



# **Cryonics**

**May, 1986**

**Volume 7(5)**

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## Editorial Matters

Wow. We're late this month. And this is the first time in the 6-year history of our publishing CRYONICS that we have been. Some of the reasons for this are discussed elsewhere in this issue and some we can't discuss here at all except to say that they are largely positive things, rather than negative ones. Nevertheless, we hope "normality", or what passes for it around here anyway, will soon return.

The workload lately has been murder!

## Crisis Update

The Chinese have a curse which goes something like "May you live in interesting times." Well, folks, things have been mighty interesting around here lately. On a good day its as exciting as the charge of a the Light Brigade, and on a bad day it's like finding yourself trapped in a script from GENERAL HOSPITAL or DAYS OF OUR LIVES.

Recently though, things have begun to look up a bit, and we thought we'd take a minute to tell you about what's happening. First of all, escrow has been opened on a new home for ALCOR. If all goes well we should be moving somewhere between late July and early September. Other good news is that the property manager for our current quarters has settled down, listened to reason, and given us a reasonable amount of time here so that we can make a smooth transition without interruption of service to California and other Western areas. We have also prepared some contingency plans which will allow us to keep going even if we have trouble. As an extra backup we retained an outstanding Newport Beach law firm to represent us should that become necessary.

Several members interpreted our article in the March issue of CRYONICS to mean that we would be shutting down service to people outside of California. This is incorrect, and we probably should have been clearer on this point. We have a facility in Florida which is not threatened by the liability crisis and which would be available to service all ALCOR members. If we were to temporarily lose a facility here we would still maintain rescue capability as well as blood pump/oxygenator assisted transport and a very high level of ER response services--even under the worst of scenarios. As it is, if all goes

well we will not be experiencing any discontinuity of service beyond that normally experienced when moving. We'll try to minimize that discontinuity by moving the operating room last and setting up our second (backup) O.R. in the new facility before we move the primary O.R.

All in all we feel on much steadier ground than we did a few months ago. The ALCOR Board decided to resume research work and to this end, we've completed a canine TBW (which is discussed elsewhere in this issue) and resumed work on ultrastructural studies. All of this has kept us incredibly busy.

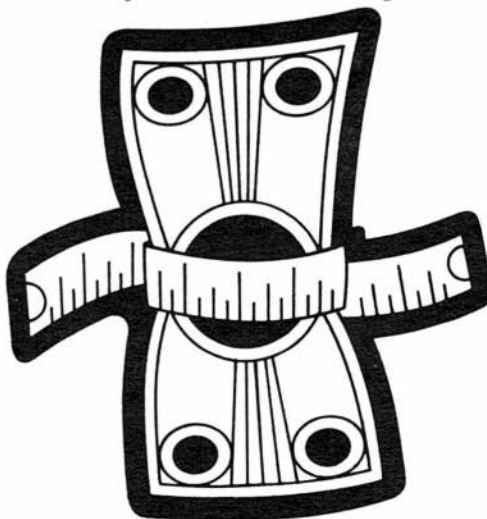
## ALCOR Dues Structure Changes

Now for the bad news. We have long deferred raising our dues or magazine subscription rates because we wanted to avoid loading down our membership with more of a burden than they are already carrying. It has been three years since our last dues increase and **seven** years since magazine subscriptions have increased. During this time we've substantially upgraded emergency responsibility (ER) services and have more than doubled the length of the magazine as well as greatly improved its quality. We would probably have let things stand as they were except for a number of factors which combined to hit all at once. I'll summarize them as briefly as I can.

First, Emergency Responsibility (ER) fees. Upgrades to the ER system have largely been paid for by voluntary giving: this means mostly voluntary giving by Hugh Hixon, Mike Darwin, Jerry Leaf, Saul Kent, and Bill Faloon. This is fine and no one is complaining (at least not too loudly anyway). However, these people cannot continue to absorb ongoing expenses, some of which have jumped significantly. Our rent has steadily increased over the last few years. In 1984 and 1985 it rose by almost \$100 per year! Now, we have just been hit with another rent increase—this one for \$70. We can't absorb that kind of expense.

We are also faced with the prospect of moving into a new facility. The lease between ALCOR and our landlord-to-be calls for a doubling of ALCOR's current rent share from \$200 to \$400 per month. This is still a bargain since it's not many places you get 3200 square feet of space for \$400 a month! Still, this cost and the cost of increased rent in our current facility must be covered. The upshot of all this is that effective June 1, 1986, we raise the dues to \$200 per year, \$50 per quarter.

In order to smooth out increases and to give you some kind of idea of what they'll be like, we are going to tie further increases in dues to the consumer price index. This should insure that the cost of cryonics isn't going to increase any faster than the overall cost of being a human being.



Costs for the magazine have risen steadily. However, once again a lot of little things combined to push us over the edge on the decision to raise prices. Our postage per piece was **doubled** in one fell swoop two months ago by the Postal Service. Our printer also just increased her rates as well. Another factor was the steady feedback we've been getting from a wide cross section of people that the magazine is undervalued pricewise. This was brought home to us recently when one of the major supporters of CRYONICS bluntly told us that he had no intention of contributing further unless we raised our rates. He said he felt that CRYONICS was worth considerably more than we were charging and that he wanted his contributions to support **increased quality**, not to subsidize subscriptions for people who should be paying for what they get.

So, we've raised the rates to \$20 per year for domestic subscriptions, \$30 for Canada and Mexico and \$35 for overseas subscriptions. This will be reflected in your next subscription renewal billing which occurs after June 1 this year. We hope this will help us hold down the deficit that producing CRYONICS creates.

Now, we have a question for you. What do **you want**? Would you rather see us hold our current level of quality and continue to raise subscription rates as necessary to cover the cost, or would you rather we cut back on quality (fewer illustrations and pix, shorter length, etc.)? Would going back to a very simple format of all text be more in line with the "realistic needs" of the cryonics community?

This is one issue where what you say will have a **lot of impact** and we intend to listen to you. So, let us here from you. The future of CRYONICS is in your hands.

## Coordinator Update

The Coordinator program is doing well. In fact, its doing better than we dreamed possible, and this in spite of the fact that we have not been able to give it the attention it deserves! ALCOR has not been as good as it should have been in responding to Coordinator's needs or in keeping in close touch with them. We'll try to do better in the future, but we've been busy as hell and we hope they understand that and have some patience with us.

Despite our neglect, the Coordinators have found plenty of good ways to keep busy. We're astounded at the level of spontaneous activity some have shown. One of our newest Coordinators, Dave Kekich of Johnstown, Pennsylvania has been one of our most imaginative and most active. Dave got people to attend our New York presentation, has run classified ads for us in HIGH TECHNOLOGY, libertarian magazines and "freebie" and specialty interest listings. He has been tireless in distributing ALCOR brochures and coming up with low cost options for promoting ALCOR. And it's working. We now get at least one or two high quality requests for information a week from Dave's efforts alone.

Coordinators Fred and Linda Chamberlain (Lake Tahoe) and Mike Perry (Boulder, Colorado) have combined efforts to form a new organization which operates inside MENSAs (see story below). MENSAs is a national organization for people with IQ's in the top 2% of the general population. They have started a newsletter and are also engaged in vigorously distributing literature and

talking cryonics up.

The spontaneous activity of these Coordinators—and the positive results they are beginning to show is encouraging. We're not naive enough to believe that new groups are going to spring up overnight due to the efforts of Coordinators. Nor do we have any illusions about massively swelling membership ranks. But what we do expect, and know, is that these grass roots efforts raise consciousness and bring people into the loop who will eventually become cryonicists. Dave Kekich's efforts alone have sold several subscriptions to CRYONICS. What's more, the steady distribution of our literature and the recurrent appearance of ALCOR ads in a variety of media will work to spread the word that we exist and that cryonics is real.

There's another message in this work the Coordinators are doing. And that message is that you don't have to be a Coordinator to promote ALCOR and cryonics. The vast majority of you take one or more special interest magazines or newsletters which offer low cost or even free advertising. Run an ad for ALCOR! Request some brochures and tack them up on the kiosks at colleges and supermarkets. Don't be disappointed if you don't get any immediate response. Cryonics is the kind of thing that people file away and forget about until something jolts them into awareness of their own mortality or the mortality of a loved one. Think about it this way: We are still getting a significant percentage of our new members from people who first heard about cryonics in the late 1960's or early 1970's. These folks are reaching middle age now and the idea that's "always been in the back of their minds" is moving up to the front. We must adopt the attitude that our promotional efforts may take years to work.

Coordinators: Keep up the good work! And try to think of even more ways to move things forward faster. We need all the help we can get. The rest of you, follow this example!

## MENSA Special Interest Group Forms

As we mentioned above, Coordinators Fred and Linda Chamberlain and Mike Perry have formed a MENSA special interest group for cryonics. MENSA is an organization of people with high IQs and one of the services they offer is the publication of a directory of "special interest groups" so that members with common interests can get together and exchange information, ideas and friendships.

The Chamberlain's and Mike Perry's idea to form a special interest group seems like a very good one. Whatever you may think of MENSA or of the relative merits (or demerits) of intelligence tests, it is an audience of people with above average to good brainpower and does represent a group of people who are probably able to grapple with complicated ideas. And cryonics is a complicated and subtle idea. Lest anyone think a MENSA cryonics/life extension group a chauvinist thing, or accuse ALCOR of being IQ chauvinists, I hasten to point out that the fellow who's writing this piece (Mike Darwin) would not qualify for MENSA membership. So, alas, not all of us can join the new MENSA group as full members.



The Chamberlains tell me that response to their listing in the MENSA directory has been good, with half a dozen or so people engaged in regular correspondence. That's really important, and one of our weak spots here at ALCOR: We just don't have time to carry on lengthy correspondence with most of the people who write. Unfortunately, that's exactly how you answer people's questions and build rapport. It's a hard lesson to learn, but we've found that people don't join organizations: rather they join groups of friends, groups of **people**. It's that personal, one-on-one interaction that really sells people and really results in them making a commitment. So, without further ado, here are the details on the MENSA "Abiolysig" Group:

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## Abiolysis Newsletter

Announcing:

**Abiolysis Macroscopic (AM)**, the newsletter of Abiolysig, a Special Interest Group of American Mensa, Ltd., concerned with "abiolysis" or "avoidance of death". **AM** will contain reports based on life extension predisposition data being gathered by the Lake Tahoe Life Extension Festival, and material on cryonics and other developments related to abiolysis. The primary emphasis will be on psychological and philosophical issues, rather than on technological aspects. **CRYONICS** and **Claustrophobia** have been invited to reprint any **AM** articles they find suitable.

Subjects of interest will include (but emphatically will not be limited to) the nature of human identity, motivations to pursue life extension goals, and how the emergence of artificial intelligence may require physical or psychological adaptations by those reanimated at some future time. Those who wish to do so are encouraged to submit articles to **AM's** editor, Mike Perry (1035 Adams Circle #222, Boulder, CO 80303)

For those who wish to be sure that they collect virtually everything in the suspended animation literature, purchase/subscription rates are \$1.00/issue or \$5.00 for six issues. Contact Fred Chamberlain, Abiolysig Coordinator, concerning subscriptions or membership in the Special Interest Group (Mensa membership not required for those who wish to join on an Associate Membership basis). Address correspondence to **Abiolysig**, Box 18968, South Lake Tahoe, CA 95706.



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We've really only one objection to the new group, and that's its name. We think there are enough coined words in cryonics already. But, it seems some culprit always wants to make things worse. We suspect Fred Chamberlain was behind the dirty deed. But, this time anyway, we'll forgive him.

# What Makes An Immortalist?

by Fred and Linda Chamberlain

At the last Lake Tahoe Life Extension Festival, discussions with a number of attendees led us to begin gathering data for identifying personal factors that predispose a person toward life extension goals. The stimulus was a talk on computer applications given by Fred, leading to a questionnaire project in which a substantial number of Festival attendees are now participating. Mike Perry, of Boulder, Colorado joined us in setting up a data relay, and has done an initial analysis of the first data obtained (which appears elsewhere in this issue of CRYONICS).

Discounts on registration fees at future Lake Tahoe Life Extension Festivals will be provided for those who participate in the project, and they will receive periodic reports of progress. Full data (except the identity of participants) will be provided to anyone working in the area of motivational analysis, with the hope that this will give us better answers sooner. Articles based on the data collected will soon be appearing in the newsletter of a Mensa Special Interest Group established to cover interests in suspended animation.

In the most basic sense, we're trying to understand why some of us are so strongly attracted to the idea of extending our lives indefinitely, while many, many others seem entirely "blind" to this concept. The contrast is so striking that it appears to be independent of the laws of probability, and (we hypothesize) there may be a limited number of factors or "blockers" which keep most people from taking an interest in life extension. If these factors can be identified, perhaps we can at least better understand what we are up against in finding others to join us in the effort to find solutions to the "problem of death". Perhaps we can also be more effective in communicating about this subject with those who appear to be completely oblivious to it.

For further information, write to us c/o the Lake Tahoe Life Extension Festival at P.O. Box 18698, South Lake Tahoe, California 95706. If you're interested in answers to the enigma of why some people are fascinated by life extension, while others couldn't care less, we'd welcome your participation in this data gathering project.

## Contributed Equipment And Supplies: Let's Make A Deal

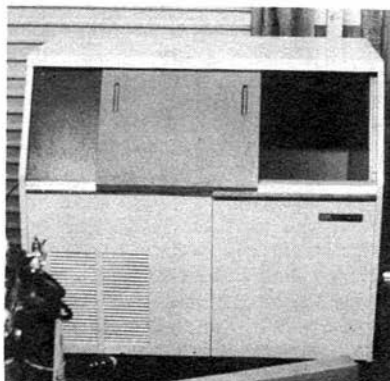
Along with our unexpected problems have come some unexpected benefits as well. Overall, it's been more unexpected good things than bad and we have several energetic and thoughtful people to thank for them. We'll deal with them in order of occurrence.

### ICE MACHINE

About a month ago Jerry Leaf rang up to inform us that a broken ice machine was going to be discarded at a local medical center. It seems that



the ice machine, used in this hospital's operating room to provide shaved ice for use in heart-lung machine heater-coolers, had developed a freon leak. Scotsman, the manufacturer, said that repair would require replacement of a \$500 part and about a 2-week wait while the part was back-ordered. Total cost of repair: \$1000. The ice machine was a high capacity unit (600 lb per day) with a 300 lb holding bin, and was only two years old. When new it sold for around \$3000.



Scotsman ice machine

Unfortunately for the hospital, they could not afford to wait around for two weeks without an ice machine. Patients requiring heart surgery can't be told to come back in two weeks. Scotsman doesn't have "loaner" machines available so the hospital had to buy another brand new machine. Jerry moved in quickly with an offer to haul away the old one and Cryovita and ALCOR ended up with an ice machine.

Enter Hugh Hixon. Hugh quickly diagnosed the trouble with the old machine: a leak from a cracked joint which might, just might, be repairable with a small torch and some silver solder—along with a custom made copper plate or two to shore up the patch. After a few frustrating missteps Hugh succeeded in repairing the machine and we now have an ice machine which produces high surface area, soft flaked ice. As a consequence of the repair job we now also have a small oxypropane or oxyacetylene torch. Total cost of the new ice machine including the torch: about \$100!

An ice machine is something that's been very high on our wish list for a long time. For one thing, ice is **expensive**. It costs about \$12 for each TBW we do for ice alone. Since we have no outside source of funding for the animals we're doing now, each \$12 comes out of one of our pockets, and all the other "thrown in" expenses for an experiment, it hurts. Another reason we've wanted an ice machine is the quality of the ice. In the cryonics business we're connoisseurs of ice. Cubed or the so-called crushed ice that we can get in the area here is very poor for use in external cooling or in heat exchangers. It doesn't "mold" well when used to pack animals or patients with and its low surface area reduces its efficiency considerably. Finely shaved ice (like that which is often used for beverages in restaurants) is preferred. Finally, there's the issue of convenience. Most of the research we do requires huge amounts of ice and you sometimes (most times) need more than you think you will. Having to run out in the middle of a complicated experiment (usually at some critical time) to get more ice can be a real problem.

Mike Darwin is especially grateful for the ice machine. He usually ends up working through till 3:00 AM or 4:00 AM the Friday night before a TBW and then has to get up an extra hour early (usually around 7:00 AM) to run over to the ice house in Fullerton and buy ice. Being able to sleep that extra hour before a 24 hour long experiment is no small matter.

Our special thanks to Jerry Leaf and Cryovita for playing in our "Lets Make a Deal" game! Total Value of DOOR #1: Approximately \$2000 (figuring in depreciation).

## COMPUTERS

Until a couple weeks ago, we had three computers, (or to be honest, 2 and 1/2--since one machine has passed into its dotage and developed a number of senile peculiarities which we're powerless to fix). One machine is a Kaypro (which works superbly), one is the senile Quick and Timely S-100 machine, and the last is our Apple Macintosh. While the Mac is great for graphics, it doesn't do letter quality work which meets our needs, and we haven't been able to get enough money together to get a laser printer. So, that leaves ONE machine to write letters on, put out cryonics on, and carry out business on. This means a lot of wasted time, since we often have three people here at once who could work in parallel if only we had another computer...or two...or three... We also have several people such as board members Brenda Peters and Sherry Cosgrove who do a lot of work for us at home, such as accounting, typing, and so on and who could really use a machine of their own. But, with things being as they are, there's no way we could afford such an outlay—or justify it even if we had the cash.



**Toshiba microcomputer**

Enter Sherry Cosgrove. Due to her diligent and creative efforts we now have **four brand new Toshiba T-300 computers; three with color monitors, 512K, 2 half-height floppy drives and 10 megabyte Winchester hard disk drives!** These machines are beautiful. So beautiful in fact we had to coax the Kaypro out of the corner where it went off to sulk.

Sherry pulled off the coup of persuading Toshiba International to donate the machines to ALCOR. We got the last four machines available from their charitable community service program. Sherry also got them to throw in a top of the line letter quality printer as well as a host of programs, including several integrated spreadsheet, word processing and data management packages (MultiMmate, Open Access and the Wordstar Package).

We're still working to get the machines up and running. Hugh Hixon and Sherry installed the first machine in Sherry's home a few days ago and our accounting and bookkeeping is now being loaded onto computer, which should dramatically reduce Sherry's workload. A second machine is in the process of being installed here at the lab. If that works out well we'll probably bring up yet another machine and move the Mac back to the operating room for real-time entry and graphing of data. The price tag for DOOR #2? A cool \$20,000. **THANK YOU SHERRY COSGROVE!**

## MEDICATIONS AND IV SOLUTIONS

Due to the persistent efforts of Mike Darwin and Hugh Hixon and the generosity of a donor who wishes to remain anonymous, ALCOR has been accumulating medications and IV solutions at a phenomenal rate. In the last three months alone ALCOR has been given nearly a **ton** of IV solutions of all kinds: 5% dextrose in water, water for injection, Ringer's solution, Ringer's with varying concentrations of dextrose, Normosol R and Normosol M, sodium chloride solutions of varying concentrations, 0.3M THAM, 20% mannitol, 5% sodium

chloride solutions of varying concentrations, 0.3M THAM, 20% mannitol, 5% sodium bicarbonate and irrigating solutions of every kind imaginable. We have used some of this material to pay our professional bills via barter. By passing some of this material along to a few of the professionals whose services we depend on (veterinarians and so on) we've been able to trim our outflow of cash.

We have also been getting **medications** which are essential to our TBW work. Antibiotics, corticosteroids, vitamins, antifungals, topical antimicrobials/scrub and prep solutions, antiemetics, preoperative tranquilizers and pressors and cardiovascular medications are just a sample of the recent steady inflow of contributions. We currently have enough IV solutions and antibiotics on hand to do a couple **hundred** canine TBWs! Our most recent windfall was getting **over 400 doses** of Sodium Nafcillin for IV administration—a

costly antibiotic (\$125 per dose) which we use to protect against and treat post-operative infections.



**Nafcillin**

All of this leaves out the fact that we've been able to get other essential disposables donated such as prep trays, syringes, needles, blood collection equipment, IV sets, and so on. We now have enough cases of vacutainer blood collection tubes and needles to last us for years. (The tubes, unfortunately, lose their vacuum after a few years, but the needles which are in the new all plastic rigid containers have an indefinite shelf life.)

#### **TUBING PACKS**

Another major expense associated with large animal work is tubing packs for the heart-lung machine. We have been able to round up half a dozen or so pediatric tubing packs at negligible cost. We have Jerry Leaf to thank for that. He keeps his ear ever to the ground for news of discontinued lines, close outs or vendors who're overstocked or in trouble. BRAVO JERRY LEAF! The price tag for DOOR #3 (tubing packs and medications) is hard to estimate, but we'd put it at around \$10,000.

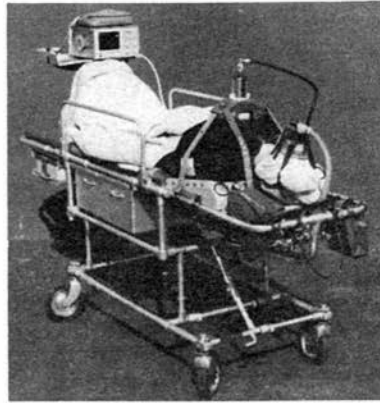
#### **LIFE SUPPORT GURNEY**

Finally, some really exciting news on the equipment front. Some months ago, Mike Darwin got wind of a state-of-the-art Travenol Life Support Litter for sale. These carts normally sell for about \$6,500 and are something we have lusted after (as well as genuinely needed) for sometime. They incorporate the

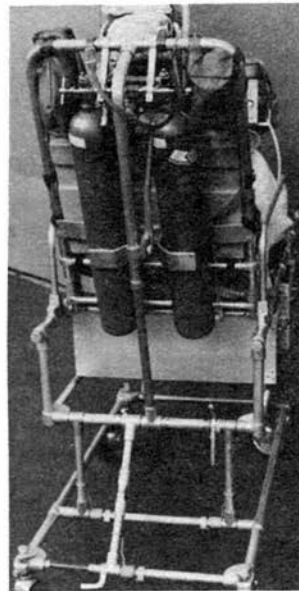
heart-lung resuscitator (HLR) as a built-in component, can carry enough oxygen to run the HLR for an hour, and have on-board monitoring equipment, storage drawers and so on. We wanted one not just for the convenience they represent but because they have enough underneath clearance to allow for mounting of a blood pump-oxygenator-power supply assembly. In other words they would allow for creation of a portable heart-lung machine for complete metabolic, support capable of meeting 100% of the patient's needs after legal death.

The problem with HLR support is that it only supplies one-third the normal cardiac output and is often nearly worthless if the patient has died due to lung related or atherosclerosis related problems. Obviously, if the cause of deanimation is "suffocation" due to the patient's lungs being full of fluid or consumed by a tumor (the former being a very common "immediate" cause of death in chronically ill patients), trying to restore circulation and oxygenation using the patient's own lungs isn't going to work. A portable blood pump and oxygenator circumvent that problem by tapping directly into the patient's circulatory system (via the femoral artery and vein in the groin) and replacing the patient's own compromised heart and lungs with a blood pump and artificial lung or "oxygenator".

Jerry Leaf had been struggling for months to try to adapt a regular ambulance cot to this purpose. It was not going to be easy. After several months of rough and ready poker faced negotiation (with long waits to bring home the message that we really "weren't that interested") Mike Darwin managed to cut a deal for the Life Support Litter which involved very little cash outlay. Essentially what we did was to trade an ambulance cot which we bought used a few years ago for several hundred dollars for the Life Support Litter plus a couple hundred in cash. Thus, for about \$500 we acquired a Life Support Litter (with HLR and accessories) which had only been used about six times! Jerry Leaf and Hugh Hixon are now hard at work creating a mounting system for the blood pump and oxygenator and we should soon have available to us via Cryovita a portable heart-lung machine and operating room on wheels—along with an HLR to act as a stop-gap until the patient can be connected to the blood pump. As we said before, DOOR #4 retails for a little over \$6000. Less our \$500 outlay, DOOR #4 checks in at \$5500.

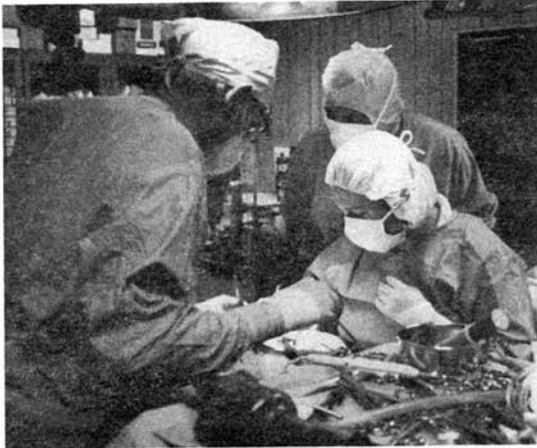


**Life Support Cart**



**Cylinder rack under  
front of cart**

## Research And Training



**Hugh Hixon and Sherry Cosgrove  
at surgery. Jerry Leaf looks on.**

Aside from all these other activities and efforts, we've been conducting research. The officers of ALCOR sat down and decided that they'd had enough. We've decided to resume research using our officers directors and a few other people who we had confidence were not going to injure themselves --or sue us. A major factor in resuming this work was the contribution of the disposable supplies detailed above. That has now made dog work possible essentially for the cost of the electricity, the animals and a few supplies we can't get for free. Right now each TBW is costing about \$250 to \$300--down from \$2000 a year ago! The money for these animals is coming out of the pockets of Mike Darwin, Jerry Leaf, and Hugh Hixon. Anyone who'd

like to share that burden is urged to do so.

We want to use this opportunity to get as many animals done as possible. We've many important questions to answer and some of the supplies we have obtained will outdate and become useless unless we get a move on. So--we're moving.

On the weekend of March 23 we did a canine TBW employing a median sternotomy and attempted to to recover the animal without the use of hemodialysis (artificial kidney treatment). The two variables in this experiment were foregoing hemodialysis and the use of the median sternotomy for access to the animal's central circulation. We had a great deal of trouble with the experiment from the start. Due to a problem with the oxygenator (a blood contaminated saturated fritted aerator) the animal was acidotic during pump cooling. Once blood washout was underway we switched oxygenators midrun. This is a little like switching engines on a car during the middle of the Indy 500. It's also about as much fun. The difference between switching oxygenators and engines is that at least the former is **possible**.

During rewarming we had a persistent problem with acidosis despite the fact that we had doubled our HEPES buffer concentration in the perfusate on this experiment. Normally we can buffer across the dialyzer membrane by exchanging ions directly (and dialyzing off metabolic acids) without adding volume. Without dialysis we were forced to administer sodium bicarbonate solution and THAM IV and this meant adding additional fluid volume, greatly increasing the risk of pulmonary edema.

While the animal came off the pump seemingly doing well, and even regained



consciousness, we ultimately lost him about 90 minutes post pump to pulmonary edema. We have decided that the advantages of dialysis (pH control, hemoconcentration and edema control) outweigh the risks and the expense. Additionally, since we have well over a hundred dialyzers and tubing sets, our only cost for dialysis is the \$40 or so for water and dialysate chemicals required to mix up the electrolyte bath.

The use of the median sternotomy with aortic root and right atrial cannulation afforded far higher rates of rewarming and cooling than we were able to achieve with the femoral approach used in our first series of animals. Also significant was the fact that we did not observe the long period of unresponsiveness before recovery of consciousness experienced with previous animals. We believe this is due to the rapid and uniform rewarming to 37°C which it was possible to achieve with high blood flows.

Another significant observation was that the pulmonary circulation of the lungs are apparently washing out during TBW. There had been some speculation in the past that the pulmonary circulation was not being accessed during bypass and that the lungs were remaining blood filled during TBW. We observed complete washout of this animal's lungs, although it proceeded more slowly than blood washout of other visible tissues. But we are certain it did occur.

The other purpose of these experiments is cross training. We are attempting to pass on surgical skills to a wider number of our team members. To this end, Hugh Hixon and Sherry Cosgrove performed the surgery with Jerry Leaf giving directions and advice from the wings (Jerry didn't even "scrub in" for this one). Mike Darwin did pump set-up and operation and Brenda Peters functioned as a scrub nurse.

Despite loss of the "patient" the operation was considered a success because of all the new knowledge we obtained. We have additional TBWs scheduled for the coming months, time and money permitting.

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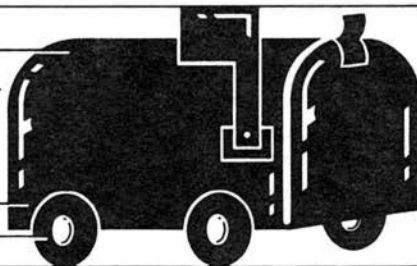
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*Letters to The  
Editors*

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To the Editors:

In the Errata section (p. 1) of the March, 1986 issue of CRYONICS Mike and Hugh apologize for using the word "walls" when a more precise scientific term is "membranes". My own sense of personal responsibility compels me to say that I was responsible for the choice of words. If apologies are due, they should not come from Mike or Hugh.

Perhaps we have a conflict of languages here. My **Science Reports** are



written in a vernacular English (So far as I can!). "Walls" seems to me a quite justifiable vernacular term. I've looked in several dictionaries and ALL of them give one usage for "wall" as "a lining, membrane, or investing part enclosing a bodily cavity or structure" ... or words to that effect. None of these dictionaries makes any claim that "walls" must contain cellulose or "be solid". Nor do these dictionaries propose that "walls" are or are not injured by freezing.

Members of a scientific community quite often adopt special definitions for words. This is not only normal but GOOD. It's how the language grows. It's also how their work can become less than clear to those outside their community. I think that's what happened here. I can't help that problem.

Of course, if the Editors wish me to use the word "membrane" I'll comply.

About scientific credibility, however, I have one more thing to say. Opponents of cryonics who are also scientists will find fault with us no matter what we do or say. They aren't really objecting to cryonics because of scientific questions. Cryonics threatens their fundamental beliefs. They won't listen to rational argument on this issue. The cryonics argument will not be settled by discussion among scientists but by force. Rational knowledge of the UNIVERSE (not beliefs of scientists, but the UNIVERSE!) is necessary to successful force. This force will take the (most likely) form of public refusal to support scientists who won't take a cryonicist, immortalist attitude to medicine.

These opponents find the magazine, CRYONICS, particularly threatening because it appeals to their PAYMASTERS, the public. We write it for the public and in the VERNACULAR. That's exactly what the magazine is about. If Meryman objects to this, he can easily make his own public arguments, also in the vernacular. If he expects to be understood, that's the language he'll have to use. We aren't funding these guys to play private little games with themselves, after all.

Thomas Donaldson  
Sunnyvale, CA

Dear Editors:

Although I usually don't take the side of personal injury plaintiffs, I feel that your editorial remarks about "joint and several liability" are an oversimplification of the issue. Your reference to "percentage" of the responsibility for loss or injury is misleading because it implies that responsibility can be quantified like the ingredients of a perfusate mixture.

The joint and several liability law takes into account the fact that potential defendants may be numerous, difficult to identify, difficult to locate, and difficult to serve with court papers. Insolvent defendants have a notorious habit of not showing up in court to defend themselves. It is all too easy for a solvent plaintiff to point to an empty chair at the defense table and say that the missing defendant bears most of the responsibility. Imagine leaving your car at a parking garage only to return several hours later to learn that it has been stolen because the parking attendant left the keys in the car. What "percentage" of the responsibility belongs to the garage and what

"percentage" belongs to the thief?

Without joint and several liability laws, most of the blame for loss of injury would soon be shifted to defendants without the economic resources or incentives to defend themselves. Furthermore, wealthy defendants often reap the greatest economic benefit for conduct leading to an injury even though the wealthy defendant may be judged to have a smaller "percentage" of the responsibility. For example, consider a night club that sets an unreasonable policy on the number of drinks a patron must purchase. The club gets the economic benefits, even though the resulting drunk drivers have the direct responsibility for the accidents.

The causes of the current "insurance crisis" are numerous and complex. For one thing, business liability insurance prices, like gold and silver prices, tend to be cyclical. They depend on perceived value, not just the actual cost of production. That is because there is a relatively small number of insurance rate payers, compared to the coverage limits usually provided. Actuarial information is unreliable because claims are large but infrequent.

The availability of better medical care also tends to drive up the cost of personal injury awards. Once upon a time, an injured party could do little but go home and suffer. Family and friends provided care. But now, expensive medical care procedures are available to restore broken bodies. Professional home health care providers have replaced the free care of family and friends. Physical therapists, paid social workers, and a host of other professionals provide important but expensive help to recovering patients. Huge medical bills tend to get judges and juries thinking in terms of big numbers.

The insurance industry may be a victim of its own success. Insurance is now almost universal. Many types of insurance are either provided automatically by employers, are required by law, are required by lenders, or are required by others with which we do business. Drivers used to buy automobile liability insurance to protect themselves from other drivers who might try to sue. But liability insurance is now legally required on the theory that we must protect other drivers from ourselves! There used to be an insurance principle saying that an insurable event had to be relatively rare and costly. Insurance protection was not written against common events because the primary purpose of insurance was to spread the risk, and you can't spread the risk for an event that everyone knows will happen. But today, dental insurance even covers routine check-ups. Perhaps we should be grateful that we can still buy our food directly from the grocery store without going through an insurance company! Unfortunately, most people are used to buying lots of insurance even if they don't want it. Then, when they meet any of life's misfortunes, they expect to get insurance coverage to help out.

Thanks to scientific technology, our lives are safer and more comfortable than they used to be. When injuries do occur, they seem much worse because we weren't expecting them. We tend to feel anger and injustice because we seem to be the only one suffering, and we reason that the injury should have been prevented. A little more than a generation ago, most homes were heated by manually-fired wood or coal stoves. Firing a coal stove was strenuous and dangerous work, and all homeowners knew it. Safety pilots had not been invented for gas appliances and children were repeatedly warned to stay away from the water heater. Homes commonly blew up or burned down. Many homemakers lost

their hands in wringer-type clothes washers. Most occupations required physical labor and its associated hazards. Many women died during child-bearing. But today malpractice insurance for obstetrics is skyrocketing because the public perceives the birth process as being risk-free.

I disagree with CRYONICS magazine's conclusion that "victims and juries have been persuaded that an injury or damage of any kind can readily be translated into cash." Litigation is a slow, torturous struggle for both sides. I was on jury duty several times and I know the courthouse is not an easy place to pick up money. There are three major legal requirements that must be met before you can get a damage award:

1. Someone must have committed a legal wrongdoing.
2. You must be injured as a direct result of the wrongdoing.
3. You must prove both of the above.

All three of these requirements are difficult. Often the simplest quirk of fate can prevent a damage award, such as being in an accident late at night when there is no witness to see that you had the green light.

Insured defendants usually have better legal help than plaintiffs. Insurance companies have a lot of cases with a lot of lawyers. The companies soon learn which lawyers usually win or lose cases. Personal injury plaintiffs usually have only one such case in a lifetime. They often have nothing more to go on than ads in a phone book. Insurance companies often have the economic resources to last through a long case and are not under pressure to settle out-of-court. Insurance companies can usually tolerate the risk of an extreme judgement more easily than a plaintiff can tolerate the risk of no judgement at all. After all, insurance companies are in the business of taking risks!

The main problem with our present liability system is that injury victims must suffer without financial resources for years while lawyers argue over where to place the blame for the injury. Large jury awards are automatically appealed by insurance companies, resulting in further delay. Although doctors and hospitals complain about malpractice insurance premiums, they don't offer free treatment to correct their colleagues' mistakes. Instead, the injury victim will be asked "Where is your insurance card?" or "Where do you work?" or "Can you pay in advance?" The victim is often forced to go to a wealthy personal injury law firm that can afford to advance the victim's rehabilitation costs. When the insurance check finally does arrive, it is too much, too late, and most of it goes to the lawyer.

Liability law evolved to make persons pay for their mistakes. Insurance evolved to share the cost of mistakes. Liability law and insurance are almost exact opposites. When considered alone, each of these two systems has merit, but when combined in the form of "liability insurance", chaos results. One system allocates fault and the other redistributes it. In the process, great resources are consumed by lawyers and insurance companies, with little going to the injured. Liability law was supposed to make businesses pay for injuring customers, but instead the customers end up paying through higher prices.

We really need a system to help the injured quickly and justly. Liability and insurance are attempts to do that, but they don't work very well. If you spend time thinking about the problem, you soon realize that any "solution" brings with it a new set of problems. Complicated problems usually can't be

fixed with a simple solution. Nationwide, about 1200 bills addressing the problem have been introduced into legislative bodies. I do not know the details of the "Fair Responsibility Act" that will be on the ballot June 3, 1986 but I am sure that it will have both good and bad points. I withhold my judgement until I receive my voters' pamphlet.

Frank Rothacker  
Los Altos, CA

Luigi Warren responds to Frank Rothacker:

There are assumptions in your letter that reflect the fundamental errors which have led to the present crisis. I'm referring to the progressive abandonment by legal theoreticians and the judiciary of the traditional common law notions of contract and legal responsibility, in favor of an (allegedly) utilitarian "welfare-ist" approach. The logical consequences of this approach are catching up with us: the liability insurance crisis, which is destroying many businesses and which threatens to extinguish cryonics, is a foretaste of a world in which agents of the state--bureaucrats, politicians, and the judiciary-- determine which enterprises are to be undertaken, by who, and for what ends.

You state: "...the joint and several liability law takes into account the fact that defendants may be numerous, difficult to identify, difficult to locate, and difficult to serve with court papers. Insolvent defendants have a notorious habit of not showing up in court to defend themselves." This implies that, if no responsible individual can be found to pay damages to a claimant, then someone who is minimally responsible (in reality someone who may not be considered by any reasonable standard to be at fault) should be made to pay up. The concept that we can only be responsible for our own acts and omissions is thrown out in a maneuver designed to recompense the plaintiff, regardless of source.

The notion of responsibility is undermined again in your assertion that "wealthy defendants often reap the greatest economic benefit for conduct leading to injury even though the wealthy defendant may be judged to have a smaller 'percentage' of the responsibility." Is it a good legal principle that the economic status and interest of the parties should be a factor in determining responsibilities and damages?

The example of the nightclub and the drunk driver implies a significant and open-ended broadening of the traditional concept of responsibility. If the definition of responsibility is to be extended to include those whose actions increase the opportunities for others to **choose** to act injuriously or recklessly (e.g. to people who sell guns, or cars, or knives, or electrical appliances) then there is no limit to the range of possible suits. We are seeing precisely this principle in action in the proliferation of bizarre Alice-in-Wonderland cases and 'creative' judgments which have led to the liability insurance crisis.

Cryovita Laboratories, along with many other relatively conventional businesses, cannot find liability coverage at **any** price. The cost of insurance does indeed depend on its perceived value, based on estimated risks and likely payouts. That is the problem: our increasingly subjective, "welfare"-oriented legal system makes it impossible to predict who will be held responsible for

what. The insurance industry is fully justified if it now sees itself as an almost limitless "deep pocket", to be raided to make good anyone's random misfortune.

The only real solution to this crisis is to restore the principle that contracts are binding—that their terms cannot simply be set aside at the whim of a judge, in order to maximize "welfare"—and to return to a non-open-ended notion of liability, based on the view of man as a free, (potentially) rational agent.

Individuals will continue to suffer injuries and loss. That is inevitable. Sometimes there will be no-one who is genuinely to blame, or those who are responsible will not have significant resources, or will succeed in evading the law. That fact is not justification for raiding others' pockets (and ruining their lives and livelihoods). Courts will still have to assign fault and decide on damages, tasks for which there are no hard-and-fast rules. But individuals and enterprises will operate in the knowledge that they are responsible for their own actions and not, impossibly, for other people's.

Luigi Warren  
Fullerton, CA

Dear Editors:

Regarding the article "California No-Autopsy Law Gets A Workout" in the March issue, I would like to take exception to your feeling that Scientology has been subjected to unjustified harassment and litigation. Though I have had no connection with Scientology, my feeling is that they deserve worse than they got. Cryonics has a healthy attitude toward criticism; at least ALCOR makes a great effort to play by the rules of the scientific and medical worlds. The Church of Scientology does not.

The reason Hubbard was in hiding was the lawsuit he (and the church) lost to Paulette Cooper, author of **The Scandal of Scientology** (1971). According to both **Flim Flam** by James Randi and **Snapping** by Conway and Seigelman, the files the FBI scooped up in their raid confirmed allegations that throughout the '60s and '70s Scientology had engaged in a systematic campaign of harassing its critics by legal and illegal means. In Cooper's case church members stole her stationery, sent themselves a bomb threat, and then had her indicted on criminal charges. After \$20,000 in legal fees and \$6,000 for psychiatric treatment, Cooper was cleared of charges after she submitted to a court-supervised truth serum test. In the 1977 raid the FBI found a file labeled "Operation Freakout" containing documents that concerned "getting PC incarcerated in a mental institution or jail."

I would be extremely disturbed if any of the cryonics organizations, even for good reasons, engaged in dirty tricks like these. Those who are planning to live a long time into the future would be well advised to think twice about doing things that would make it hard to live with oneself.

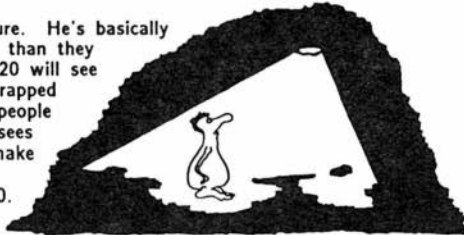
But the question of why Scientology has been so successful a cult is certainly a valid one. All the books cited here discuss the phenomenon, but none of them gives a plausible model of what happens in the minds of people who have become infected with scientology, or for that matter any of the thousands

of other cults. As an understanding of this topic emerges, it will be interesting to see if changes can be made to the way cryonics is presented that will make it more successful without turning it into a cult.

H.T. Watcher  
Sunnyvale, CA

**FEELING TRAPPED?**

This individual grew up dreaming of the future. He's basically optimistic. He knows things are better now than they were 20 years ago, and he figures the next 20 will see even greater changes. Meanwhile, he feels trapped by death, disease, aging, gravity wells, and people that try to impede all the progress that he sees as so desirable. He knows that if he can make it through the next fifty years, he probably won't have to worry about the following 500. He can live that future he's dreamed about.



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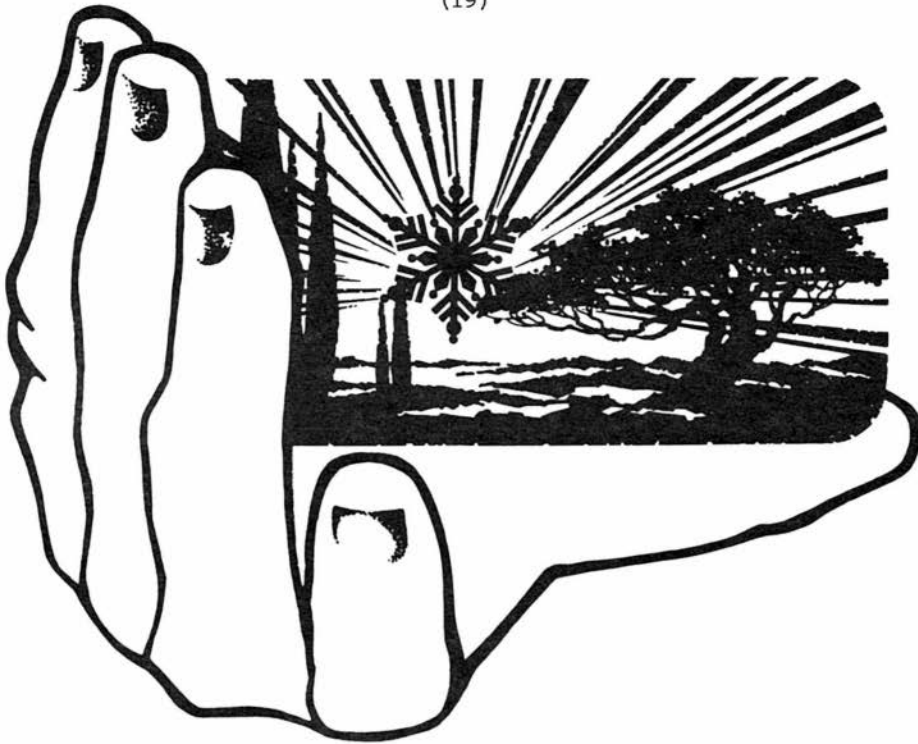
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- THE LIFE EXPANSION NEWSLETTER





## More On Cryonics As Religion

### by Mike Perry

When I read the article **Saints, Madmen, and Cryonics**, (SMC), in the February, 1986 CRYONICS, which dealt with the issue of treating cryonics as a "religion" for legalistic or other reasons, I was very much intrigued since this subject is one of long-standing interest to me. A letter I had written several months earlier on roughly the same theme but offering a different viewpoint was printed in the March issue, and I think some additional comment is in order.

The letter resulted when ALCOR members were offered the opportunity to sign a form requesting that they not be autopsied. The main provision of this form reads: ". . . my religious belief compels me to oppose any postmortem procedure, dissection, or autopsy which would in any way delay, impede, or prevent the cryonic preservation of my remains." Most cryonicists are not strongly religious in any traditional sense and few if any could cite any recognized scripture or creed they have adopted that forbids their remains being autopsied. Thus the question arises of how, to remain under the protection of the law, we can justify our unwillingness to submit to autopsy or other damaging procedures on "religious" grounds. Closely related to this is the larger issue of whether our movement should be regarded as a "religion" in its own right.

Objections to treating cryonics as a "religion" were raised in **SMC**, mainly because the (anonymous) author's own experience compelled him to associate

"religious experience" with irrational beliefs and behavior, and the hearing of disembodied voices and other mental illness of which he himself was an unfortunate victim. His harrowing experience must not be discounted nor minimized, particularly by those like myself who have never heard imaginary voices nor experienced anything having the appearance of a supernatural visitation.

At the same time I don't feel that such disorders, serious and pervasive though they are, can discredit all of what can broadly be called man's "religious experience". It's true that much of the content of religious belief and practice hinges on the attempt to gain the favor of (what to me are) purely imaginary powers. This, when not an outright hoax, may in fact derive from the mental disorders of self-styled "seers" and "prophets". Perhaps the most spectacular such case is Mohammed, whose recitation of the Koran, dictated to him by "Allah", furnished the basis of an entire major religion. Still there are other, more rational, currents in religious thought that, I think, belie the opinion that religion is necessarily concerned with belief in the supernatural or in processes and events that violate known physical laws. Not all religion is based on deliberate deception or hallucination. There are ancient faiths such as Philosophical Taoism and Thervada Buddhism that concentrated on attaining desirable aims through human effort alone, without supernatural assistance. And there are "rationalist" movements within religions such as Christianity that are traditionally supernaturalist in outlook. If we take the broad view that "religious experience" is concerned with "whatever is of ultimate significance" without special reference to particular cosmologies, beings, powers, forces, or dogmas, it becomes reasonable to view cryonics in the light of such experience. We can then consider the advantages that might follow from commitment of both ourselves and outsiders to such a view.

Many of us have long felt that the cryonics movement is the moral equivalent, at least, of a "religion" and thus deserves the same considerations and privileges accorded to other such movements. I for one think too that approaching cryonics with all the seriousness of a religious commitment may be the only way to keep the fledgling movement afloat until it becomes "respectable" enough to be sustained by the groundswell of public opinion. ("Keeping it afloat" in this way, of course, may be the only thing that saves us from oblivion.) There are legal advantages that are granted on religious , though not on scientific or medical, grounds such as the exemption from autopsy. Paradoxically, it seems as if the law considers itself competent to intervene in matters of scientific extrapolation where its judgement might well be faulty, but not in "matters of faith" that invoke a putative power or process that our senses assure us is nonexistent! (But strong-willed "believers" are likely to be more than a match for weak-willed courts.)

Some years ago I read the book **A Christian Natural Theology**, by John B. Cobb, Jr. (Westminster Press [fifth printing], 1974). A tough read, it's an exposition of another man's philosophy (which itself tends to obscure the writing), in this case that of Alfred North Whitehead, who himself, in my estimation, is no easy author to approach. Anyway, it attempts to uphold a "theological" doctrine based on the natural world as revealed by scientific discoveries rather than on a cosmos peopled by supernatural mentalities. I found it confusing, opacifying, and frustrating, partly I think because the author had too little of his own thought to contribute alongside his revered master, Whitehead, and partly because he was hampered by the constraints of a nonimmortalist (though still scientific) outlook. For all its defects, though,

I believe it deserves respect for what it attempts to do, and for underscoring the need for something along the lines it attempts. The need for a faith to live by is still very much with us, and is perhaps now more pressing than ever, in an age when a misstep with our awesome technology could have such disastrous consequences. With these things in mind I began to think of writing a book that would expound an "immortalist theology". It too would use the natural world as its basis, but with the message that man's age-old dream of immortality was now, quite possibly, capable of realization through his own efforts, and of course, deserving of our best efforts to transform it into reality.

One issue to be considered was how much attention should be given to upholding, through reinterpretation, traditional theological concepts such as "God" and "the divine will" that have occupied an important position in many faiths but have been justified mainly through belief in the supernatural. That such concepts can have a "naturalistic" interpretation has been the contention of such authorities as Whitehead and his spokesman Cobb who develops this thesis in his book. An attempt at such an interpretation, along immortalist lines, is offered in my (still largely uncompleted) book "in the introduction as it now stands", which is largely recounted in the letter in CRYONICS. On rereading this letter after several months, and after doing some thinking on what direction the writing should take, the letter strikes me as a "mixed bag" with some ideas more appealing than others, I continue to find attractive the thought of an immortal existence devoted to fundamentally benevolent causes and to ultimately (or asymptotically) "righting all wrongs", however difficult this may prove to be (assuming it is possible). That "a life rightly lived can never rightly be terminated" to me is a self-evident truth. But the attempt to adapt old religious terminology and thinking to what is really a very different outlook now seems overstated. Such adaption is feasible and is worth pursuing, I think, for a number of reasons, including the legalistic one, but should not be the primary concern of the book, which instead should be the thesis that we must become absolutely the masters of our own fate. Thus, not being a Christian apologist like Cobb, I (now) feel less urgency to promote a theistic interpretation and more interest in exploring currents of thought outside the mainstream of the Judeo-Christian-Islamic tradition. The book then, is still very much "in the works" but it will probably emerge with a different emphasis and a new title.

The concern of the author of **SMC** lest cryonics be stigmatized as "just another religion" is legitimate and must not be overlooked in our effort to make the movement more approachable and more acceptable to others. This is underscored, for example, by the case of the Utah "mummifiers" (CRYONICS, March 1986) who appear to be trying to justify their scientifically highly dubious enterprise as a "religion". Certainly we want to put as much distance as possible, in the easily confused mind of the public, between ourselves and people of their stripe. If describing our movement as a "religion" would make that difficult, then we'd better not attach this label to ourselves, at least not for now. On the other hand it seems difficult to dissociate ourselves from this terminology entirely as long as there are legal advantages as in the autopsy law. This is a difficult problem that deserves further study. It would be worthwhile to establish just what is implied, in the eyes of the law, by the notions of "religion" and "religious belief".

Aside from the legal aspects there remains the question of how we ourselves ought to view our movement. Is cryonics to be our "religion" or "just a medical procedure"? Certainly, to paraphrase the author of **SMC**, "belief must never

replace directed and rational effort in cryonics." My feeling is that, with all the possible difficulties, we still would do well to consider cryonics as a "religion", at least in our own minds. This assumes we are comfortable with the notion of a "religion" that does not require belief in powers or forces beyond the natural world. Not only can rationally based belief coexist with rational effort, it could well inspire greater effort and more accomplishment that would otherwise be possible. It may be of crucial importance in maintaining our long-term dedication and avoiding the "burnout" that has already decimated our ranks. Some outsiders may also be attracted by the novelty of a faith based on sound principles of rational inquiry and the scientific method. Gradually, in this way, our movement could become more acceptable to the public at large. We can use all the help we can get in our difficult progress toward that "best" that "is yet to be". For my part I think cryonics and its supporting philosophy, immortality, can furnish the basis, not for "just another religion" but the best and the truest faith of our time. It has the potential of eventually uniting the world and leading to a resolution of difficulties that other creeds and movements can only promise.

## Probability Thinking

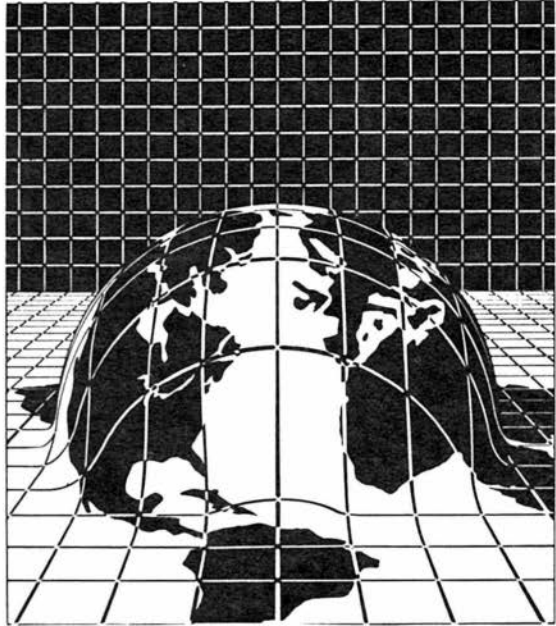
### by Mike Darwin

It has been a long, long day. It is the kind of day that I find myself enmeshed in all too often in my capacity as President of ALCOR; meeting with attorneys and tax people, lengthy, surgically tedious phone calls asking for donations or investments, long hours preparing a business plan and a prospectus for a possible new facility: Not my idea of how to joyfully pass time. Not what I imagined when I "signed on" and got involved in cryonics many years ago. I've put in 12 hours today, and now it's time to set aside the work and reflect for a moment and think about the things I would **really** like to be doing in cryonics. It's time also for a little bit of marveling about the way the world works—or could work.

What I'm referring to is the beginning stirrings of the birth of cryonics on another continent. You've not heard of any of the people involved, and you won't hear about them here until they've actually taken the first concrete steps and **done** something. It's too easy to announce you've started a cryonics group, feel a tremendous sense of accomplishment, and let it drop there. I won't sabotage their effort by making any announcement until they're well underway. And, I'm confident they can **get underway** without any publicity from me. The people needed to get things going are already there and they know about each other. No, the purpose of this essay isn't to announce the formation of another cryonics group. Rather, it's to reflect for a moment on the possibilities, or perhaps I should say on the **probabilities**, which confront these pioneers. It's also to reflect on my envy and excitement for them. This is something of a personal message to them, but one which I think is worth sharing with all of you.

I sit here in Southern California in awe of the opportunity you have. I am

both excited for you and frightened for you. You've got an opportunity I never had but have dreamed of having. You have the opportunity to start cryonics off fresh on a new continent, largely free from the mistakes and prejudices created by a bunch of green amateurs who knew almost nothing of what would really be required to do the job right. (I know, because I was one of those green amateurs) You have at your disposal a massive complex of media with almost no history of exposure to cryonics, certainly no **first hand** exposure, although I imagine we've managed to muddy waters a little.



Your actions, your words, your thoughts, your day-to-day decisions have the potential, the **probability** of shaping the way cryonics unfolds and is perceived by a significant fraction of world. You have tremendous power, and tremendous responsibility. When I look back on the history of cryonics, I ache. I ache because of all the stupid mistakes and useless blunders. I ache with every lost life and broken promise. I ache not only with remorse because things could have been different, but with the firm and certain knowledge that the founding fathers of cryonics, could have made them different. It is said that hindsight is the best foresight and that the situation shapes the man. I acknowledge that these world views have some weight. But I must also assert that ventures as radical as ours, with odds against them as great as any ever stacked against us, have done better, and have carried on more valiantly and with greater integrity, courage and discipline than we have.

Why is this so? I believe it is so because of the commitments and philosophies of the men who shaped these other undertakings. The birth of the Declaration of Independence and the subsequent creation of the United States is an example of a new, radical, and unproven action undertaken against great odds and carried out with discipline, courage, commitment, and integrity. It is a story full of heroes. **Real heroes.** It was a revolution of ideas in the brains of Paine and Jefferson long before it was a revolution in the hands of the people. Unfortunately, the sordid history of some other nations in their failed attempts to achieve freedom for their people stand as grim examples of what happens when men act without a moral ideology, without integrity, and without thoughtful realism.

The early history of American cryonics can be summed up simply: a profound idea implemented with thoughtless optimism and without integrity. If the men who had launched "cryonics" in its earliest days (and I hold one or two men largely responsible for this) had had a genuine concern for the idea and strong commitment to quality and realism (being careful to critically examine every



claim and put administrative and quality control frameworks in place from the start), I firmly believe things would have turned out differently. If they had just had the integrity to put fact before media hype and to never compromise patient care to "drive the program forward" there would have been no Chatsworth, and some of the many, many people of means and influence who were alienated from the program early on would be signed up, and in some cases suspended now.

I bring these unpleasant matters of history up not to dwell on them. In fact, they are far from my central thoughts this morning. They drift like clouds over the dawn of bright promise which I believe your future can hold. I mention them as a warning and a positive affirmation of the power you have: Your thoughtfulness, or lack of it, your integrity or its absence, your attention to detail or your carelessness, your total commitment to quality, or your "it'll have to do" attitude will shape a whole new cryonics movement.

Ah, how I've thought about your position! You've no idea what I would give to be 17 or 22 again and walk out of here and into the opportunity you have. To go back to the time of the early days in cryonics and "know what I know now." But I can't. When I first became involved in cryonics, the die was cast. The early history of cryonics had already determined much of what was to lay ahead. I have tried (and I believe largely succeeded) to run ALCOR with integrity and above all **realism**. That commitment means I must stay where I am: trapped between financial planning sessions and boring administrative phone calls.

And that brings me to the second part of my message: Your day as administrators will come too. You (and I) at least for now, are only young for a little while (a damned short little while). Cryonics offers great adventures. Believe me, I have had them! I have risked my life on several occasions in pursuit of immortality, and I have met incredible people and had highs and lows of experience few men could even imagine. I have few regrets. You now have the same opportunity. **Go for it!** The excitement, the anticipation and the sheer rush of these early days will never be replaced and they won't last long. It's all there, just waiting for you. Not that there won't be plenty of excitement later on too, because there will be. But, somehow, when you're shaping the system, laying down the ground rules and making it all happen...well there's just something special about that and it only happens once in every revolution. Once you've done it, if you've done it well, you will look back and suddenly you will realize it will have been **your** "Golden Age".

I hope you learn from our past of hard lessons and mistakes as well as our positive accomplishments. I think there is much to learn there. But at least as important as examining the past is thinking about the future. If you're tough, proud, smart young men; and I think you are, then thought and planning coupled with hard work will bring you rich rewards.

I truly believe that the potential you have in your part of the world is every bit as great as it was in America in 1962. In many ways that was one revolution **we Americans blew!** If you love cryonics and if you treat it with all the care and concern you would give your most precious asset, there is not merely the potential, there is, I believe, the **probability** that things will turn out differently for you. One thing you must be sure of; your total commitment, your total love of this idea. I can speak from experience on that.

Finally, remember that you will not be alone. This tired, gray-haired revolutionary will be behind you every step of the way. And ALCOR, struggling



for breath as she is, will do everything she can to help you.

May we prove responsible parents—and may you prove worthy offspring.

## Interview With Mike Darwin Part II by Luigi A. Warren

LW: You've been highly critical of the Northern California cryonics organizations, Trans-Time and the American Cryonics Society (ACS). Why?

MD: I don't want to answer that question, as you've put it. I'd rather address specific issues.

LW: Okay. ALCOR and the American Cryonics Society are managed in radically different fashions. You've criticized the management of the Northern California organization. How would you compare the two approaches?

MD: ALCOR is run more entrepreneurially, whereas control is collectivized to a much greater extent in the North. ALCOR is run by people who are hardcore, whereas I think many of the people running the Northern California organizations are relatively softcore—despite the fact that much of the leadership there has a very long history of involvement in cryonics. A number of the people in control there are not signed up: they don't have full legal and financial arrangements for their own cryonic suspensions in place. There are people who are essentially dilettantes or hangers-on who are involved in running the organization. I believe that is unacceptable and it amazes me.

It obviously amazes some of their members as well—so much so, in some cases, that they have changed organizations and signed up with ALCOR. I would guess that around a fourth of our membership has come to us from ACS (the former BACS). The bottom line is that your survival depends on the performance of the organization to which you belong. There is only so much you can do to effect change from within. Apparently, a number of highly valuable, committed cryonicists in the Northern California group have already decided that course of action is no longer tenable.



Mike Darwin

LW: Another area of criticism has been the research approach taken by ACS board members Dr. Paul Segall and Dr. Harry Waitz. They've concentrated on research using a small mammal model, the hamster, as opposed to ALCOR's dogs and cats, and the emphasis in their work has been on achieving suspended animation at relatively high temperatures (though still in the solid state) rather than on perfecting existing suspension techniques. Isn't that approach equally valid?

MD: One of the major problems is that I really don't think that either of those individuals has a very good theoretical understanding of cryobiology. I also don't believe that they have been sufficiently critical in evaluating the results of their own work. I think that if you talk to professional cryobiologists, even those that are sympathetic to cryonics, you will be told that they do not think the work is nearly as promising as it has been sold as being.

I think that the results they have obtained are interesting, but I also believe that we have achieved far more, with the expenditure of far less resources. Our Total Body Washout series has demonstrated recovery of a large non-hibernator from up to four hours of deep hypothermia, with extracorporeal perfusion going on. After four or five years, with a much greater input of time and money, they have demonstrated long-term survival in hamsters after fifteen to twenty minutes hypothermia in the asanguineous state, without any active perfusion. I understand that they also experience a very high loss rate of animals. We have asked them repeatedly to publish statistics on the survival of their animals, and on the condition of those that do survive--for instance, whether neurological deficits occur--but they have not been forthcoming.

There's no question that a workable small animal model would be a useful thing to have. But, such a model must satisfy a few basic criteria; it must be reproducible a reasonable amount of the time, it must be cost effective, and the experimental results should not be confused by variables which cannot be easily separated from the questions you're trying to answer.

I'm frequently unhappy about the way their research is presented. A recent ACS newsletter announces "Hamster Thawed, Survives Seventeen Days". Well, the fact of the matter is that the hamster in question was never frozen. Thawing is a word which implies phase change. Frequently when we explain our Total Body Washout experiments to visitors they latch on to the notion that the dogs have been frozen. Of course they haven't been, and that's a whole area that's yet to be addressed. The use of the word "thawed" is misleading, and unfortunately I believe that this instance is not atypical of the way Segall and Waitz present their work. It's fine to write for the layman, and it's fine to communicate excitement at research progress, but you must be ruthlessly honest in discussing the limitations of your work. This is not nitpicking either. It's of critical importance that we be careful to present things as they are and to go out of our way to correct mistaken impressions. I think it's misleading to give the impression that reversible suspended animation, through freezing at high temperatures, is a near-term prospect, as I believe Segall has done.

Another serious criticism I have is that I don't see evidence of quality control or attempts to get the maximum feedback they could from their work: they haven't, in the past, examined their animals' histology, or looked at blood chemistries in order to discover what their procedures are doing or what the physiology of the hypothermic asanguineous state is really like. That's poor science, in my view.

LW: How would you respond to those who say that such criticism and dissension harms cryonics?

MD: I would say, first of all, just who are we to keep these issues and discussions quiet from? Whose delicate ears are we trying to protect? You're dreaming if you think the press hangs on every word that's printed in CRYONICS magazine.

What those people are saying is that we should keep **cryonicists** from knowing about legitimate differences in philosophy, or about serious questions concerning the way a program is being pursued, or the moral integrity or technical competence of individuals involved in a program.

The people who get CRYONICS magazine, cryonicists and potential cryonicists, must be informed about controversies and setbacks, as well as the good news. I believe that one of the reasons that cryonics Michigan-style, and Northern California-style, has historically failed to attract people is that, if you only tell people what you've accomplished in positive terms, and you never tell them about the problems and about how they can make a difference in solving those problems, they're going to sit on their butts out there and think that everything is just fine. And that's not the case.

LW: Why do you feel so strongly about this?

MD: I've taken a lot of criticism for being openly negative about certain aspects of the cryonics scene, from Mae Junod (editor of THE IMMORTALIST), from Bob Ettinger, and lately from Art Quaife. I have several comments on that.

First of all, any objective reading of ALCOR's literature and CRYONICS magazine will reveal that we're not just focused on problems. In fact, we have carried out and reported more positive work than the Northern California and Michigan groups combined, I believe.

Secondly, those individuals haven't lived through the aching, unpleasant experiences I have had—cleaning up messes that resulted from over-optimistic attitudes and blindness to problems: the debacle at Chatsworth, and the terrible situation which occurred in New Jersey a few years ago, when two patients thawed out and decomposed due to carelessness and incompetence on the part of the individual who cared for them. I had to suffer through those things. It was Mike Darwin who went out there and dug those people out, in pieces, and had to deal with the loss; the knowledge that those people had been allowed to disappear forever.

Those catastrophes occurred, in part, because of moral support given by other cryonicists, who didn't want to be stern and give tough advice on how to handle things or go public with the problems. They knew, or should have known, that the course of action being pursued was one which was doomed to fail. The son of one of the women who thawed out in New Jersey was very concerned about her care, but was out of touch with what was happening. He would have listened, I believe, had he been told that the man who was caring for her was incompetent and dishonest and/or deluded. The moral burden for this incident, and for Chatsworth, rests to no small extent with those people who could have spoken out but didn't.

I have seen the loss of lives of people I cared about due to stupidity or

incompetence on the part of people in control. That has got to stop. I at least am not going to be a party to it by adopting a Pollyanna attitude. At the time that Gillian Cummings died there were things written by myself and other cryonicists that dealt with the problems: information that would have communicated to people on an intellectual and emotional level that this is a serious business we're involved in, and that things can go wrong. THE IMMORTALIST refused to publish such "negative" material. They ran a brief notice explaining that a real sad thing had happened, Gillian had died and basically implying "this all too complicated and terrible for you poor readers to bother your heads about."

Never will you find in the pages of THE IMMORTALIST any useful discussion of just what exactly you do if your husband drops dead 1,000 miles away from Detroit and the local coroner wants to autopsy him. Or, more to the point, what kinds of hard things you might have to do to prevent yourself from getting in that situation to begin with. It has an air of unreality about it, as if cryonics were taking place as some idle discussion in a very proper Victorian salon. That's unconscionable, and it is a sad commentary on the state of cryonics in Michigan.

Being judgmental, taking a position when you have a high degree of certainty about a situation, is not wrong--it's the moral high ground. The approach that's now being taken in Michigan and in Northern California is a refusal to confront reality. My god, if the issue at stake was the competency or adequacy of a heart surgeon people would demand a hue and cry if there was even the possibility of incompetence! The only reason cryonics is different is the reduced level of feedback and the snail's pace at which things have (historically) moved.

A major criticism I have of THE IMMORTALIST and ACS NOTEBOOK is their failure to discuss anything negative about cryonics. The refusal to be critical, or to go out and search for existing problems, when you don't have a patient who can sit there and complain about a wound infection due to sloppy sterile technique, or a poor surgical result, or poor food, is a course that can only lead to disaster. It becomes easier and easier to lie to yourself, if you refuse to confront negative things and deal with them forthrightly.

LW: This brings up the issue of feedback, which you addressed in "The Myth of the Golden Scalpel" (CRYONICS, 7(1), 15 (Jan, 1986)).

MD: Yes. Because we're merchants of hope, to some extent, we have to have feedback, to know whether the techniques we're using are doing the job, and whether we're making errors. Otherwise, anybody can claim anything. People can claim that you don't need to freeze people at all: just dry them out and sit them in the sun, or drop them into a peat bog somewhere.

It's a legal problem, too. When a trust is created to handle money, (and we're not the trustee) the question of accountability arises. How does the trustee know that care has been delivered as the contract specified? How do the trustees know that the patient isn't being stored at -20 °C and only cooled down to a lower temperature when an inspection is due? How can they even identify the patients?

In every other area of human life feedback is available in something

approaching real time. If you have someone in a nursing home, for example, an ombudsman can go in and look at that home, and talk to or examine the patient to evaluate care in some kind of objective way. That's just not possible with cryonics. There's simply no easy way of determining if a patient has been kept continuously within an appropriate temperature range, or whether structure and viability have been preserved to any degree.

LW: Can you see a way out?

MD: I think that the only proposals I have—and I spend a lot of time thinking about this problem—are meticulous record keeping, making your facilities as open to inspection as possible, and being as free with disclosure of problems, as well as possibilities, as one can be.

The absence of any clear-cut means of determining the quality of the care we're providing could destroy cryonics, or at least prevent its wide acceptance, even if the technology improves.

LW: Thomas Donaldson has argued that cryonics can survive and succeed while staying very small, and virtually unnoticed by the majority. What's your position on that?

MD: I feel that he's very likely mistaken. It's very simple. There are very few "states" in the universe that are favorable to life. And very few of the possible political and economic states that could arise in this country in the future are going to be favorable to cryonics. Unless you have the resources to manipulate the environment—to defend yourself—then sooner or later you're liable to be stepped on like a bug. The amount of resources required to do that is significant.

We've just been lucky so far that we haven't become an issue, that no one gives a damn. To some extent that's because we are small. However, it's also because we take fierce beatings in silence. "You want to autopsy her? Well, yessir Mr. Coroner sir! But please, Mr. Corner sir, would you give us your leavings?" When I think of how we are forced to suffer hideously and die right now it makes me ill. What can I say to someone lying in a nursing home smelling themselves rot away, feeling their mind slipping away, knowing their resources are being consumed? How do I reassure them there's going to be anything of their mind left worth freezing by the time "natural" death intervenes? What can I do but hope and pray the same thing doesn't happen to me? That's what staying the same size means.

One of the major marketing barriers we face is the tremendous uncertainty surrounding our long term survival, which relates greatly to our small size and the limited reserves of money and talent available to us. If we had the resources of Scientology, or the political clout of the Catholic Church or General Motors, we'd be able to deal with problems like compulsory autopsy, or the issue of people whose brains are slowly falling apart from Alzheimer's while they're still alive. These are not trivial problems: as things stand today, twenty percent of our members will be subject to compulsory autopsy. We need to have the political muscle to change this, or the economic resources to insulate ourselves from the way the rest of society is structured.

The idea that we can survive while staying the same size is very



attractive, because it means that we can sit on our fannies and not worry about the fact that we're going to die and disappear forever. This is the approach that has been followed by every cryonics group but ALCOR, to some extent. The idea of growth was always there, and was paid lip service, but in reality it hasn't been pursued vigorously or realistically.



Luigi Warren

Look at the situation we're in now: single individuals have a tremendous impact on the function and stability of the various cryonics organizations. That's a dangerous thing. Robert Ettinger has criticized ALCOR, in personal communications, for being over-dependent on Jerry Leaf and Mike Darwin. Of course the Michigan group is in an even worse position, since as far as I can tell there's only one person who's been at all effective at doing anything there in the leadership area, and that's Bob Ettinger.

We're vulnerable right now; if we lose a key individual, we lose a big hunk of our resources. That's an untenable situation. We need a far larger pool of people to draw from, for general talent, technical talent, financial expertise, and leadership. Leadership is a critical element, and it only emerges when you have a reasonably large sized pool of people to pull from. The pool is just too small right now. Many of the people who are doing this work, including myself, are doing it on the basis of necessity rather than competence. There are certainly more qualified people out there to do financial management, more qualified researchers, and probably more qualified leaders, strategists, and planners. It's absurd to believe that we represent the best that's available. We need to attract more people.

LW: How can we spread the cryonics "meme"?

MD: We've got a lot of work to do. It's exciting because it's such a challenge. It's frightening too, because the odds are against us, I think. We have to make cryonics a more competitive meme. As Keith Henson has speculated and as our membership surveys seem to confirm, the cryonics meme occupies the place normally taken up by the religion meme. Unfortunately, we have an inferior product, from a marketing standpoint. We can't claim any high degree of certainty that cryonics is going to work. The religionists do: they promise that if you do certain things you're going to live forever **in paradise**. We can never promise that. On the other hand, we can produce physical evidence in support of our viewpoint. Our total body washout experiments on dogs are very suggestive. That work has impressed people. One of our top priorities must be to improve the product, to make it more credible.

The other thing we need to do is to educate people better. Most people have incorrect notions of what death constitutes, and what identity and life constitute. They have to be re-educated to understand that living things are



patterns of information, that it's the structure, the information content that counts. They have to then be convinced that we're preserving enough of that structure to allow people to be recovered, which is where our research comes in.

There are all kinds of little things we need to do too. Our literature needs to be improved, with more professional presentation. We need to get ourselves into a facility that we own; one sufficiently impressive in terms of size and permanence that people will have some confidence that we're going to be here fifty or a hundred years from now.

LW: What is your vision for what ALCOR should be ten years from now?

MD: A lot bigger, and a lot more sophisticated. It should be an organization of high-quality individuals: people who are disciplined, who have significant economic resources, who have a strong commitment to this idea, to seeing cryonics improved as a product and to seeing it succeed. We should have made tremendous strides in research. We should be producing high quality literature to educate people about the service we offer and the prospects for the future. ALCOR should be an organization of people who are confident that they're going somewhere, and confident in the technology that's being used to preserve people.

And I might add that we are seeing the seeds of these developments today. We are beginning to attract more professional people, people who aren't mentally ill or simply looking for cryonics to provide some kind of personal meaning on a day to day basis. I think early on in cryonics it was a lot more common to see people trying to become involved for all the wrong reasons. They looked to cryonics to solve their personal problems, rather than as a solution to the physical problem of dying. A lot of people who came to cryonics early on did so because of dissatisfaction with their lives, because of feelings of inadequacy and a hope that the future is going to solve all their problems; that when they're thawed out on the other end, all their problems will be put right. Now, that may not be an altogether unwarranted supposition, but if that's the kind of person you're attracting, it doesn't do the cryonics movement a lot of good.

LW: Are you saying that's the only kind of person who was involved in cryonics in the early days?

MD: No, hardly. But it was more common to see such people show up on our doorstep. I think this was so because cryonics was so much more theoretical then. "Cocktail cryonics" is what Curtis Henderson called it. Believe me, if you hand some idle dreamer a mop and tell him to swab the operating room floor he's going to walk away. Or worse, give you a 2-hour lecture on why we won't need to mop floors when we're thawed out. When cryonics finally got to the point where we had operating rooms and had floors to mop, an awful lot of these people got up and walked out. What I am saying is that today it's largely people who're willing to mop floors or deal with reality in some other concrete way who're around or who come around.

LW: Then you see this trend continuing?

MD: Yes, one of the things that makes me optimistic is that over the last few years there has been a tremendous shift in the kind of person we're attracting. They're solid, middle class or upper middle class people, or even millionaires:

people who have made it in a very tough competitive world. People with a lot of talent and a lot of competence. Increasingly, they're willing to offer their talent and competence and money. We have to be unafraid to ask them for those things, to demand those things if they expect us to help them effectively.

LW: Where are you going to find more of these people?

MD: The same places we're getting them from now. You have to work very hard to attract them, which is something very few people are willing to do. You have to pay close attention to every detail of the program: how do you look?, how does your literature look?, how does your research work look?, what are you doing and what are you asking from people? The bottom line is: do you have a quality product, do you really care about what you're doing? Everything else is secondary.

We've been timid in the past about asking people for commitments, asking them to change their lives, to just get up and move. If you have a life in London, or Australia, or wherever, we should be saying, leave it, this is more important. Or be willing to take the far more difficult course of creating a cryonics group where you are. Cryonics is more important than your day to day comfort. It's more important than a hundred thousand dollars in the bank, because whether you have a hundred thousand dollars or a hundred million dollars in the bank, when they put you in a box and drop you in a hole in the ground, all that can be said about you is that you **were** a very rich man. One of the founders of ALCOR, Fred Chamberlain, said that as he watched the newscast of Howard Hughes' body being unloaded from his private jet: "There **was** a very rich man."

Cryonics is the most important thing that people can do. It's the only thing which really offers them the prospect of indefinitely long life. People need to realize that, and we need to make them realize it, and take nothing less than that kind of commitment.

LW: Is ALCOR sufficiently focused on achieving that vision?

MD: Yes. The last six months have been a time of reassessing where we're at, and crystallizing in our own minds where we want to go. I think we've done that now. It's just a matter, as it always is, of having the personal discipline to go there.

But we cannot do it alone. One of the very frustrating problems we face is that people want us to do things, and are willing to pay for us to do things, that we really don't want to do, or that we don't have as a top priority. We find that there's a lot of money available right now for promotion. People are excited by the research work we've done and the administrative framework that we've put in place, and by the increased understanding of how we're going to go about repairing and resuscitating people with molecular technology. And they want quick progress.

In the last few months something in the vicinity of twenty to twenty-five thousand dollars has become available, earmarked solely for public relations work, for educating people. And that's good, you can't argue against spending that kind of money on public relations. A lot more needs to be spent on public

relations--I wouldn't argue with that. However, there are research possibilities on the horizon which offer the potential for the development of techniques which preserve with very little damage; techniques which could be available in the near future provided the funding is there. That's going to improve the marketability of cryonics more than anything we can do in the area of promotion. Unfortunately there have not been concomitant amounts of support coming forth for research. If those two things ever get seriously out of balance for any length of time, I firmly believe that it will be a disaster, for ALCOR and cryonics as a whole.

LW: If you had \$50,000 at your disposal for cryonics, how would you use it?

MD: Divided between promotion and research, with the lion's share going to research because I feel that's the bigger priority. And of course, 10% goes to patient care. As you know, 10% of everything that comes in goes to the patient care fund.

I would certainly spend some of the money, perhaps ten thousand dollars, on advertising. We know of some specialist markets that return members and sell subscriptions with something approaching the success rate experienced by normal businesses when they advertise.

I would like to get a laser printer. This would allow us to greatly improve the presentation of the magazine and of our other literature, while freeing up more time for research. That would cost around \$5,000.

I think I'd use ten or fifteen thousand for further work looking at preservation of brain ultrastructure. We still have substantial amounts of material sitting in the back of the lab, which we haven't looked at for lack of funds.

The remaining twenty to twenty-five thousand I would spend on researching solutions to the problems we have identified in the areas of patient cracking and poor ultrastructural preservation in the brain. The cracking problem I would probably address through the development of a vapor cooling technique, to maintain patients at a temperature low enough for long term storage but high enough to minimize thermal stresses during cooling. I would tackle the ultrastructural problems by pursuing the use of cryoprotectants which we know do a much better job of penetrating the brain, and by the development of vitrification as an alternative to freezing.

Your question is an important one: every CEO of a cryonics organization ought to be able to provide a good answer, quickly, because if you don't have a plan for how you're going to spend resources, then you have no business trying to get them.

LW: Are you optimistic about the future?

MD: I think that we're at a very exciting time in cryonics, more exciting than at any time in the past, except possibly at the very beginning, when I think that there was a lot of excitement based on false optimism about how easy it was going to be to get this thing off the ground. I think that now--at last--we have good reason to be excited about the prospect before us.

# Life Extension Survey: A First Look At Results

## by Mike Perry

As Life Extensionists we are naturally interested in the psychological factors that have given us our particular death-resisting orientation. Knowing about these factors will increase our understanding of ourselves and—perhaps of more immediate benefit—can help us identify and encourage others who might become interested enough to join us. To date there has been little in the way of psychological studies of life-extension predisposition. To remedy this deficiency Fred and Linda Chamberlain began a study in which a number of questionnaires are being sent to chosen recipients, with the objective of obtaining psychological profiles and other useful data. I became involved to serve as a data relay and to help with analysis as the study progresses.

For the initial phase of the study a brief questionnaire was sent to 69 attendees of the 1985 Lake Tahoe Life Extension Festival — people with demonstrated interest in life extension. (Later we hope to contact "outsiders" through a special interest group of American Mensa, Ltd.) The questionnaire contained 9 items dealing with such issues as when death was first perceived as a "problem", if and when the subject first made arrangements for cryonic suspension, and how important life extension is to other activities in life. This preliminary report is based on the 29 responses received by March, 1986. (More responses, of course, are always welcome; participants who continue will be offered reduced registration fees at the next Festival — see announcement).

Turning now to the results it is worth noting, first of all, that of the 29 respondents, 20 or over two-thirds rated life extension "highest priority" in their life (compared to "social, political, or recreational-type activities") while all but one of those remaining gave it the next-highest rating. The rest of this report will focus on the issues of (a) when death was first perceived as a "problem", (b) when it was first thought that death might be "defeated" and finally (c) how long ago the subject first made arrangements for cryonic suspension. In particular we would like to know if there is any tendency for those with long-standing cryonics arrangements to have been early perceivers of death as a problem, soluble or otherwise. Results, summarized in the tables below, would appear to discourage this hypothesis. Instead there seems to be no strong correlation between the age of perception of the existence of the problem of death or its possible solubility and the length of time of involvement as a cryonicist. As might be expected, usually the perception of the problem occurred substantially earlier than the feeling that there might be a way out, though there are exceptions. Nearly one-third of the respondents report not feeling that death could be "defeated" until past the age of thirty. (This group also shows a particularly uniform distribution in the time of involvement as cryonicists.) A significant number, including some early perceivers of "defeatibility" have never made arrangements for cryonic suspension.

While it is certainly premature to attempt any definitive explanation of these trends, some possible causes can be conjectured. Some will perceive death as a "problem" soon after learning of its existence, others only much later.

Religious training no doubt would be an important factor. Belief in a supernatural deliverance could account for the initial feeling that death could be "defeated". Belief in the possibility of immortality through scientific means may occur only much later. Those with childhood religious backgrounds, then, could be early believers in "defeatibility" but not otherwise very different from those raised nonreligiously who, lacking this early perspective, would in turn be classed as "latecomers". Perhaps involvement in a cryonics organization is more affected by the degree of confidence in existing organizations than by the acceptance of cryonics per se. Those who are strongly pro-cryonics could still be reluctant to make arrangements for suspension. Economic hardship, extreme youth, or difficulty obtaining insurance will affect some. Some of those who have never made arrangements, on the other hand, may be pinning their hopes on other means of life extension, such as a "breakthrough" against aging. It is hoped that light will be shed on these matters as the study proceeds.

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age/yrs.:							
0-5	1	-	1	2	1	2	-
5-7	2	-	-	-	-	3	-
7-10	1	1	1	2	1	1	-
11-15	-	1	-	1	-	1	-
16-20	1	-	-	1	-	-	1
21-30	-	-	1	-	1	-	-
31+	-	1	-	-	1	-	-

arr./yrs. ago:	never	0-1	2-3	4-5	6-10	11-15	16+
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**Table 1.** Number of subjects for: age at which death was first perceived as a "problem" vs. number of years ago that arrangements for cryonic suspension were first made.

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age/yrs.:							
0-5	1	-	-	-	1	-	-
5-7	-	-	-	-	-	-	-
7-10	-	1	-	-	-	-	-
11-15	2	-	1	-	-	4	-
16-20	1	-	-	3	-	2	1
21-30	-	-	-	2	1	-	-
31+	1	2	2	1	2	1	-

arr./yrs. ago:	never	0-1	2-3	4-5	6-10	11-15	16+
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**Table 2.** Number of subjects for: age at which it was first thought that death might be "defeated" vs. number of years ago that arrangements for cryonic suspension were first made.



## Why Not Freeze Your Brain?

by David S. Pizer

There's an answer to a question  
I'd like to obtain  
Instead of whole-body  
Why not freeze your brain?

To save nose hairs and toenails  
It just seems insane  
Soon you'll have new ones  
Why not freeze your brain?

Cause when you're unfrozen  
You'll just need the main  
Old toenails and kneecaps  
They'll flush down the drain

In a whole brand-new kingdom  
Your real soul will reign  
Why live in a dinosaur?  
Just freeze your brain!

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POT-SHOTS NO. 1310

## WHAT CAUSES THE MYSTERIOUS DEATH OF EVERYBODY?



Colleen  
Buller

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12327 Doherty St.  
Riverside, CA 92503**

**ADDRESS CORRECTION AND FORWARDING REQUESTED**

**Non-Profit Organization  
U.S. POSTAGE PAID  
Permit No. 5017  
Riverside, CA 92503**