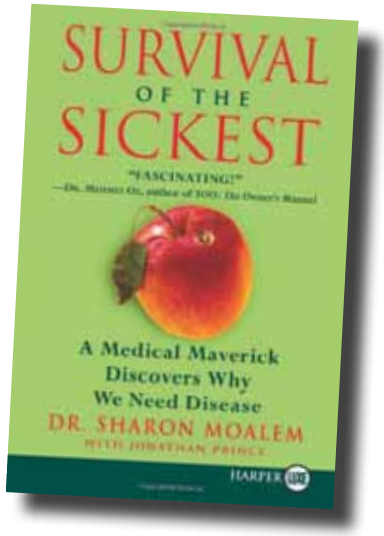
BOOK REVIEW BY R. MICHAEL PERRY

Normally we have a clear distinction in our minds between states of "health" and "disease"—or think we do. *Survival of the Sickest* challenges this thinking in numerous ways. Overall our bodies play host to around three pounds of microbes that comprise about 1,000 different types and many trillions of individual organisms. These are mostly found in the digestive system and play useful roles ranging from helping to break down food products to protecting us against harmful organisms. Certain bacteria, for instance, help protect us from harmful bacteria, and when people have digestive problems from taking antibiotics it is sometimes ironically because the protective bacteria have been compromised. In effect we harbor a vast multitude of "diseases" that are necessary to keep us healthy!

"Certain bacteria...help protect us from harmful bacteria, and when people have digestive problems from taking antibiotics it is sometimes ironically because the protective bacteria have been compromised."

In addition to microbes there are inherited disorders that actually appear to have benefited our ancestors and/or may in mild forms be beneficial today. A case of possible past benefit is hemochromatosis, in which iron is retained in the system and builds up to harmful levels over a period of decades. (Too much iron has complications such as liver failure, heart failure, diabetes, arthritis, and eventually, death.) On the other hand, the body's locking down the iron supply has the effect of withholding it from macrophages – white blood cells that fight infection. These then become more effective against a microbe such as the (presumed) bubonic plague bacillus, *Yersinia pestis*, which in turn is adept at stealing iron when available and thereby furthering its own cause. Another ailment, Type 1 or juvenile diabetes (not a consequence of hemochromatosis), may have protected against a severe, sudden ice age that occurred about 13,000 years ago. Why? Because, in effect, the elevated blood sugar levels were at least marginally effective as a cryoprotectant! The discussion of this issue turns briefly to cryonics, with emphasis on how difficult it is to cryoprotect tissues and how much damage is caused by current cryonics procedures; some consideration of developments such as vitrification that minimizes this damage would have provided a fairer treatment. Another disorder, sickle cell anemia, in a milder, genetically recessive form protects today against malaria. The list goes on.

Another interesting area covered in the book is epigenetics. The genome, it turns out, is not all that counts in specifying how the organism develops from a fertilized egg cell or zygote. Two mice with essentially the same genome will have a very different appearance, one being fat and yellow-furred, the other lean and brown. The difference is not in the genes but the epigenes, which are molecular groups that attach to the genome and affect whether a given gene will be



"expressed" or active in the developing organism. Epigenes in this case are acquired during fetal development, by feeding certain nutritional supplements to the mothers. (Human versions of the same sort of supplements, including vitamin B_{12}, folic acid, betaine, and choline, are given to expectant mothers today.) Epigenes in certain circumstances lead to behavioral changes. If, for example, the (human) mother eats a lot of junk food, high in calories but low in nutrients, the baby could acquire an epigenetically-induced disposition to overeat, its system having been put on notice that "food is scarce." In fact it was not the food but the nutrients in it that were scarce. But the overeating could lead to obesity, and offspring with the same disposition. In this way, then, epigenes provide a way for acquired characteristics to be inherited, a limited vindication of Charles Darwin's oft-maligned precursor J. B. Lamarck.

One other important feature of human life is what we call aging, a process that eventually kills us if something else doesn't do it first. Theories of why we age are varied but one property of aging tissues stands out: the shortening of telomeres. Telomeres are caps on the ends of chromosomes in the cell nuclei that provide necessary protection so the main part of the chromosome stays intact as the cell divides. Each time a cell divides the telomeres (usually) get shorter. When the telomeres are too short the protection of chromosomes is compromised; one consequence is that the cells lose their ability to divide so that dying cells are not replaced. When tumor cells reach this "Hayflick Limit" (named after biologist Leonard Hayflick who discovered this effect in the 1960s) the tumor stops growing and after a time dies. The shortening of telomeres, then, is a built-in defense against cancer, but it has the downside that eventually, healthy dividing cells reach the Hayflick limit (after fifty or sixty divisions) so the tissue cannot replenish itself and the organism dies. In the rare genetic disorder known as Hutchinson-Gilford progeria syndrome or HGPS the rate of aging is greatly accelerated so that victims normally die in their teens or earlier and suffer complications such as hair loss, wrinkles, arthritis, and hardening of the arteries while still children. HGPS is usually caused by a single, spontaneous mutation. If such a great acceleration in aging is possible in so simple a manner, the author speculates, then maybe aging itself has been "programmed" by natural selection, a form of "biological planned obsolescence" to help gene survival, albeit at the expense of individuals. Finding and understanding such a "program" could put us on a faster track to treating and curing aging, though it remains to be seen whether nature has really arranged things this way (opinions vary).

"Epigenes in certain circumstances lead to behavioral changes."

In all the book explores many fascinating findings and lines of research, suggesting our biology is complicated indeed but that answers to basic questions are gradually being found. On the other hand, I would have preferred more focus on matters of greatest interest, mainly, how we can overcome all sorts of things that *make* us sick, not excepting aging itself. As one case in point, though much was said about HGPS and how it is a rapid form of aging that we'd certainly like to treat, it was not mentioned that HGPS sufferers have shortened telomeres [1], at least roughly approximating the condition of elderly, normal humans. I got the feeling that there was more interest in relating a series of interesting anecdotes than in addressing how to better the human condition in fundamental ways (among them curing aging and radically extending the human lifespan), even though some of the research clearly has that potential. ■

"If such a great acceleration in aging is possible in so simple a manner, the author speculates, then maybe aging itself has been "programmed" by natural selection, a form of "biological planned obsolescence" to help gene survival, albeit at the expense of individuals."

NOTES

[1] See, for example, Michelle L. Decker et al., "Telomere length in Hutchinson-Gilford Progeria Syndrome," *Mechanisms of Ageing and Development* 130(6), 377-83 (Jun. 2009).

COMPANION ANIMALS AT ALCOR:
SOME LESSONS FROM THE EARLY YEARS

By R. Michael Perry

Companion animals—pets—are important to many people, and cryonicists are no exception. Indeed, companion animals may be especially important to many cryonicists who often are childless and single. Such people naturally want their pets to accompany them in life after resuscitation, and accordingly have long been active in arranging the preservation of their pets for such a possibility. In addition to addressing the needs of members and their pets, pet cryopreservations have been an important source of research data.

Here we explore some highlights of pet cryopreservations at Alcor, with emphasis on the early years. Our first case actually started outside of Alcor. Mike Darwin (born Federowicz; "Darwin" was the durable moniker given in his Catholic high school for his atheistic belief in evolution) is one of the pioneers of cryonics and has been involved in the practice since the 1960s. From 1982 to 1987 he was also president of Alcor. Before that he headed Soma, Inc., in Indianapolis, Indiana, a for-profit organization to provide cryopreservation and consulting services for cryonics groups. The one group they did provide major services for was a nonprofit sister organization, the Institute for Advanced Biological Studies (IABS), headed by Steve Bridge (also a past president of Alcor, from 1993 to 1997), whose offices were ten blocks away in downtown Indianapolis. Mike as IABS Staff Researcher (in addition to heading Soma) nominally worked under Director of Research Joseph Allen, though in fact supplied most of the expertise. (Mike, Joe and Steve are all Alcor members today.)[1]

In the fall of 1978 Mike's much-loved dog and childhood companion, Mitzi, was fourteen and nearing her biological terminus, ill with cardiovascular problems and cancer. A canine in this position is luckier than a person, who today as well as back then has to let nature run its course, undergo the precarious, protracted ritual of self-dehydration, or get a lucky, "natural" break such as lethal pneumonia. Hasten a person's "death" in the interest of a good cryopreservation and it's "homicide"—which would likely lead to autopsy of the patient and murder charges against those trying to help. (A few jurisdictions in the U. S. and abroad now allow assisted suicide or euthanasia but so far this difficult-to-use and controversial option has not been used for cryonics.) But an animal can simply be "put to sleep"—in this case anesthetized, cryoprotected and cooled to cryogenic temperature, and thus get the best possible medical treatment for a future life. So when the time was right IABS organized the cryopreservation as its first research project. Mitzi—under Mike's direction—was anesthetized, perfused with glycerol solution, and preserved as a neuro.[2]

The IABS newsletter of the time reports the pioneering event strictly as a research effort, with technical but no personal details: "The subject was perfused with a glycerol-based solution; 10 liters of 7% glycerol and 30 liters of 20% glycerol [about 2M[3]]. For a first project, the operation went fairly smoothly and accomplished most of the goals set for it. In particular, we were pleased that, as far as could be determined, there was no warm ischemic time." The report continues with a terse, clinical summary of the main accomplishments. "This project was planned primarily as a marker for future perfusions. The data generated gives a sound foundation for comparison with future research results; the dog's head will provide a marker in time to test the effects of long-term storage in liquid nitrogen; and this will provide future researchers with a non-human subject on which to test revival procedures. In addition, it provided us with a chance to test our perfusion capabilities."[4]

Mitzi and the young Mike Federowicz with "Grandma" Pearl Reinacker, a friendly neighbor and "second mother" to Mike in Indianapolis, circa 1966.[7]

Granted, this sort of language is not likely to tug at the heartstrings of many pet-lovers. One must "read between the lines" to discern the labor of love and caring that was really occurring that day in the (also noble) service of scientific research.

Alcor and IABS would merge in 1982, and Mitzi would become an Alcor patient (as she is today). Steve would comment, "I think Mike's work on this operation will be rewarded, if cryonics works for any of us. It is ironic that, because of the laws which require us to wait for cardiac arrest to suspend [cryopreserve] humans, this dog probably got better treatment than all but a handful of the human patients now in liquid nitrogen." Mike himself would comment, "In November 1978, I put my own dog into biostasis and she rests there now, quietly waiting for me to join her. Sometimes people snicker or sneer when I mention that my dog is in suspension. The one thing they never succeed in doing is making me feel embarrassed, weak or bad for putting her there. I valued her as I have valued few things in life; her decency, devotion and unbridled joy in living were and are reflections of my highest values. I am not ashamed that I acted to conserve them."[5]

"In addition to addressing the needs of members and their pets, pet cryopreservations have been an important source of research data."

It is worth remarking that essentially this was the first pet cryopreservation. True, animals had been frozen before—going back to the dog Bel that Ev Cooper's group froze in December 1965. But these were research animals, not (as far as I know) companion animals whose owners wanted them revived as such someday. It started a trend—by now (2014) there are over 150 pets preserved at different organizations. It also established Mike Darwin as the pioneer and principal authority for pet cryopreservations, a role that would continue into the 1990s.[6]

The next pet case after this—actually Alcor's first—was in October 1986. About two years before this, Alcor activists and members Cathy Woof and Thomas Donaldson had inquired about cryopreservation arrangements for their cat, Daisy, who had developed serious kidney disease. Though it was agreed that Daisy could be cryopreserved, she received good veterinary care, and for a while was in reasonable health. Finally though, she developed a malignant tumor in her throat and it appeared that she would arrest within a few months. As the end approached her owners flew down from their home in northern California to Alcor, then headquartered in Fullerton.

Mike Darwin commented: "In many ways Daisy had a far easier and better time of it than we humans are likely to. She entered suspension at just the right time; in the closing hours of life when she was no longer able to eat or drink, but was still mentally intact and surrounded by people who loved and cared about her. Because there was some advance notice, the perfusate was mixed, the circuit was set up, and there were no delays. She was anesthetized with no struggle and her last experience was being held and stroked by those she had spent a lifetime with and had come to trust."

Also according to Mike the cryopreservation "went very well technically." At this point Alcor had only six human patients, only one of which had been perfused with a glycerol solution. (To this total must be added some research animals, which were not pets and not intended for long-term cryopreservation.) The earlier human cases had used DMSO as the active ingredient, which usually caused unacceptable swelling or edema. Glycerol avoided edema but had another problem, as Mike further noted. "We reached a terminal glycerol concentration of 4.2M in Daisy, which is higher than we have reached in any other animal we've perfused. … We learned a fair amount from Daisy. Technically she re-emphasized to us the urgency of finding a better cryoprotective mixture than glycerol. Despite the fact that we perfused Daisy at a temperature of 19°C during glycerol introduction, dehydration was still very severe." The search for cryoprotective agents would continue and culminate in the present vitrification protocol, in which a DMSO solution is once again used, though differing from past perfusates.[8]

Ron Putirka's mom, Elizabeth Pugliese, with Benje, about 1984[13]

Like Mitzi, Daisy had been a neuro. The next case, in April 1987, was a whole body, this time from a non-member. The dog was maintained by Alcor until October 1991 then returned to its owner who by then was far behind on payments. (Since then pet cases have been limited to Alcor members, and full up-front payments are normally required.)[9]

The next pet case, in late April 1989, came from overseas and was something of a landmark with implications for human emergency cases. Michael Connaughton, in Melbourne, Australia, was only in the signup process but was granted benefit of doubt to cryopreserve his ailing, 12-year-old Laborador retriever, Rebecca. The plan was to fly her out to Alcor in Riverside, California and go from there. Unfortunately, the dog experienced congestive heart failure and arrested unexpectedly. What to do? Call Alcor. Mike Darwin was able to provide some simple instructions for

Author's cat Aido was unofficial Alcor Mascot and Special Liaison Officer for nearly two decades until he was cryopreserved at Alcor in 2012.

heparinization (to prevent blood clotting) and cooling, and arrange with a cooperative, local mortician to perfuse Rebecca's head with a formalin/glycerol/saline mixture. Penetration of the fixative appeared to be excellent and the patient (another neuro) was chilled to dry ice temperature. "Fixative perfusion was used in this case," Mike said, "because of the impossibility of getting good cryoprotective perfusion (fixatives stabilize tissue ultrastructure during freezing) and because of the legal difficulty of transporting unfixed canine tissue into the United States from Australia." With an embalmer's certificate and the frozen patient labeled as a "natural history specimen" the bureaucratic paperwork was finally completed late in May and Rebecca arrived at Alcor June 9.[10]

Her owner had this to say: "Becky gave me everything she had and asked for nothing in return. She was an only joy in an otherwise lonely life and she turned an extreme introvert into somebody who had to find a way for her to survive. It is now my turn to give her everything I have. She deserves her second chance for what she really is: the most beautiful creature I have ever known. She comes with me; and how could it be otherwise?"[11]

"In many ways Daisy had a far easier and better time of it than we humans are likely to."

A few days later, June 15, an ill and aged French Poodle named Pierre belonging to Alcor member Jo Ann Martin was cryopreserved as a whole body. The owner and her pet lived only a few miles from Alcor's facility, then in Riverside, California. Pierre was treated as a human member under good conditions—with the additional benefit that the procedure was started premortem—and glycerolized to 4M.[12]

The next case I will consider occurred two years later, in May 1991. Benje, a small brown terrier, was old and ailing. His owner, Ron Putirka, recalled how, in healthier times, Benje would accompany him when he ran for exercise at a local, circular track. First the dog would race ahead and lap his slower human buddy a time or two, then slow down and respectfully just keep up until the running was over. In other ways the two bonded and, when it came time to cryopreserve (premortem), Ron was too emotionally wrought up to take care of it himself and had someone else bring in the dog, who was preserved as a whole body. Ron stayed a member of Alcor for many years but finally had to drop to associate status due to financial difficulties. Now nearly 70 and living on a small retirement income, the onetime professional singer hopes to reinstate his cryonics arrangements, and has the additional burden that his mother recently deanimated. Again funding was too meager for cryopreservation so Ron did what seemed best under the circumstances: his mother's brain is now preserved in fixative and a fundraising effort with the Venturists is hopefully about to begin so cryopreservation can occur.

As I write this, nearly a quarter century has passed since the cases noted above. Alcor now has 52 pets in cryopreservation, including all these cases except the one belonging to the non-member. The totals, all cats and dogs, break down as follows: cats: 30 neuros, 5 whole bodies, total 35; dogs: 14 neuros (including two brain-only), 3 whole bodies, total 17. Currently, Alcor's human patients total 123, so there are 42% as many animal patients as pet patients. Some Alcor members have more than one companion animal in preservation. In all, though, there are 36 members with one or more pet currently preserved. (Most of these owners are animate but at least one is now also a patient.)[14] A very few former Alcor members, like Mr. Putirka, also have pets in storage.

Companion animals raise interesting issues. "Animals are people too," their owners will assure us, with personalities, feelings, and preferences. As we've seen, a companion animal can have an especially important place in the life of a cryonicist. It thus would be important that his or her pet make the journey too, and that the prospects for the successful resuscitation of a pet may be good. It has been noted that resuscitation of an animal may be easier than for a human. For one thing, there is the possibility of starting the cryopreservation premortem so that overall the preservation is better. For another, an animal is less complicated and thus perhaps more fault-tolerant in terms of shortcomings that may occur in the cryopreservation process or what leads up to it. An animal should also have fewer adjustment problems on resuscitation. And cryopreservation is generally much less expensive for an animal than a human, particularly if the neuro option is chosen, including brain-only.

"Currently, Alcor's human patients total 123, so there are 42% as many animal patients as pet patients."

If cryonics succeeds as intended, it could open a future of options beyond imagining, both for human patients and their pets (and other animals that manage to "get onboard.") Some of us are fond of talking about enhancing our intelligence and other experiential faculties, but the issue can be raised for animals too. What enhancements, and how much how soon, should we consider for our nonhuman friends and associates? This I will leave for the reader to ponder. ■

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3. AY.
4. SB1.
5. SB2, MD3.
6. EC, AR, CI.
7. MD5.
8. MP2, MD3 (covers preceding two paragraph).
9. AR, personal recollections.
10. MD4.
11. MC.
12. MD4.
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14. AR.

Keeping a Family Together: Reflections on Cryonics

By Katy Pine

At the beginning of last summer, I commented to my four-year-old daughter, "Only two more days of school left, and then summer!"

With a worried look on her face, she said, "And at the end of the summer... at the end…" — her eyes began to redden — "At the end of the summer... I will die."

Horrified, I said, "What?! No, you won't!"

"When will I die?"

"Sweetie, I don't know!"

Her eyes brimming, she replied, "I don't know either."

She was just four years old. That was when she started saying things to me like, "Mama, I don't want to die," and, "No one knows when they will die." It was absolutely heart wrenching.

I know it's not uncommon for children to become interested in death around that age. Children notice the passing of the seasons, plants withering and dying, and they begin to ask about death. They pick up on these things. Children often ask if they will die, or ask if their family members will. Perhaps they had a grandparent die. Or maybe they saw an unlucky squirrel in the road. In time, though, most children accept death as fact and move on.

It seemed different for my daughter. She had dreams about dying. She wanted to talk about her dead grandfather, whom she barely knew. She was deeply upset if she caught us killing insects in our home, or slugs in our garden. She was terrified that one day the sun would expand and consume the earth. Most of all, she repeatedly stressed that she *did not want to die.*

What do you even say to that?

My husband and I are atheists, and we are raising our three children in a secular household. More than being non-religious, I wanted to offer only truth to my children. We never pretended Santa gave them presents, or a Tooth Fairy traded money for their teeth. The Easter Bunny was a freak of nature... a bunny with eggs, what?! So given our non-religious, highly truth-based parenting style, I couldn't give my daughter any of the age-old myths of life-after-death to quell her fears. I couldn't tell her that everything would be ok. I couldn't tell her we would all be together again someday, somewhere, somehow.

But there was a story we could tell her, a comforting tale that might even be true. Your body can be frozen when you are too sick to live anymore, and after a long wait, you may be awoken when doctors can give you new medicine to make you healthy again. My husband had been aware of cryonics for many years, but didn't really know what to make of it. My daughter couldn't really understand what cryonics meant. And yet, since she'd be hearing it from her parents, she would believe it. She would *want* to believe it.

After months of these intermittent heart-breaking conversations, my husband finally broke down and told our daughter about cryonics. And it comforted her. She started saying "The scientists will freeze me when I die, and then it will be better." But then I began to feel uncomfortable.

How realistic is this prospect? What do we really know about the feasibility of this? Am I only telling her this to comfort her? Is this just another life-after-death myth, given a shiny future coating?

I'm not a scientist, but I'm a certainly a believer in science. As Carl Sagan said, science is our candle in the dark. You might say I have a "faith" in science, of sorts. I think it's quite likely that humanity will achieve immortality through science… someday, somehow.

And yet, I'm not a scientist. I don't know how. I've only looked into the research a bit, not because I'm not interested. On the contrary, I'm an avid science spectator. I'm excited about the possibilities and sincerely hope that I can share a long future with my family. But nothing that I've read has empowered me to make a decision right now. If anything, I feel more awash with uncertainty.

As far as I can tell, there are several paths to immortality. Some people are working with low-temperature vitrification, some are investigating plastination. Some people think we'll be able to upload ourselves, or create a superhuman intelligence who will solve all our problems for us. And then there are those who think we will solve aging first and avoid the problem altogether. How am I to know which path to follow?

We can hedge our bets and make cryonics arrangements now, and let the scientists figure the rest out. We'd be covered if something happened to one of us or the children in the near future. But what would happen then? Orchestrating the future for my family is daunting, but it's my responsibility. At the point that my child undergoes this procedure, though, I'm entrusting her well-being to someone else. I would hope that the rest of us would be preserved also, to be awoken at

some point, together. But there's a lot of uncertainty in that hope.

I value knowledge and have little respect for faith. And yet, in the absence of scientific consensus, I would have to put my *faith* in cryonics to take care of me and my family; possibly to take care of us for a long, long time. And I don't really have much faith to give.

I can't tell if cryonic preservation really is the right decision for myself and my husband, but the central question for me is whether it is right for children. Is it possible? Is the procedure the same for a child's body? Is there child-sized equipment? What special legal arrangements would have to be made? If neither parent is successfully revived, what happens to those children? Should I just throw all caution to the wind because the consequence, permanent death, is so huge?

Realistically, we don't have the resources to make cryonics arrangements as things stand today. I know you don't have to be pharaonically wealthy to make the arrangements and that there are relatively easy ways to arrange for funding, such as life insurance. However, there are five people in my family, so these costs would be much higher. Five times "easy" isn't necessarily easy anymore.

Making cryonics arrangements right now will split our family's resources. We won't be able to plan as effectively for the future that we will most likely face (the average experience of gradual aging, hopefully gracefully and for a good long while.) I have to provide for our children, and to protect them. I would do anything to protect our children. I just have to figure out what to protect them against.

Cryonics will not save my child from a car accident, drowning, a fire, falling, or poisoning (the most common causes of accidental death in children). My children don't have any known genetic conditions that threaten their health. We are following vaccination schedules and eat a very healthy diet with as much physical activity as we can fit into our modern lives. My husband and I are above-average healthy (though we feel, as most adults do, that we could be doing more for our health). Maybe it sounds like I'm just procrastinating...

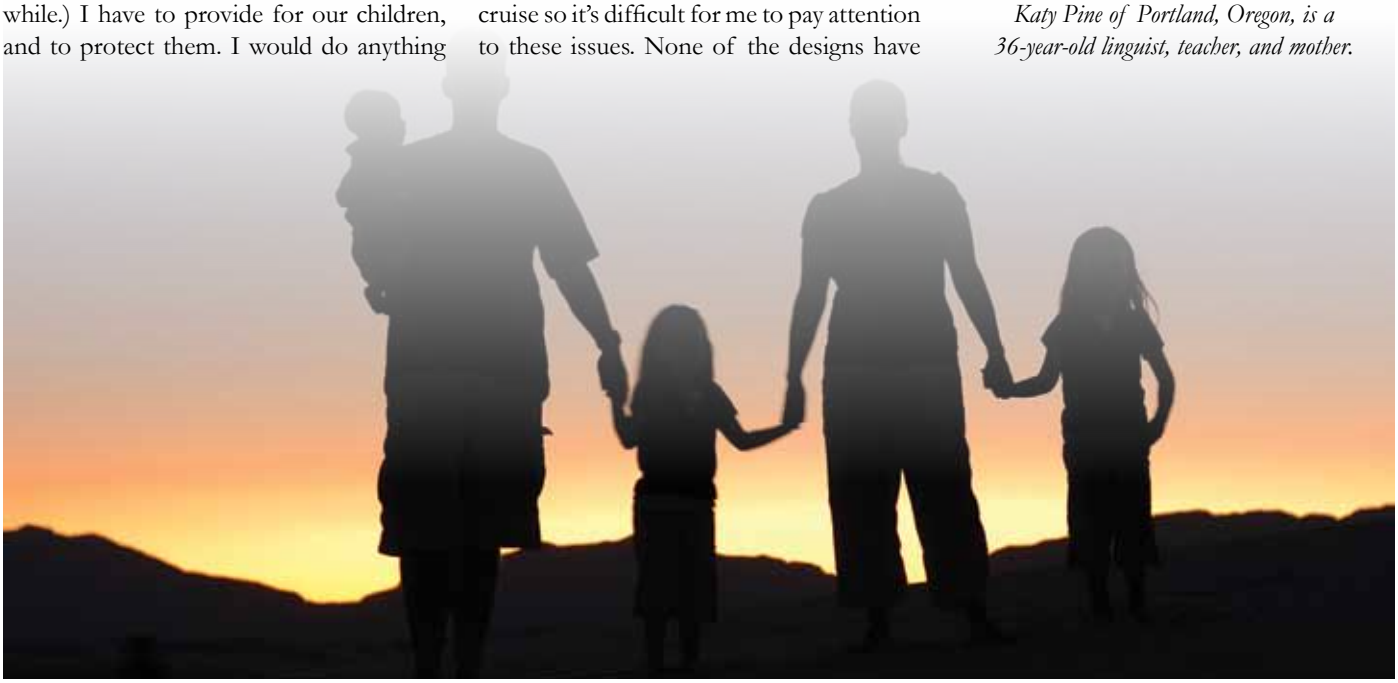
I want to be prepared, but I don't want to be afraid. My children are safe and healthy, I do everything I can to take care of them; this is the biggest responsibility I will ever have. I know this means planning for unlikely events, and trusting others to take care of my children when I can't. The unknown time-frame and the uncertain future of the technology make me feel out of control. Entrusting someone else with the responsibility for my children, especially under this level of ambiguity, feels almost like abandoning them, even if it is the wisest decision. And that's a big "if."

I feel like I'm on a fantastic ocean liner, at the beginning of my voyage, being asked to vote for which type of lifeboats should be built as we sail away. It sure seems like a good idea for us to have some lifeboats... but I'm not a boatwright or an engineer, and I'm just looking forward to a fantastic cruise so it's difficult for me to pay attention to these issues. None of the designs have been fully detailed, but all the engineers are very enthusiastic. I'm responsible for making this decision for three little people who are depending on me to do the right thing.

Who will be on my lifeboat, and where will it land? I suppose faced with the actual life-or-death decision, in that moment that your ship is sinking, you just pick a boat, any boat, and hope for the best. Maybe some of us make it, and some of us don't. But that's not my situation. We don't actually have medical lifeboats yet, at least not any that work. All the boatwrights are exciting and hopeful, and persuasive. I'm sure anyone who's spent time discussing this has also had the same thoughts, and had the same questions raised. It's not just a lifeboat, it's a time capsule, and we don't know the final destination. Should I throw my children into that boat?

Aside from my hopes and reservations, I have to face the potential consequences when I make an important decision for my family. I hope I'm raising my children to be strong, smart, scientifically-minded people. I hope I'm raising my children to be the type of people who hunger for the future and aren't afraid of what they will find. When they are old enough to make their own decisions, I will be happy to be relieved of the burden. But now when they are still so young, would they actually thank me if only one of us survives and is then alone? At what age can I set my child adrift alone in future seas?

Katy Pine of Portland, Oregon, is a 36-year-old linguist, teacher, and mother.



Interviews with Alcor Members about Cryonics and Children

Interview with Robert Dubose

1. Is your whole family signed up with Alcor?

Yes, my wife and two sons (13 and 16 years old).

2. How important is it that your family has cryonics arrangements, too?

I signed up first and hoped they would join me, which they have now. I had to persuade my wife by asking her to sign up as my birthday present. Then I had to pay half the funding for her.

3. How did you (or will you) explain cryonics to your children?

I explained the process to the boys, and that it was kind of like in the movies. I waited until each one asked me to make arrangements for them, then I made the arrangements.

4. How do others respond to making cryonics arrangements for your children?

I think the rest of the family is embarrassed. They have never expressed interest. Of course my Alcor peers are supportive (Alex Bokov, Rebecca Lively, Shannon Vyff).

5. What advice do you have for parents considering signing up their children?

Explain it to them. Don't promise that it is certain they will be revived, but that many people want to make this possible. I waited until they asked for arrangements. That way they are less likely to back out. The conversations took several years.

Robert Dubose is a biomedical engineer, and doctoral candidate in the same field. His goal is to invent medical devices for the prevention of pressure sores in the elderly and disabled. He grew up in San Antonio (or South Texas), has family roots back to when Texas was part of Mexico, and has a small ranch in the Texas Hill country.

Shannon Vyff & Family

Interview with Shannon Vyff

1. Is your whole family signed up with Alcor?

I am, as well as my three older children. Our new baby and my husband are not fully signed members but are covered under my trust to have their cryopreservation paid for to Alcor or the Cryonics Institute.

2. How important is it that your family has cryonics arrangements, too?

I have always figured that it is important, although my kids have grown up thinking cryonics is a good idea, too. My eldest, age 17, who is going to MIT, told me that she wouldn't consider a guy unless he thought cryonics made sense. My husband is fine with me having him preserved if he dies first, as I would have custody of his body as next-of-kin. He says he will finalize his own cryonics arrangements if something happened to me. He also is open to me finalizing his arrangements which I may coordinate in the next few years.

3. How did you (or will you) explain cryonics to your children?

When my kids first understood what death was, at around 4 years, I would also talk about the possibility of cryonics. At some point each child has had a realization of what death is, and they also have heard various arguments as to what happens to a person after death. I have always encouraged them to analyze things on their own and make their own decisions.

I explained to my young children that some animals such as the wood frog can be frozen during the winter and then come back when the weather warms. They can do that because they have sugars that are released in their blood that keep the cells rounded and protected, and they have evolved a few ways to survive the freezing. Humans don't have the ability yet to survive freezing. Some people get frozen in order to wait until a time when medicine and technology can bring people back from being frozen. Right now when people are frozen to be kept at a cryonics facility, cryoprotectants replace their blood. A long time ago before there were hospitals people died from things that can be fixed now. Not everything can be fixed but people are working on it and several hundred years in the future many things that people die of now will be able to be fixed. No one knows if cryonics will work but someday people may figure out how to bring back

those who were frozen and how to repair the things that would have killed them.

4. How do others respond to making cryonics arrangements for your children?

I have never had any negative remarks, well other than from those who tell my children they will live again if they do cryonics—that is something that I absolutely do not. They all know they can choose what they want as adults, and also know that they may encounter problems with others' views as they create new families. I know from talking to other cryonicists who have raised their children in a cryonics household that some do not choose cryonics for themselves when they are grown and I'd accept that.

5. What advice do you have for parents considering signing up their children?

Talk to your children about it. See what they think of the common arguments for and against cryonics. This can be done in a form appropriate for any age level, from talking about the basics to going more in depth with societal and cultural issues. The book I wrote, *21st Century Kids*, is written from the point of view of kids from who are resuscitated in the future — cryonics has worked but they have some guilt and anger about it. Several issues that kids will be presented with by their friends and families as cryonicists now are addressed. I heard back from a few parents who said it helped their kids when they talked to family members. Another issue about under-age children is that any other legal guardians of your children also should be on board, so if you are considering cryonics arrangements for your children and have not okayed it with any other legal guardians then that is the first step before talking to your kids. It is an unfair situation to pit a child against another adult, if your child wants to do it but their other legal guardian is uncomfortable with it.

Shannon Vyff is a mother of 4, author of 21st Century Kids*, co-author of* The Scientific Conquest of Death. *Alcor and Cryonics Institute member, board member of The Society for Venturism and LongeCity, LLL Leader, UU RE volunteer, social activist and children's activities coordinator.*

Bret Kulakovich & Family

Interview with Bret Kulakovich

1. Is your whole family signed up with Alcor?

Yes, the five of us, Sarah, myself, Molly (11 years), Ada (8 years), and Loki (5 years).

2. How important is it that your family has cryonics arrangements, too?

It is an absolute necessity.

3. How did you (or will you) explain cryonics to your children?

We keep it simple, and only for the older kids. In brief, people with different backgrounds/cultures do different things, like have burials, wakes, etc. We have chosen a process similar to freezing, with the thought that we might one day be revived.

4. How do others respond to making cryonics arrangements for your children?

Rudi Hoffman has been great, Alcor has been great. We didn't deal directly with the insurance companies, so I don't know how that went. I do not know how much of our healthcare staff, PCP, etc. are aware.

5. What advice do you have for parents considering signing up their children?

I would assume that any parent that held that cryonics was a good idea for themselves, would want it for their children. I would keep it simple, and if possible let the child start the conversation. Have something gentle and prepared to say, again keep it simple. You could be driving to the market and stop at a stop light, across from a graveyard — the conversation could be very natural. Be kind and sort of matter-of-fact, keep it plain. It's not to raise hopes, as much as present the view. Remember that for the child you don't have to have the same conversation you'd have with and adult. This isn't an "alternative" view since the child does not yet have a view. They will have your view.

The Kulakovich family lives in Southern New England where they enjoy time together outdoors. They have been Alcor members since 2005.

Interview with David Croft

1. Is your whole family signed up with Alcor?

No. Just myself and some of my children.

2. How important is it that your family has cryonics arrangements, too?

Medium importance. It is something they should be aware of so they can make an informed choice on their own.

3. How did you (or will you) explain cryonics to your children?

For the youngest, comparing it to "carbonite" as used to transport Han Solo in Star Wars seemed to help. For the older children, they just seemed to get it.

4. How do others respond to making cryonics arrangements for your children?

No one has ever said anything to me about it.

5. What advice do you have for parents considering signing up their children?

Every Easter holiday, in addition to the egg hunt and chocolate, I invite my children to consider signing up for cryonics. I am thinking of renaming the holiday to something like LifeHope. Instead of celebrating the resurrection of Jesus, we would celebrate our hope for a different kind of resurrection.

David Wallace Croft has a wife and six children. He studied computational neuroscience and works as a computer consultant.

Interview with William Eden

1. Is your whole family signed up with Alcor?

That depends how you draw the boundary around family. My wife Divia and our daughter Lydia are both signed up. None of the rest of our immediate or extended family have cryonics arrangements. We don't have arrangements for our dog either, currently.

2. How important is it that your family has cryonics arrangements, too?

On one level it is important to me philosophically, that Divia and I both agree on the same principles and live by them. When we met each other we both already wanted to sign up for cryonics, even though we didn't have arrangements yet. But on a more practical level, it is important to me that the people I am closest to in the world can continue into the future together. I want my best friends to have cryonics too—and everyone else, ideally, but that's a much harder sell.

3. How did you (or will you) explain cryonics to your children?

Since Lydia is only one and a half, we still have some time to think of the best answer. It seems like a natural extension to the conversation about death. If she understands from the very beginning that this is an engineering challenge, it won't seem unusual or out of place. I would also try to explain that not everyone held the same views, so she wouldn't be shocked when she learned people bury or burn their loved ones, and would anticipate this being a difficult position to hold in most conversations.

4. How do others respond to making cryonics arrangements for your children?

I am fortunate to live in the Bay Area, and I choose to surround myself with people who think cryonics is a good idea. If we hadn't signed up Lydia, I suspect they would have been outright disapproving! Outside of that circle I have had little reason to discuss Lydia's cryonics arrangements, though it would probably go the same direction as most such conversations do. I'm totally willing to stand up for myself and my beliefs and seem weird to other people if necessary. It helps a lot that my immediate community is accepting, even if the general population isn't.

5. What advice do you have for parents considering signing up their children?

Having a supportive partner first, and a supportive community second, are going to be the biggest things in your favor (by the way, if you're seriously considering cryonics, you would probably like the Bay Area). Do it when your kids are very young, let them grow up with this being the way things are. Basically, do it in a way that doesn't require convincing anyone if at all possible, or else you're going to be fighting an uphill battle the whole way. Of course, not everyone finds cryonics early enough to make this work. In that case, your best bet is to have supportive friends of your own to help you through the coming conversations. My biggest advice there would be to empathize with people's emotional concerns before ever trying to convince them with a logical argument, or you will find yourself beating your head against a wall of rationalizations.

William Eden is the Director of Communications for Peter Thiel. He and his family live in San Francisco, CA. (See cover photo)

Interview with Elizabeth Osawa

1. Is your whole family signed up with Alcor?

My whole immediate family (my husband, our children, and me) is signed up.

2. How important is it that your family has cryonics arrangements, too?

It is very important to me, but it's not something I would do against their will once they are adults. It is something that I'm willing to pay for for them once they are adults. If for some reason the rest of my family stopped having cryonics arrangements I would certainly continue mine.

3. How did you (or will you) explain cryonics to your children?

I don't remember how we explained it to our oldest. He fully understood it before he signed up. Our two-year-old has been signed up pretty much since birth. I really don't know how people explain death to children without some hope of an afterlife so this is really my equivalent of "when you die you'll go to heaven." It's the little piece of hope that makes death less scary. I'm sure I'll explain it to him whenever the awkward topic of death comes up.

4. How do others respond to making cryonics arrangements for your children?

People are very different. It seems like some people are disgusted by it as if it's some sort of child abuse. However, most people respect it as a personal decision.

5. What advice do you have for parents considering signing up their children?

If you're signed up then obviously you've made the decision and performed the risk assessment for yourself. Why wouldn't you take those same precautions for your children?

Elizabeth Osawa lives with her husband and two children who are all signed up for cryonics arrangements. Her youngest child has been signed up since birth. ■

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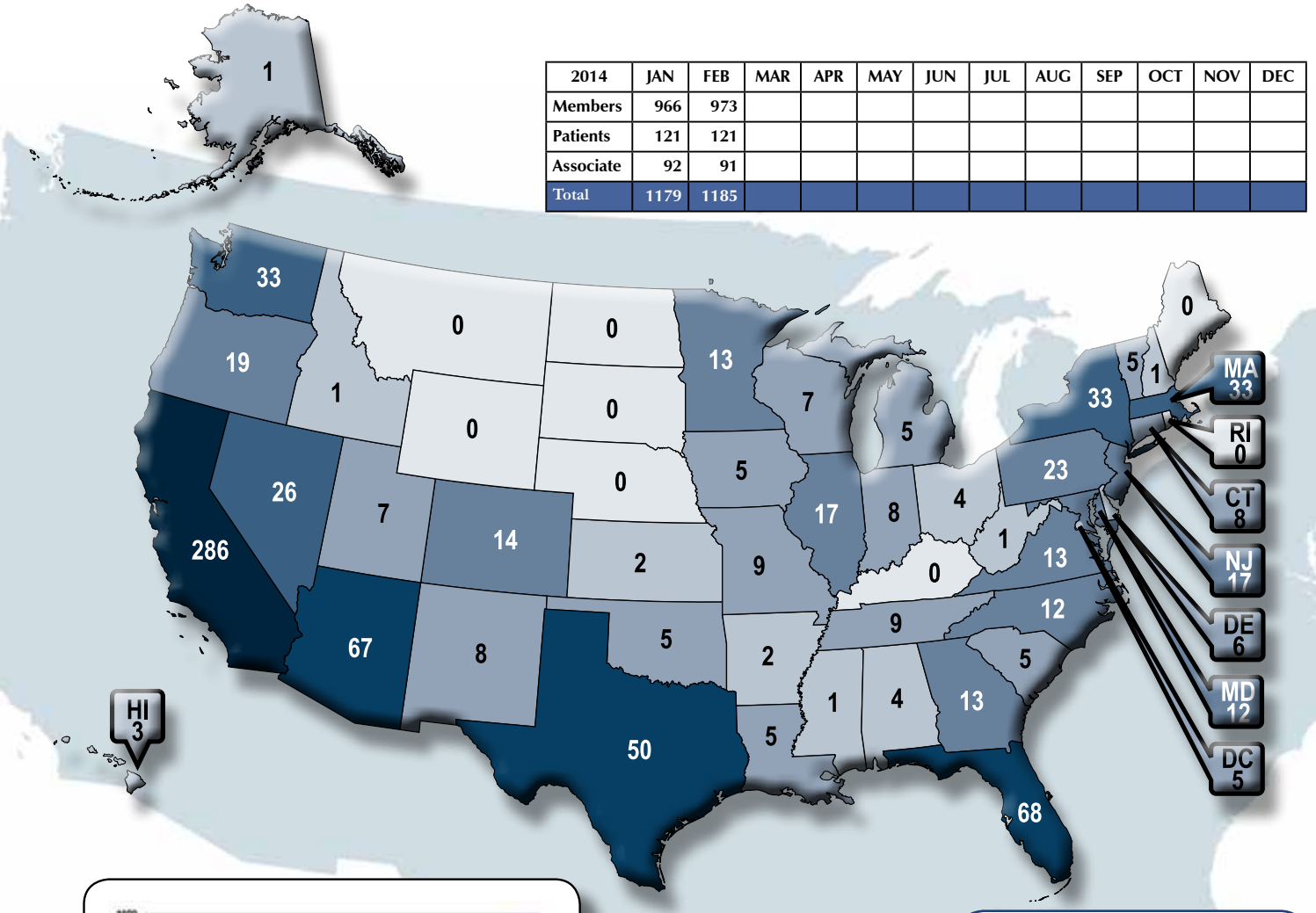
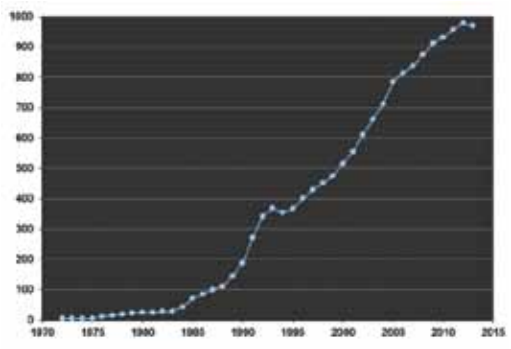
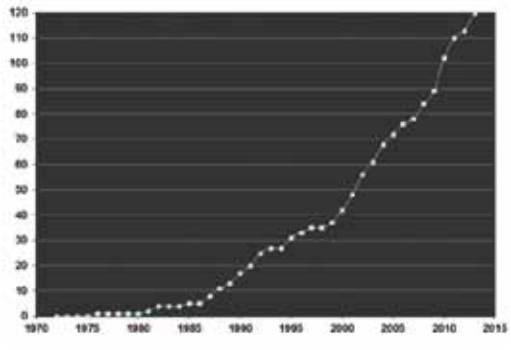
Membership Statistics

2014	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Members	966	973										
Patients	121	121										
Associate	92	91										
Total	1179	1185										





Number of Alcor members



Number of Alcor patients

- 0 Members
- 1–4 Members
- 5–9 Members
- 10–24 Members
- 25–49 Members
- 50–74 Members
- 75+ Members

International

Country	Members	Patients
Aruba	2	0
Australia	13	0
Canada	43	0
Denmark	0	0
Germany	4	0
Israel	1	0
Italy	2	0
Japan	1	0
Lebanon	1	0
Mexico	4	0
Monaco	2	0
Netherlands	2	0
New Zealand	2	0
Norway	1	0
Portugal	4	0
Spain	3	0
Thailand	3	0
United Arab Emirates	1	0
United Kingdom	20	0
TOTAL	**109**	**0**

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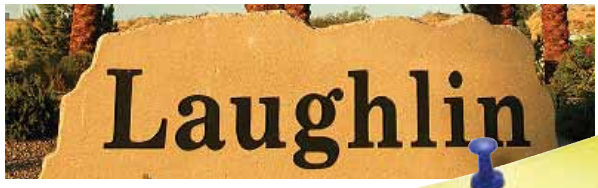

This Year's Cryonics Convention

This year marks the 50th anniversary of the publication in 1964 of *The Prospect of Immortality,* by Robert Ettinger, the book which started the cryonics movement. If you want to find the best information from authoritative sources about the current and foreseeable state of the cryonics movement as of this year, you have an excellent opportunity this coming November. The Society for Venturism is announcing its second Cryonics Convention at Don Laughlin's Riverside Resort in Laughlin, Nevada, to be held November 7, 8 and 9, 2014 at the Resort's Starview Room, a conference facility which offers a panoramic view of the Colorado River and the desert mountains beyond. The Starview Room also has space for the attendees' dining and for exhibition tables.

The convention will feature speakers who will discuss developments of interest to cryonicists, transhumanists, futurists and life extensionists. Some scientists who work in cryobiology and in the science of aging will report on their cutting-edge research. Other speakers representing Alcor and other cryonics organizations will report about developments at their respective organizations. Yet other speakers with long involvement in cryonics will discuss the history and philosophy of the cryonics movement on its 50th anniversary, the movement's current status, and where we would like to see it go in the coming years. And Mr. Laughlin himself will appear to take questions from the audience about anything, which he will answer with his humor and shrewd business sense, just like he did at last year's convention. The Society for Venturism will publish a list of speakers and their presentations in about a month at the Venturists' website: http://www.venturist.info.

Mr. Don Laughlin, a longtime cryonicist, has worked with the Society for Venturism to make the convention very convenient and affordable. The registration fee, payable to the Society for Venturism, is only $75. You have to reserve your own room accommodations through the Riverside Resort (details to be announced) at special low rates by mentioning that you are coming to the convention. Mr. Laughlin has arranged to provide all the meals for the attendees at special discounted rates inside the Starview Room so that you don't have to go down to the busy casino for your meals. The Starview Room also has a cash bar to provide beverages.

Attendees who have appropriate products or services they would like to offer or sell to cryonicists—books, T-shirts, supplements, CD's, magazines, etc.—will also be able to reserve free table space at the convention.

So mark your calendars in November for this event, and keep on the lookout for the updated information about the convention at the Venturists' website, http://www.venturist.info. If you would like more information, email Mark Plus, Secretary of the Society for Venturism at mark.plus@rocketmail.com. You can also call him at (928) 273-8451. ■

Why Should You Join the Venturists?

The Society for Venturism is one of the oldest organizations (established in 1986) which defends the rights of cryonicists to be cryopreserved.

Membership in the Society for Venturism offers the following benefits:

1. Venturist members receive the Venturists' Religious Objection to Autopsy card. This offers possible protection from an autopsy which would compromise the quality of your cryopreservation.

2. The Venturists have a Backup Trust which could offer possible protection of your cryopreservation in case your cryonics organization can no longer keep you cryosuspended.

3. The Venturists offer possible Constitutional protection of your right to cryopreservation because of its church status.

4. The Venturists hold regular, affordable conventions which are open to everyone in the cryonics community. These offer excellent opportunities to hear talks by scientists about their research into cryonics and life extension; they also provide a way to meet and network with cryonicists, transhumanists and life extensionists from around the world.

Membership in the Society for Venturism is very affordable, with an annual donation starting at $25 a year. Full membership requires being signed up with a recognized cryonics organization, and affirming the Venturists' Principles: (1) To try to do what is right; and (2) To work for the worldwide conquest of aging and death. You can find the membership application and ways to donate on the Venturists' website, www.venturist.info. For more information, contact Mark Plus, Secretary of the Society for Venturism: mark.plus@rocketmail.com, phone (928) 273-8451. Or write to: Society for Venturism, 11255 S. Highway 69, Mayer, AZ 86333, USA. ■

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MEETINGS

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Alcor's Emergency Response capability includes specially trained technicians and customized equipment in Arizona, northern California, southern California, and south Florida, as well as many additional certified technicians on-call around the United States. Alcor's Arizona facility includes a full-time staff, and the Patient Care Bay is personally monitored 24 hours a day.

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PHOENIX
VALLEY OF THE SUN:

This group meets monthly, usually in the third week of the month. Dates are determined by the activity or event planned. For more information or to RSVP, visit http://cryonics.meetup.com/45/ or email Lisa Shock at lisa@alcor.org.

AT ALCOR:

Alcor Board of Directors Meetings and Facility Tours—Alcor business meetings are generally held on the first Saturday of every month starting at 11:00 AM MST. Guests are welcome to attend the fully-public board meetings on odd-numbered months. Facility tours are held every Tuesday and Friday at 2:00 PM. For more information or to schedule a tour, call Marji Klima at (877) 462-5267 x101 or email marji@alcor.org.

CALIFORNIA

LOS ANGELES:

Alcor Southern California Meetings—For information, call Peter Voss at (310) 822-4533 or e-mail him at peter@optimal.org. Although monthly meetings are not held regularly, you can meet Los Angeles Alcor members by contacting Peter.

SAN FRANCISCO BAY:

Alcor Northern California Meetings are held quarterly in January, April, July, and October. A CryoFeast is held once a year. For information on Northern California meetings, call Mark Galeck at (650) 969-1671, (650) 534-6409 or email Mark_galeck@pacbell.net.

FLORIDA

Central Florida Life Extension group meets once a month in the Tampa Bay area (Tampa and St. Petersburg) for discussion and socializing. The group has been active since 2007. Email arcturus12453@yahoo.com for more information.

NEW ENGLAND
CAMBRIDGE:

The New England regional group strives to meet monthly in Cambridge, MA—for information or to be added to the Alcor NE mailing list, please contact Bret Kulakovich at 617-824-8982, alcor@bonfireproductions.com, or on FACEBOOK via the Cryonics Special Interest Group.

PACIFIC NORTHWEST

A Yahoo mailing list is also maintained for cryonicists in the Pacific Northwest at http://tech.groups.yahoo.com/group/CryonicsNW/.

BRITISH COLUMBIA (CANADA):

The contact person for meetings in the Vancouver area is Keegan Macintosh: keegan.macintosh@me.com.

OREGON:

The contact person for meetings in the Portland area is Aschwin de Wolf: aschwin@alcor.org

See also: https://www.facebook.com/portland.life.extension

ALCOR PORTUGAL

Alcor Portugal is working to have good stabilization and transport capabilities. The group meets every Saturday for two hours. For information about meetings, contact Nuno Martins at n-martins@n-martins.com. The Alcor Portugal website is: www.alcorportugal.com.

TEXAS
DALLAS:

North Texas Cryonauts, please sign up for our announcements list for meetings (http://groups.yahoo.com/group/cryonauts-announce) or contact David Wallace Croft at (214) 636-3790 for details of upcoming meetings.

AUSTIN/CENTRAL TEXAS:

We meet at least quarterly for training, transport kit updates, and discussion. For information: Steve Jackson, 512-447-7866, sj@sjgames.com.

UNITED KINGDOM

There is an Alcor chapter in England. For information about meetings, contact Alan Sinclair at cryoservices@yahoo.co.uk. See the web site at www.alcor-uk.org.

If you are interested in hosting regular meetings in your area, contact Alcor at 877-462-5267, ext. 113. Meetings are a great way to learn about cryonics, meet others with similar interests, and introduce your friends and family to Alcor members!

What is Cryonics?

Cryonics is an attempt to preserve and protect human life, not reverse death. It is the practice of using extreme cold to attempt to preserve the life of a person who can no longer be supported by today's medicine. Will future medicine, including mature nanotechnology, have the ability to heal at the cellular and molecular levels? Can cryonics successfully carry the cryopreserved person forward through time, for however many decades or centuries might be necessary, until the cryopreservation process can be reversed and the person restored to full health? While cryonics may sound like science fiction, there is a basis for it in real science. The complete scientific story of cryonics is seldom told in media reports, leaving cryonics widely misunderstood. We invite you to reach your own conclusions.

How do I find out more?

The Alcor Life Extension Foundation is the world leader in cryonics research and technology. Alcor is a non-profit organization located in Scottsdale, Arizona, founded in 1972. Our website is one of the best sources of detailed introductory information about Alcor and cryopreservation (www.alcor.org). We also invite you to request our FREE information package on the "Free Information" section of our website. It includes:

- A fully illustrated color brochure
- A sample of our magazine
- An application for membership and brochure explaining how to join
- And more!

Your free package should arrive in 1-2 weeks. (The complete package will be sent free in the U.S., Canada, and the United Kingdom.)

How do I enroll?

Signing up for a cryopreservation is easy!

Step 1: Fill out an application and submit it with your $90 application fee.
Step 2: You will then be sent a set of contracts to review and sign.
Step 3: Fund your cryopreservation. While most people use life insurance to fund their cryopreservation, other forms of prepayment are also accepted. Alcor's Membership Coordinator can provide you with a list of insurance agents familiar with satisfying Alcor's current funding requirements.
Finally: After enrolling, you will wear emergency alert tags or carry a special card in your wallet. This is your confirmation that Alcor will respond immediately to an emergency call on your behalf.

Not ready to make full arrangements for cryopreservation? Then **become an Associate Member** for $10/month (or $30/quarter or $120 annually). Associate Members will receive:

- *Cryonics* magazine by mail
- Discounts on Alcor conferences
- Access to post in the Alcor Member Forums
- A dollar-for-dollar credit toward full membership sign-up fees for any dues paid for Associate Membership

To become an Associate Member send a check or money order ($10/month or $30/quarter or $120 annually) to Alcor Life Extension Foundation, 7895 E. Acoma Dr., Suite 110, Scottsdale, Arizona 85260, or call Marji Klima at (480) 905-1906 ext. 101 with your credit card information. You can also pay using PayPal (and get the Declaration of Intent to Be Cryopreserved) here: http://www.alcor.org/BecomeMember/associate.html

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