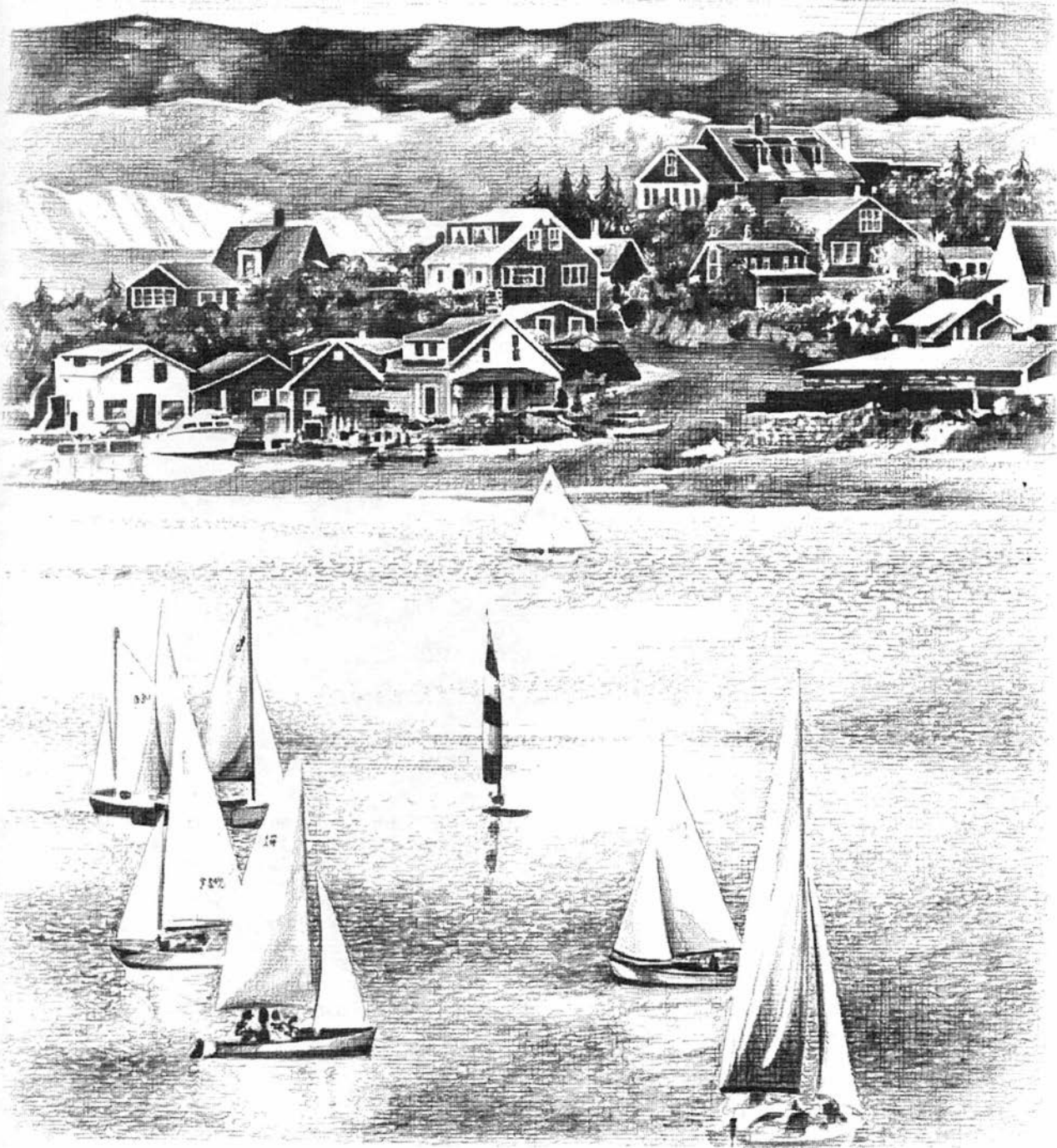


# Cryonics

August, 1987

Volume 8(8)



Volume 8(8) August, 1987 Issue #85

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## EDITORIAL MATTERS

Reprinted in the center of this month's CRYONICS is an article which appeared on Page 2, Section 1 of the July 6th issue of the LOS ANGELES TIMES. The article is reprinted with permission of the TIMES and we wish to thank them for allowing us to reprint it.

The TIMES article is hardly glowing press about cryonics in general, but on balance, it is fairly accurate press. Yes, there are a few minor errors (In some editions, ALCOR is charging only \$10,000 for whole body suspension.) -- and the usual quota of mindless quotes from cryobiologists, equating reviving human biostasis patients with restoring cows from hamburger, and the like. But on balance, the TIMES article covers what we have previously labeled as the "Dog and Phony Show" pretty well. We have gone to the trouble of reprinting it because it serves as an objective

insight into what some of our readers may have mistakenly seen as a "biased" ALCOR point of view.

In reading the article, you will no doubt notice that ALCOR is mentioned only at the end. The reason for this is that T.W. McGarry, the TIMES reporter who wrote the article, heard of ALCOR only after he had finished the piece and only one day before submitting it to his editors. We were impressed enough with Mr. McGarry's professionalism and thorough research on the issue to talk with him, and after seeing his article we have no regrets.

We hope the TIMES article will provide an objective "outsider's" perspective on the ACS dog work, and in addition, will also prove that the press is not completely gullible when it comes to attention-grabbing tactics such as ACS, Trans Time, and Paul Segall have engaged in. Probably there will be little immediate impact on the ACS media blitz, but hopefully the TIMES article will help set the record straight in the minds of those who read earlier, distorted accounts. At least it does serve to establish a clear record of ALCOR's position on the matter, and hopefully it will provide additional support for our position that the ACS dog work was little more than a blast of hot air.

\* \* \* \* \*

## CRYONICS VIDEOS-- NOW AVAILABLE!

Getting people to READ about cryonics is sometimes next to impossible. So, ALCOR has come up with some easy-to-use aids for spreading the word: cryonics videotapes.

Two presentations are now available, and they are designed to be used in



conjunction with each other, although each can just as easily be used alone. The first is a 30 minute ALCOR documentary produced by video specialist and ALCOR Suspension Member Bill Seidel. Bill's tape is an excellent first-hand introduction to the people of ALCOR. It features visual highlights of our new facility, extensive interviews with members, and a cross section of interviews with key ALCOR personnel. It is a very good, low-key, "human sided" introduction to ALCOR. Bill Seidel and Candy Nash did an incredible job with the ALCOR documentary and we simply cannot thank them enough. Bill and Candy wrote, taped, directed, edited, and produced the documentary, and also made a number of copies available at their own expense! Our sincere thanks! The ALCOR Documentary is available from ALCOR for \$25.00, including postage and handling.

The second presentation, AN INTRODUCTION TO CRYONICS, is a fast-paced 40 minute slide show and lecture by ALCOR President Mike Darwin which serves as a basic technical and scientific introduction to cryonics. This presentation was taped at the 1986 Life Extension Breakthrough Conference and is not a high production affair. Mike's presentation focuses on the biological and scientific basis for cryonics and does so on a lay level, with frequent sidetrips into ethical and social problems posed by cryonics. The formal talk is followed by a panel discussion entitled "Can We Achieve Physical

Immortality?" which features Saul Kent, Mike Darwin, Paul Segall, and Eric Drexler. The Panel discussion is lively and heated and is sure to spark questions and debate from all who see it. AN INTRODUCTION TO CRYONICS is also available for \$25.00.

Those wishing to purchase **both** presentations may do so at the substantially discounted price of \$35.00 including postage and handling!

If you've wanted to introduce cryonics to friends and family in an easy way, now's the time to do so. All you have to do is to get them in front of a TV set!

To order the tapes (VHS only, at this time) just call ALCOR at:

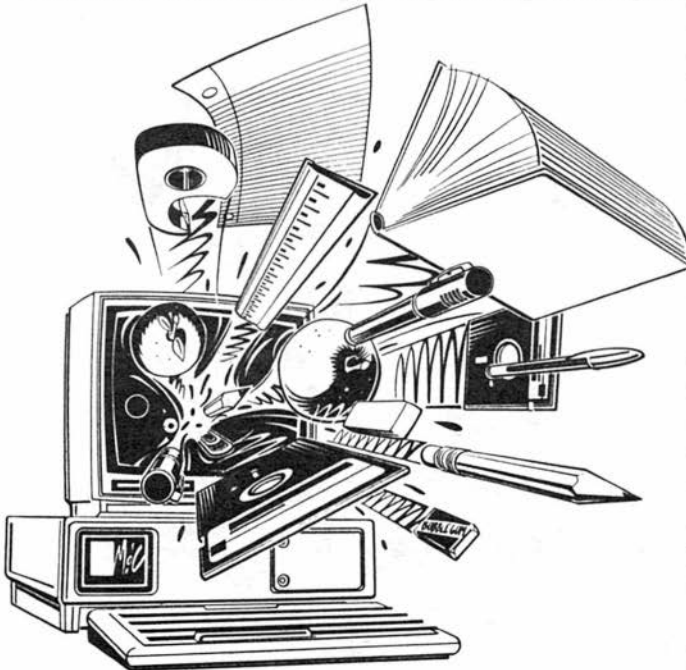
(800) 367-2228 or  
(714) 736-1703 (in California)

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## BULLETIN BOARD UPDATE

As we announced last month, the Cryonics Bulletin Board (CBB) is up and running. The bulletin board currently features some basic cryonics information which we hope will grow by leaps and bounds. Several issues of CRYONICS magazine are on the CBB now, as well as a number of articles from back issues. Also on the CBB are the complete ALCOR sign-up package and an extensive backlog of Thomas Donaldson's Science Updates (some of which you can get only by dialing up the CBB as they will probably not be published in CRYONICS). Also

present are a number of articles not suitable for publication in CRYONICS, but which are nevertheless very interesting. We hope to get discussions on topics related to cryonics and immortality. Feel free to join in, or even to start something.



A very special feature available to CBB users will be the ability to read CRYONICS magazine about 2 weeks prior to its delivery via the mail. Of course this will be sans pictures and charts, but nevertheless, for those who absolutely positively must have it by tomorrow -- now you'll be able to do so.

The CBB also has a buy-sell section where

people can order cryonics related items or get information on life insurance. In short, the CBB is a very powerful networking tool and you should give thought to logging onto it if you have a computer and a 1200 baud modem.

We are soliciting suggestions for memorable articles from CRYONICS to place on the Bulletin Board, since we have several years' worth on diskette and readily available. If you have any favorites, please let us know.

\* \* \* \* \*

## ALCOR SUPPER CLUB

As the size and scope of ALCOR's operations has increased, there has been a concomitant increase in the need for members and staff to interact. People involved in volunteer projects need an opportunity to interact with staff, and new people also need a chance to get together with other members in a more social setting than the monthly board meetings. Taking a cue from the Northern California cryonicists we've decided to have biweekly dinner meetings -- informal get-togethers of a social and brainstorming nature which will be held at restaurants around the L.A., Orange County, and Riverside areas. A schedule of these meetings is enclosed in the center of this month's issue.

All you need to bring is yourself and your appetite -- for food and conversation! As a very special treat, Marce Johnson has agreed to open her house to a dinner meeting on an occasional basis and to fix us up a home cooked meal in the bargain! The meetings at Marce's house sound especially promising (anyone who's sampled Marce's cuisine will know why!).

So, if you have friends you'd like to introduce to cryonics without subjecting them to financial reports and lengthy management discussions (i.e., an ALCOR Board meeting!) then bring 'em to the ALCOR Supper Club!



## A CALL FOR HELP

Members call with some frequency and ask what they can do to help. For local people we can often offer volunteer chores relating to magazine production, but we get the feeling we're just not using the resources that are out there to their fullest. We want to change that.

There are a plethora of things which need to be done around the facility. Some jobs are seemingly trivial -- like staining our raw wooden rafters to match the rest of the woodwork. Others are more serious, like hanging cabinetry or working on the ambulance. For those with hands-on skills there's plenty to do.

Several big projects also need doing. A number of people have suggested "humanizing" the patient care bay by softening its industrial appearance and making it a place where people can come and relax and be near loved ones who's presence they are separated from. Is there someone out there who like to spearhead such a project? We suspect there are probably a number of members out there with "take-charge ability" and the skills necessary to see such a job through to completion.

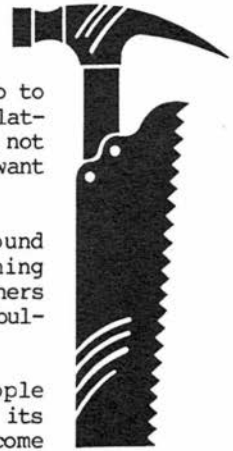
And of course there are specific things that we need urgently. Believe it or not ALCOR does not have a photocopier! Running an operation like ALCOR without a copier isn't an easy job. In the business park where we were previously located this wasn't as much of a problem since the copy shop was just a couple of doors away. Now we have to go several miles for copies. We had planned on buying a decent copier when we moved -- but our cash crunch has shelved that idea. The question is, is there anyone out there with a copier they're not using, or with the wherewithal to purchase us one?

If you think you can help with any these projects drop us a line or give us a call.

\* \* \* \* \*

## **Pulling The Plug: 60% of Americans Say "Yes" To Active Euthanasia**

In the May, 1987 issue of CRYONICS we ran an extensive article on the California Humane and Dignified Death Initiative (CHADDI), which is being promoted by the Hemlock Society and sponsored by their sister organization Americans Against Human Suffering (AAHS). Passage of the CHADDI would allow patients to choose active euthanasia or "doctor-assisted dying". In other words, patients who met certain criteria would be allowed to request and be given painless, lethal doses of medication to end their lives.



## Cryonicists Can Benefit

The benefits of such a law to cryonicists are fairly clear-cut. It would allow for elective suspension of clearly terminal patients and it would greatly reduce the number of members who suffered serious brain structure loss from degenerative illness such as multi-infarct brain disease and Alzheimer's. It would also decrease the financial drain on terminal patient's suspension funds caused by futile palliative care.

Many cryonicists feel very strongly that CHADDI should be vigorously supported and several cryonicists have expressed an interest in assisting AAHS in gathering the monumental 450,000 signatures that would be required to get the CHADDI on the November 1988 ballot.

The question is, what kind of support is CHADDI likely to find at the polls? Will Americans in general and Californians in particular accept euthanasia?

## Polls Show Good Support

To this end the Roper organization was commissioned to conduct a nationwide study to answer the question "Should doctors have the right to give lethal medications to dying patients who request them?"  
The answer:

YES	62%
NO	27%
DON'T KNOW	10%

A Field poll of California conducted in April of 1987 yielded the following results:

YES	64%
NO	27%
DON'T KNOW	9%



If these figures are correct then the AAHS effort to get CHADDI through the initiative process has a real chance of success. Of particular interest and relevance is a recent financial statement issued by the Hemlock Society. The Society lists over \$300,000 in **cash** assets, a total net worth of \$394,128.39, \$8,099.30 in liabilities and no significant long term debt! Salaries for fiscal year 1986 were \$112,495.85!

## Death Is Big Business

These financials are worth considering for at least two reasons. First, because they point up the fact that the Hemlock Society is a large and powerful pressure group in very robust financial condition and very able to take on the task of moving the CHADDI onto the ballot in 1988. Second, it just goes to show that we are probably in the wrong business. People seem far more interested in solving their problems through suicide than through rational action to eliminate the underlying problems, which are aging, illness, and death. The Hemlock Society balance sheet is staggering testimony to the warped



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values of the society we are in.

Fortunately the CHADDI is something all of us can agree on. The right to basic freedoms can make strange bedfellows -- and this is a case in point.

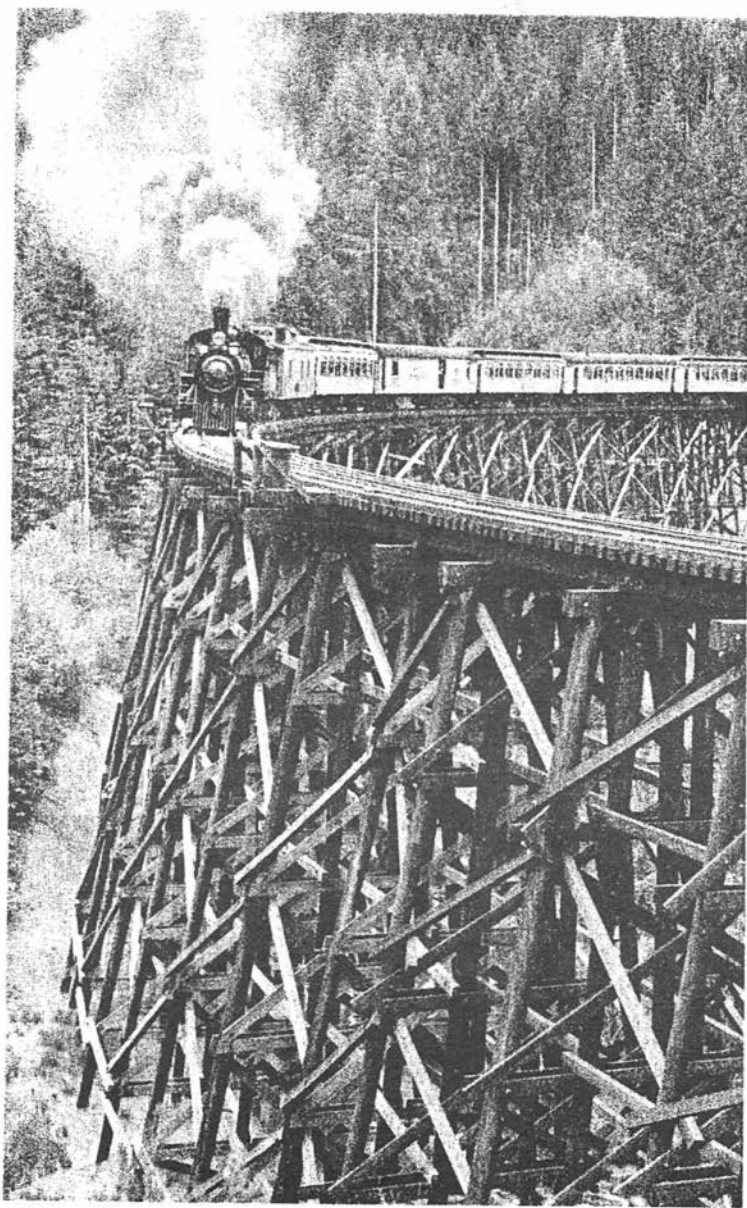
If you are interested in getting more information on how you can help support the CHADDI by gathering signatures you should contact:

**AMERICANS AGAINST  
HUMAN SUFFERING**  
P.O. Box 11001  
Glendale, CA 91206  
(818) 240-1986

\* \* \* \* \*

**"The vast majority of human beings dislike and even actually dread all notions with which they are not familiar... Hence it comes about that at their first appearance innovators have always been derided as fools and madmen."**

**--Aldous Huxley**



# The Road Ahead

## by Mike Darwin

In talking with people from all three cryonics groups, one thing is clear — ALCOR has become synonymous with excellence. Even our harshest "critics" have glowing things to say about almost every specific aspect of our operation. Achieving that level of quality and service has been a very gratifying thing. CRYONICS magazine, the ALCOR facility, and the high level of training, technical, and research sophistication that this organization has developed have not come easy. The last three years in particular have seen stunning progress in almost every area of ALCOR's operation.

### Don't Take Us For Granted

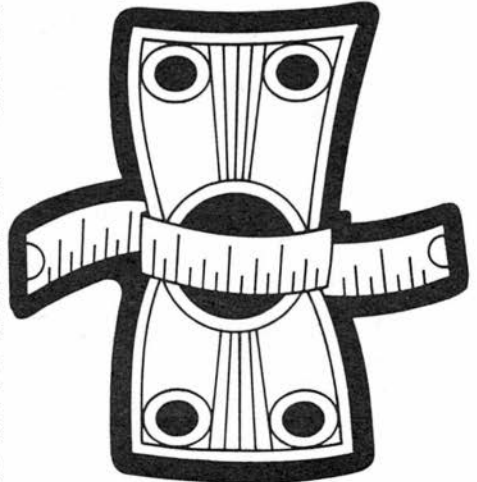
Many, if not most, of our members have come to take that kind of service for granted. ALCOR doesn't charge \$1000+ entry fees, and anyone who has ever had any contact with ALCOR as well as with other cryonics organizations can tell you about the many advantages ALCOR enjoys.

No small measure of our ability to offer such comprehensive service has been as a result of generous support from our membership. In particular, a small group of members has borne a tremendous share of the burden of paying for these services. It has been no secret that the "salaries" of Mike Darwin and Hugh Hixon have been paid by Saul Kent and Bill Faloon. The availability of two full-time people who put in 12-hour-plus days has been a tremendous boon to progress.

### LEF Raid Was Damaging

Due to the recent raid on the Life Extension Foundation and continuing harassment from the FDA, support for ALCOR staff will soon end. As it stands now, Mike and Hugh will receive their last consulting check around the end of October. After that, it's back to the way it was three years ago with staff present on a "catch as catch can" basis, and there will be a big drop-off in the quality of service ALCOR offers in every aspect of its operation.

When Bill and Saul began supporting the ALCOR staff by providing money for "salaries" the idea and the expectation was that this support would allow for continued and rapid growth in membership and that this expanded base of members would eventually allow ALCOR to function as a normal business operation and pay its full time staff. Indeed, the problem of delivering high quality cryonics services has always been that the service has never had enough clients to really justify its existence economically. As has so often been said: "Never has so



much been done with so little for so few." The problem is analogous trying to operate a fire station for one person's house. Fire coverage under such circumstances becomes pretty expensive.

### A Broader Base Of Support Needed

And so it goes with cryonics. Right now ALCOR has just under 100 Suspension Members. The quality of service we offer, by far and away the best, is being paid for by less than 100 people. In order to make ends meet, ALCOR needs to attract an **additional** 200 suspension members at current \$200/member/year rates of charge. In reality, we probably need to attract closer to 300 new members because many of those who join do not pay full dues owing to their being members of an entire family that is signed up or to their being students or children.

The frustrating thing is that there are lots of people out there who have sets of suspension paperwork and who have been offered every kind of help and incentive imaginable in filling them out -- and who are NOT signed up.

What can be done to overcome the cash flow problem described above? First of all, if you've been considering signing up, DO SO. Also, start getting other people in the "sign up" pipeline to us. We know this can be done. People like ALCOR Suspension Members Larry Sharp, Keith Henson, and one or two other members have been instrumental in signing up several new people or in bringing us good prospects. Others can do the same thing.

### Assess Your Risk

The other important thing which can be done is to assess your personal situation and how you are allocating your resources. If you are at a high risk of needing ALCOR's services and are planning on transferring money to ALCOR **after** you are in suspension you should most definitely give some thought to doing it NOW. We simply cannot be more blunt. If we do not have money to maintain the level of training and support that we have now it will cease to be available. And when that phone call comes in and you're in need, you will be the one who receives a lower quality of service.

ALCOR's membership is growing steadily, and the level of interest in cryonics is high. There is EVERY REASON FOR OPTIMISM about the potential for reaching a breakeven size in the next two to three years at current rates of growth. But that will NOT happen without continued financial support from you, our members, to maintain adequate staffing and quality service in the interim.

I urge you to consider giving \$1,000, \$2,000 or even \$5,000 or \$10,000 to help ALCOR continue to offer the level of services it



has. Bill Faloon and Saul Kent have been providing **\$36,000 per year for the last 2 years.** I know that there are others out there who can carry a good fraction of this burden. Particularly helpful would be someone who agreed to contribute on a matching basis up to some reasonable ceiling.



While I think every ALCOR member should think about this situation, I will again be very direct and suggest that those of you with the greatest risk give it the greatest consideration. We are not able to make our dues structure depend upon age or risk (which would be the equitable way to assess the cost of emergency responsibility) because of insurance regulations. But we can ask you to give us voluntary support on that basis. For those of you who are at the highest risk of needing ALCOR's services in the next few years I sincerely hope you give the issue of providing extra financial support for us your highest priority.

\* \* \* \* \*

## **SOME CHANGES IN REQUIREMENTS FOR SUSPENSION COVERAGE**

As is pointed out in the article which precedes this one, ALCOR offers the finest services around at the lowest cost. We are proud of our record and we are glad to be able to offer the level of care and support that we have. But we will not be taken advantage of, either. And recently, in several areas of our operation, that's exactly what we've discovered has been happening.

Particularly frustrating are the folks who've "abused" one of ALCOR's finest services -- the use of Field Representatives who work one-on-one with potential suspension members to fill out suspension paperwork. These Representatives have almost nothing but horror stories to report. Potential members will often put these volunteers through many, many hours of hard work, run up significant phone bills for ALCOR, and then just leave the matter hanging -- sometimes failing to sign the filled-out forms, even though they already have ALCOR listed as a beneficiary/owner of their insurance policy! the result? ALCOR dollars down the drain -- and what's far, far worse, discouragement and wasted effort on the part of what were once enthusiastic volunteers.

We are going to make some changes to STOP that kind of abuse. In the future there will a \$100 charge for 4 hours of time to fill out the forms. This \$100 will be applicable towards the first year's dues, but will not be refundable if the person fails to complete his/her paperwork and meet other requirements for becoming a Suspension Member. This charge is effective



immediately for all sets of paperwork sold after July 15, 1987. We continue to be astounded by people, many of whom should know better and who profess an interest in the well being of ALCOR, who would abuse a volunteer's time in this way.

The next issue of concern is the one of financial accountability for suspension arrangements. In the past we have allowed members to provide funding for cryonics by making ALCOR the **beneficiary** of their life insurance policy while they retain **ownership**.

Ownership of an insurance policy gives as a minimum the following rights:

- 1) The right to change the beneficiary.
- 2) The right to borrow against the cash value of the policy (such loans are taken out of the proceeds of the policy if the insured dies before the loan is repaid).
- 3) The right to carry out #1 and/or #2 above, or to stop paying on the policy **without notifying the beneficiary**.

What this means for ALCOR is that members can "gut" the financial worth of their policies by borrowing against them, can change the beneficiary, or can quit paying their premiums, and ALCOR would have no way of knowing! Thus, if an emergency call comes in to suspend a member on Friday night, the member could be down to dry ice temperature on Monday afternoon before we found out there was no insurance coverage in place!

We have tried repeatedly to get insurance companies to cooperate with us in notifying us if the member has done something to void his coverage with us — to no avail. There are, as far as we can determine, only two airtight ways to achieve this:

- 1) Be the owner of the member's cryonics policy(ies).
- 2) Have a "collateral agreement" (a lien) on the policy stating that ALCOR has an interest in the policy in view of our contractual commitment to place the member into suspension in an emergency.

Some months ago it was decided to require ownership or a collateral agreement on ALL member's insurance policies in order to guarantee funding. For nearly a year now this has been required of all new Suspension Members. We are now gearing up to require this of ALL ALCOR Suspension Members.

What this means for those of you who do not already have ALCOR as the owner of your insurance policy is that you will be contacted sometime in the next six months or so by an ALCOR Representative. This person will have completely reviewed your paperwork file, identified deficiencies, and will call you to set up an appointment to correct these deficiencies. This review will not be confined just to life insurance, but will cover every aspect of suspension arrangements. Once you meet with the Representative you will be assisted in getting your file in top-flight order and provided with advice on how to go about changing ownership of your policy over to ALCOR if you choose to do so.

If transferring ownership of your policy, or the execution of a collateral agreement, is not acceptable, you will be given an interim period to transfer your cryonics arrangements to another group.

There will be safeguards for you in transferring ownership of your policy to ALCOR. ALCOR will issue a buy-back agreement with each transfer, allowing you to buy back the policy from ALCOR for \$25.00 (the administrative cost of transferring the policy back to you) for any reason you choose at any time you choose. Of course, exercise of the buy-back agreement will void your suspension arrangements with ALCOR.

We expect that this review and switchover to the new system will be the last of the five-year overhaul in suspension arrangements which has been slowly going on. If you want to "avoid the rush" and get your policy ownership transferred now (which is strongly encouraged) you may do so by contacting your **insurance agent** and requesting he make the transfer. Your agent will secure a form for you to sign and to send to ALCOR to facilitate the change.

If you have any questions about the upcoming changes just call us at:

(714)736-1703

\* \* \* \* \*

**"Perfection of means and confusion of ends seems to characterize our age."**

**--Albert Einstein**

# THE JOURNEY BEGINS: ALCOR MEMBER ENTERS BIOSTASIS

by Mike Darwin

Every once in awhile the phone rings at ALCOR and the tone of the voice on the other end tells you something's wrong right away -- before the words can even reach you. Early in March I picked up the phone and knew I was taking just such a call. It was voice I hadn't heard in a long while and one I knew I couldn't expect to hear unless something was wrong.

## Something Is Wrong

Something was wrong. The caller had a dear friend who had recently been diagnosed with AIDS. The situation was a complex one. The young man who was the focus of her concern was a hemophiliac with a 2-year history of AIDS Related Complex (ARC) who had recently gone on to develop full-blown AIDS and whose medical problems were very serious. The caller was a long time ALCOR Supporting Member and someone who was intimately familiar with cryonics and ALCOR from both the technological and the human dimensions. She realized that the odds weren't good in this case, and she wanted to talk to someone about whether she should even raise the issue. The people involved already knew about cryonics, but finances were likely to be a struggle (who has \$35,000 or \$100,000 lying around in cash?). Life insurance was out of the question as the young man was already clearly terminal. She also wanted to sound us out on the issue of infectious disease. The young man in question not only had AIDS, but hepatitis B in a particularly virulent and deadly form (probable delta particle co-infection) as well as one or two opportunistic infections of less concern. Would ALCOR even take such a case? Should she raise the issue of cryonics at all and perhaps jeopardize two close friendships?

## A Difficult Situation

Offering advice in such situations is a hellish job. All I could do was to tell her to gently raise the issue with her friend in a nonthreatening way and react as is appropriate -- dropping the issue if the reception was anything less than enthusiastic. I also gave the usual cautions and "discouragements". Finances, the burdens and distractions of illness, and most of all, an unwillingness to squarely confront the real probabilities, would most likely combine to rule suspension out. She should be prepared for the worst and not press the issue.

\* \* \* \*

A few weeks later I was sitting in the reception area of the ALCOR facility talking with the young man, who had only been a name and another of the many sad stories I've come to expect to hear when answering the phone at



ALCOR. He did not wish to be identified publicly, so I'll give him the pseudonym here of "Carl Harper". Carl had no interest in exposing his family to the media limelight -- and his father and mother, who accompanied him on his first visit to ALCOR, shared his sentiments.

My first impression of Carl was that he would not be needing our services very soon -- and I told him so. Despite the gravity of his medical problems, he was alert and appeared in reasonably sound shape -- a far cry from the wasted, birdlike skeletons I've so often seen AIDS patients reduced to in the final weeks of their illness. I was prepared for a very unrealistic appraisal of his situation by Carl -- along with a lot of the usual false hope for an immediate cure. I got nothing of the kind. That was the first thing that **really** impressed me about Carl Harper -- his unflinching sense of realism and his total commitment to getting things arranged so that cryonics would be there for him when he needed it.

## A Realistic Evaluation

That isn't to say that Carl had given up, or was morose about his prospects. Far from it. He said he intended to hang on for as long as possible, but that he realized the odds weren't very good and that the particulars of his condition were an added complication. Namely, the hepatitis B was rapidly destroying his liver, and had so reduced his liver function already that he could not tolerate any of the available HIV antiviral agents such as AZT or Ribavirin. An additional infection with mycoplasma avians (a cousin to tuberculosis) was destroying his bone marrow and further damaging his liver. He was on medication for these things and he was hopeful, but, given his limited reserve, he felt it wasn't prudent to count on too much time.

I have seen many people come face to face with the fact that they are dying. I have only seen one or two that even came close to handling it as intelligently and rationally as Carl Harper did. He said he had been thinking about cryonics since he was diagnosed with ARC two years before, but had not brought the issue up with his folks, largely because he didn't think they or he would be able to bear the financial burden.

The idea of cryonics was not new to either Carl or his family. Carl's father had attended an ALCOR meeting about four years before and was already reasonably familiar with the idea and the logistics, and of course the close friend who had placed the call had often discussed cryonics in the past with both Carl and his father as she was actively involved herself.

Finances were discussed and the issue of neurosuspension was brought up. Carl's reaction was level and rational. It was the only option he would consider. Cost was not the only factor in making the decision. A commonsense evaluation of what was important was foremost in his mind, and as I have often seen before, his sense of his self as his "body" as opposed to his "mind" had been greatly eroded by his disease. As he said to me shortly before leaving that Sunday, "This disease has pretty well destroyed my body, all I have left is my mind. That's the important thing. Everything else can be replaced on the other end. And besides," he added with a half smile, "they can fix the hemophilia from scratch next time so it doesn't screw up my life again."

## "Going For It"

I was quite surprized that when Carl and his parents walked out the door a decision had been made to "go for it" as Carl put it. What followed was an extraordinary unfolding of events, the kind of thing that movies are made about.

Right from the start, Carl made cryonics his top priority. He told me he wanted me to meet with his physician as soon as possible and that if she was not cooperative he would immediately switch to a physician who was. This was an incredibly gutsy thing to say -- and to mean -- because Carl's relationship with his doctor was excellent, and he had been treated at the same hospital since he was child and knew the staff fairly well (with hemophilia, hospitalizations are common).

As it turned out, Carl's physician was cooperative. She had many questions and she wasn't about to be "railroaded" into anything. I met with her about a month after my first meeting with Carl -- shortly after his paperwork had been completed and his suspension arrangements approved.

"Lillian Salter," M.D. was not what I expected. She was black, very businesslike, and possessed of a mind like a steel trap. She had plenty of brass-tacks questions to ask, and she was very concerned about her patient's well-being. She made it quite clear from the start that she was not about to "pronounce" (certify legal death) Carl in a home setting. She felt he should receive care in an in-hospital setting right up until the last, and once she became convinced we were no scam, she worked tirelessly to secure the hospital cooperation to make that scenario a reality. I think what motivated her most to do this was her personal relationship with Carl and her observation that "since Carl made these cryonics arrangements he has done a complete about-face. He is more optimistic, more involved in his care and nowhere near as depressed and hopeless as he was before becoming involved in this..." The improvements in Carl's outlook and manner were strong motivating factors in her working to accommodate his wishes for suspension.

Our meeting, which lasted nearly an hour, ended with both of us expressing the opinion that Carl had quite a ways to go yet before he would need the arrangements.

## Hospital Cooperation

Over the next few weeks an agreement was worked out with the hospital and a pleasant, almost unbelievable coincidence was discovered. A physician who is an ALCOR Suspension Member, is on the ALCOR Suspension Team, and who is closely involved with ALCOR research, was also on staff at the same hospital! Dr. "Greg Smith" worked evenings in the hospital's emergency room to supplement his meager income as a researcher at a local University. This fact was uncovered quite by chance as I talked with him one evening about my negotiations with Carl's physician and how to solve a particularly knotty problem that had come up. The problem was that given the current staffing situation, the hospital could not guarantee that there would be anyone to promptly sign a death certificate on Carl -- there might be a delay up to an hour for a physician to come up from the emergency room. "What!" he exploded. "I'm on staff at that hospital and know half the ER and on-call docs there."

## Dr. Smith's Solution

Dr. Smith had an elegant and very effective solution to the problem. Privately and quietly circulate the information that there would be a \$1,000 bonus for **prompt** pronouncement of the patient and help with intubation, which would decay to nothing at the 15 minute post-arrest mark. Thus, any hungry ER physician could earn himself a quick \$1,000 just by showing up and doing 5 minutes' work -- work he was basically being paid to do anyway. This plan was put in motion.

Over the following 2 months I would talk to Carl frequently. He would call me with questions or concerns or just to chat, and I would call him to see how he was doing. He also had established a friendship with another ALCOR member, Arthur McCombs. Carl and Arthur had a number of interests in common -- including a love of heavy metal rock music. For Carl it was more than just an interest. He had spent his entire life performing music and at the time he became ill with AIDS he was bass guitarist in a heavy metal rock band. He had a couple of "minor" hospitalizations, but basically seemed to be doing pretty well. I called to talk with him on Friday evening, June 5th and his mother told me had gone to bed early. I asked her how he was doing, got a favorable report and said I'd give him a call on Monday, as I had a day hike up Mt. San Gorgonio scheduled for Saturday and dinner plans for Sunday. I checked on our other high risk members and called Jerry Leaf, our Suspension Team leader, to let him know he could relax a little for the weekend as everyone was doing well.

## The Crisis Begins

The next day, after descending about 11,000 feet from the summit of San Gorgonio my pager went off. Carl's father had called to report that he had just been hospitalized with a high fever. This was not unusual and he said he would keep us posted. I told Hugh Hixon, who was manning the office, to call Jerry and let him know, and I proceeded to go out to dinner with some backpacking friends to relax after the day's climb. I never finished dinner. My beeper sounded an hour or so later. Carl was unconscious and in septic shock, and Jerry Leaf was nowhere to be found. He had left a message that he had gone to Mexico and would call in later to give us a phone number where he could be reached.

The next 24 hours were sheer hell. Despite every effort to do so, Jerry could not be reached and no call was forthcoming. What we had no way of knowing was that Jerry's brief trip to Mexico had turned into a nightmare with his wife becoming seriously ill, no hotel rooms available (the Baja 1000 was in progress), and the wrong key in the lock box at the condo they had rented for the day!

I deployed a team at the hospital with the ALCOR ambulance to stand by and get Carl on the HLR and then notified our physician of the situation. To complete the nightmare, Dr. Salter, Carl's regular physician, was away for the weekend and most of the following week at the International AIDS Conference in Washington D.C. She could not be reached at the conference and no one at the hospital knew what to do. The physician who was covering for Dr. Salter and who had been briefed on the cryonics aspect of Carl's care was also off this weekend. The on-call physician had never heard of any of this before.

## Race Against Time

This is where Dr. Smith stepped in and saved the day. He took over Carl's management from the on-call physician and arranged for his transfer to the ICU. This was no mean feat as it was miserably understaffed — only one nurse for the whole ICU. The hospital nursing office asked if ALCOR could provide some skilled help (no, we're NOT kidding) since they were impossibly short staffed. Dr. Smith stood by until Carl's mother (who is a nurse) could reach the unit to assist with his care, and until Scott Greene, who is a 3rd year nursing student, could be put on the scene. Over the next 24 hours Scott, Arthur McCombs, and Mike Darwin would take turns providing basic nursing care for Carl, supplementing the meager ICU staff!

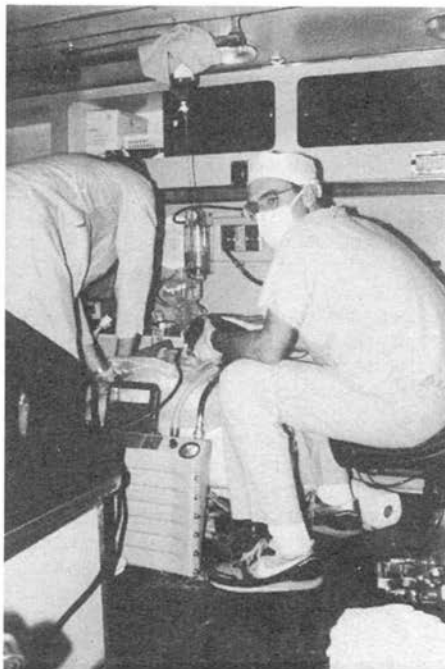
Dr. Smith started a dopamine drip, got Carl properly hydrated, and pulled him out of septic shock. Now it was a waiting game -- it was apparent that Carl would get better transport if Jerry Leaf was available to operate the Mobile Advanced Life Support System (MALSS) cart. No one else was sufficiently trained yet (a situation which has since been remedied) to set up and use the cart. Meanwhile at the hospital, Suspension Team members Scott Greene (who also is a certified EMT and ambulance driver) and Arthur McCombs were standing by. Carl's situation seemed stable and everyone relaxed. It seemed very likely he would make it through the night.

## Jerry Leaf Returns

At around 9:30 PM Sunday evening, Jerry Leaf called in after a grueling trip back from Baja, Mexico. He was immediately appraised of the situation and came straight to the lab. The MALSS cart was loaded onto a van and Jerry and Hugh Hixon left for the hospital. Shortly after their departure a call came in from Scott Greene. The patient had been given 2 mg of Dilaudid for pain and was in profound shock. I asked Scott if he felt he and Arthur would be able to handle the transport. The answer was a calm "Yes." Cooperation from the hospital was excellent and they were offering every kind of support they could to see that things went smoothly.

## A Suspension Gets Underway

At 3:30 AM, shortly before Jerry and Hugh arrived with the MALSS, Carl went into cardiac arrest and was pronounced legally dead by an ER physician who was anxiously standing by waiting to earn his \$1,000. Carl was promptly intubated and manual and then mechanical CPR was begun. Arthur and Scott promptly transported the



Scott Greene and Mike Darwin with "Carl" in the ambulance at the ALCOR facility.

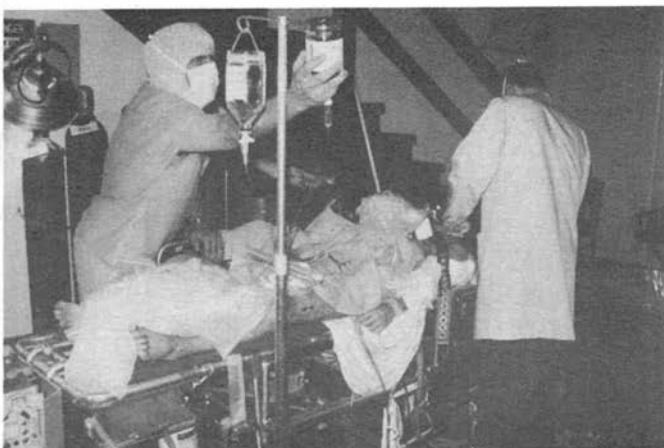
patient from the hospital and as they arrived at the ALCOR ambulance, ALCOR Treasurer Carlos Mondragon walked up and assisted them in lifting the gurney with Carl, the HLR, and the ice packs into the ambulance. No sooner was the gurney in the ambulance than Jerry and Hugh arrived.

Carl was quickly packed in ice from head to toe and transported to the ALCOR facility in Riverside. When the ambulance rolled in from L.A. about 45 minutes later, Carl was receiving the last of his transport medications and was already down to 28°C. Shortly after his arrival at the ALCOR facility it was noted that Carl had developed significant pulmonary edema, and his endotracheal tube required intermittent suctioning of blood-tinged secretions. It was at this point that a significant hazard associated with the Brunswick HLR units was experienced. Blood-containing secretions can back up into the respirator hose and be aerosolized and power-

fully sprayed out by the blow-off valve at the end of the ventilator hose. When personnel lean over to disconnect the respirator hose to suction the patient, they can be sprayed directly in the face or eyes with blood contaminated (and presumably HIV positive) lung secretions! It is highly recommended that masks, face shields, and cover gowns be used during transport as well as in the operating room.

### Life Support Cart Used

After 5 hours of HLR support, a femoral cutdown was carried out and Carl was coupled to the MALSS unit. His core temperature was rapidly decreased to



**Carl is placed on bypass: Suspension Team Leader Jerry Leaf adds volume to the circuit while Scott Greene disconnects the heart-lung resuscitator.**



**On bypass on the MALSS, Carl is quickly cooled prior to washout**

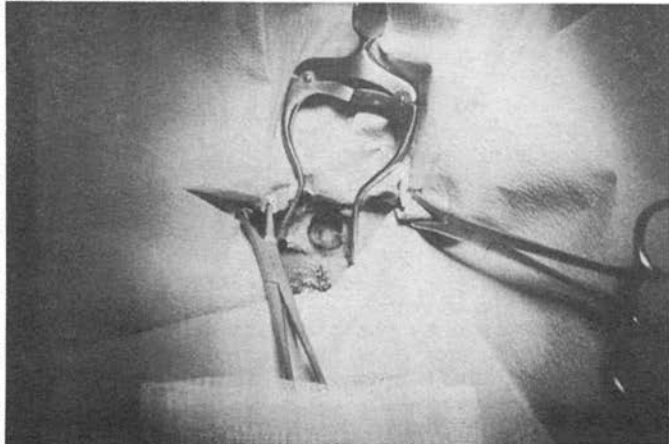
12°C using the heat exchanger in the Sci-Med oxygenator. It was noted that the blood which backed up into the arterial cannula during HLR support was bright red, and the venous blood in the venous cannula was dark blue -- the HLR was doing its job. Carl was supported on the MALSS using a blood pump and membrane oxygenator for a little under 2 hours. After dropping his temperature to 12°C he was massively hemodiluted using base perfusate (not containing any cryoprotective agent) to a hematocrit of about 4% and his temperature was further reduced to 4.9°C. Perfusion was stopped due to massive pulmonary edema (and the fact that Carl's core temperature was safely low enough and he had been flushed free of blood). Carl was then transferred to the operating table in the facility Operating Room (OR) and completely repacked in ice.



**The femoral heart-lung bypass circuit in operation on the MALSS**

### **The Suspension Team Assembles**

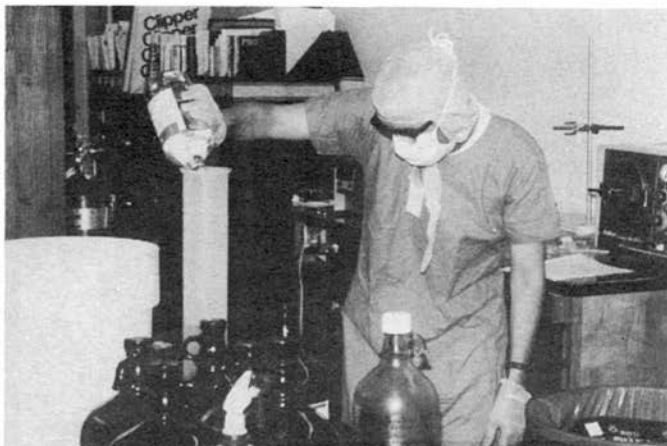
By the time MALSS support had been discontinued personnel were starting to pour in from all over. Brenda Combest arrived to coordinate meals and keep food supplied -- a job she handled with her usual aplomb. Fred Chamberlain flew in from Lake Tahoe to carry out note-taking and debriefing of the transport staff, and photographer Luigi Warren arrived to document the suspension with snapshots. Scott Greene changed roles and scrubbed in with Jerry as first assistant surgeon and Thomas Donaldson arrived on the scene to act as a backup support person. Carlos Mondragon, running on Coca Cola and adrenalin, changed into scrubs and acted as circulator.



**The burrhole in the skull, made to observe the state of perfusion to the brain.**

After positioning Carl on the table, the first thing that was done was to make a burr hole in the top of the skull and expose a small area of the cerebral cortex. This allowed us to evaluate the degree of blood washout

during MALSS support/total body washout, and of course to subsequently monitor cryoprotective perfusion. Despite 5 hours of HLR support and 2 hours of MALSS support there was no sign of cerebral edema when the dura mater, the tough membrane covering the brain, was opened. The brain surface was a pristine, pearly white and free from blood-filled vessels. Blood washout was very good.



**Thomas Donaldson aids in mixing perfusate.**

Carl was then prepared for connection to the heart-lung machine and a median sternotomy was performed (the chest was opened and tubes were placed in the aorta and the right heart so heart-lung machine assisted circulation of cryoprotective agents could begin). At 3:40 PM cryoprotective perfusion (CPP) was begun.



**Performing the cannulations inside the chest to isolate the head prior to cryoprotective perfusion. Carlos Mondragon holds a reference anatomy text, while Scott Greene assists Jerry Leaf in the cardiovascular surgery.**

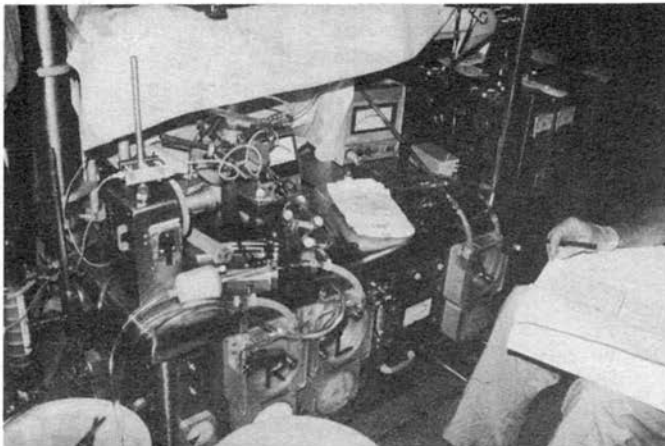
## Perfusion Begins

CPP proceeded smoothly with vascular resistance remaining fairly constant, and desirably low, over the entire course of the perfusion. Overall, Carl's perfusion went better than in any other patient we have had so far.

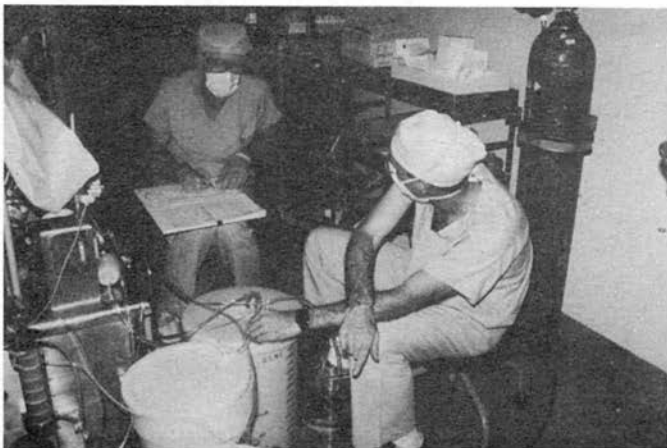
A terminal concentration of glycerol (the compound we are currently using to minimize freezing injury) of 3.80 Molar (35%) was reached. This is a higher glycerol concentration than we have ever been able to reach in a human patient. For the first time we were able to achieve what we call "Smith's Criterion," of not turning more than 60% of the water in the patient's brain into ice. (Cryobiologist Audrey Smith was the first to show that golden hamsters could survive 60% of the water in their brains being converted into ice with no ill effects.) Given a 3.8 M concentration of glycerol we should have converted just 60% of the water in Carl's brain into ice -- right at the threshold suggested by Smith's work.

Cryoprotective perfusion lasted a little over 4 hours and was terminated at 8:43 PM. Surgical separation of the head was completed at 8:54 PM and Carl was submerged in a Silcool bath at  $-15^{\circ}\text{C}$  at 9:04 PM on Monday evening. Over the next 18 hours he was slowly cooled to  $-79^{\circ}\text{C}$  in the Silcool bath by the gradual addition of dry ice to the bath.

After cooling to dry ice temperature was complete, Carl was transferred to a standard aluminum necrocan, placed inside an MVE TA-60 cryogenic dewar and slowly cooled to  $-196^{\circ}\text{C}$  by being lowered into a whole-body dewar over a 14-day period. At 9:10 PM on June 29, Carl was transferred from the TA-60 to long-term storage submerged in liquid nitrogen. For Carl the journey has begun. Subjectively, for him, it will be over within an instant, in the blink of an eye. If he is to reawaken at all he will do so without any awareness of the long years of struggle which will be required to deliver him to an era of technological ability equal to his needs.



**The operating room heart-lung machine, with its tubing pack installed and ready to go.**



**Fred Chamberlain takes notes, while Mike Darwin filters cryoprotectant into the gradient maker.**

## **The Journey Starts**

I can see him as he was on that first visit to ALCOR as if it was yesterday: his trust and his confidence in us, the rational certainty that cryonics was the only option that made sense. If only more people had that kind of honesty and awareness, the task at hand would soon be realized.

As it is, the struggle which confronts us, to get Carl and ourselves to a point where death is not an ever-present shadow, will not be an easy one. Carl's calm certainty that cryonics was the right thing to do and that it could



work for him will go a long way to sustain me on the long journey that lies ahead for both of us. May his courage and determination serve as an inspiration to us all.

\* \* \* \* \*

## A HOPEFUL MEMORIAL

On June 8, 1987, Alcor member "Carl Harper" deanimated and was placed in neurosuspension. Aged 29, he was a rock musician who, as a hemophiliac, had contracted AIDS through a transfusion some years before, and as a consequence fought a long and heroic battle against multiple and debilitating illnesses. His parents asked Mike Darwin to speak briefly at a memorial service held in a chapel at Forest Lawn on June 11; the following is a reconstruction of Mike's address.

\* \* \* \* \*

"We're here today to talk about Carl Harper. I didn't know Carl well, but I did know him during a very difficult time in his life, namely, the last few months that he was alive, and, while I don't go back as far as many of you do with him, I think I got the feel of the man, and I got to know him in a way that perhaps none of you did.

"Carl was not in any way a conventional person. He was somebody who was independent, strong-willed, able to think for himself. His decisions were not always the easy ones or the conventional ones, and I think as all of you know who knew him, he had a very hard time in life. Physically, he had a lot of things going against him from the very start, and with my background, which is medicine, I've seen a lot of people take the kind of stresses he took and not handle it well, not manage to become full people, not manage to become complete human beings. It's very rough when you're in the hospital, in and out all the time -- a whole lifetime of that -- to form the normal kinds of relationships and develop the strengths and personality that are required to live in this world and live in it well. And, I'm here to say that my personal estimation is that Carl did that, and he did it against tremendous odds. He managed to be productive, he managed to do something that enriched the lives of other people, with his music, and that's a hard thing to do given the odds that were stacked against him.

"And, even at what we will call the 'end' for the purposes of this service, he was not conventional either. Because Carl was never one to give up. He couldn't have been, given the history that he had, and the odds he had against him from the start. And that in fact is something that I met. When Carl found out that he was dying, he was not willing to accept that, and that's good, because that's my philosophy too. I think everything you see here around you is an attempt by people **not** to accept a very ugly, a very unthinkable thing: the loss of life. For some people there are religious comforts that are available, and I hope that they are able to provide a comfort people need to function, when they have no other alternative. But Carl didn't see it that way, and neither do I. What he chose instead was another option, the option of trying to fight, to continue -- to go on -- and that's where he's at right now. Because in my estimation, Carl Harper isn't gone. He's with us, meaning in our care at ALCOR, and he's going to stay there, and we're going to continue

to fight for him, as long as it's necessary, until we win that battle. That battle is to return him to this life, to this world, alive and whole and healthy. That's what we're out to do, and believe me, if there is any way it is physically possible to do that, we're damn well going to do it. He counted on us for that, and the battle has not yet ended, it has merely begun.

"For most people, a memorial service, the death of a loved one, is a time to walk away, an ending. For us it is not. Indeed the responsibility is heavier now than it has ever been at any point in the past. The battle is really just beginning, and it's beginning not only for Carl but for the other people who are in our care right now. Ultimately it will be a battle for ourselves, when we enter a similar state. We call that state cryonic suspension. I don't know if it will work; I hope it will. I do know that, in lieu of any other alternative, any other possible belief in an afterlife, it's the only game in town, and we're going to continue to fight for that game, and to see to it that the odds, however great, are overcome.

"So I guess my only message to you, as you walk out of here, is: don't for a minute think that Carl Harper is gone. He's in the same state that anybody would be in, in an intensive care unit, in a hospital, in some uncertain circumstance, where you ask a doctor, 'Is he going to make it?', and the doctor says, 'I don't know. All we can do is do the best we can, and hope for the best'. That's the position we're in right now. We're just going to do the best we damn well can, and hope for the best. And I think it's going to work out okay. I think that biologically there's no question that everything that made Carl what he is, is still there. The real question is, can we ourselves work hard enough and long enough, to hold this world together that we're a part of, this civilization that we're a part of? Can we hold it together long enough to get him back, and to get ourselves back as well? I prefer to be an optimist rather than a pessimist, and that was Carl's position as well. As I'm sure he would say, "What the hell, there's nothing to lose, I might as well give it a go", and that's what we're doing.

"Mary, Carl's mother, made a remark to me, shortly after Carl 'deanimated', as we call it. She said she wondered if there'd be rock music in the future, and whether Carl would be able to do okay there. And I think, Mary, he's going to do just fine, because we come into this world with nothing but a desire to live -- nothing. We're born with nothing, other than people around us who care, and who want to give us some of their life, and a strong desire to live, to get as much out of this life, to live as long and as well as we possibly can, and to give that to our children, and to the other people we love and care about. And I think Carl had that in spades. He loved life, and he was willing to take this gamble at tremendous odds, in order to go on with it. That's really all I can say about his chances for the future. His love of history, his concern about intellectual things in the last few years of his life, and most important, his passion for music -- I think those are values that are going to last however long people last. If there are people in this world a thousand years from now, or two thousand or ten thousand, those basic values of loving life, of music and art, of seeing the world in a way that helps you appreciate those basic values that are part of life, those values are going to be there, and I have no doubt in my mind at all that Carl is going to be able to handle those values, and find new ways to interpret them, just fine. He'll do just fine. So, I won't keep you here any longer. I'll just close by saying that the battle has just begun, and we're not giving up, and we at least are not walking away. Thank you.



"CARL HARPER"

First Life Cycle

February 19, 1958 -- June 8, 1987

\* \* \* \* \*

## **Volunteer Fire Squads: The Bigger They Are, The Better They Are (Other Things Being Equal)**

**by Fred and Linda Chamberlain**

### **A Rough Morning**

It was 2:15 AM, Sunday morning. We'd just received a call from Mike Darwin, who (bleary eyed and groggy from lack of sleep) dialed our number by mistake. One of Alcor's suspension members was in septic shock, not expected to make it through the night.

Mike was having difficulty locating some key members of the suspension team. In assessing the use of all the equipment at the new facility, he could see some real limitations. We could hear the strain, the tension, the anxiety

in Mike's voice. It was as if he were calling out for help.

We asked if we should head on down to Los Angeles. "Not yet," Mike replied, "But try to let us know what phones you're going to be near for the next few days!"

Just in case any of you thought Alcor was a major hospital, with a number of fully trained surgical teams on call at every moment, prepared to do the equivalent of heart bypass surgery at the drop of a hat, here are the facts: it's not!

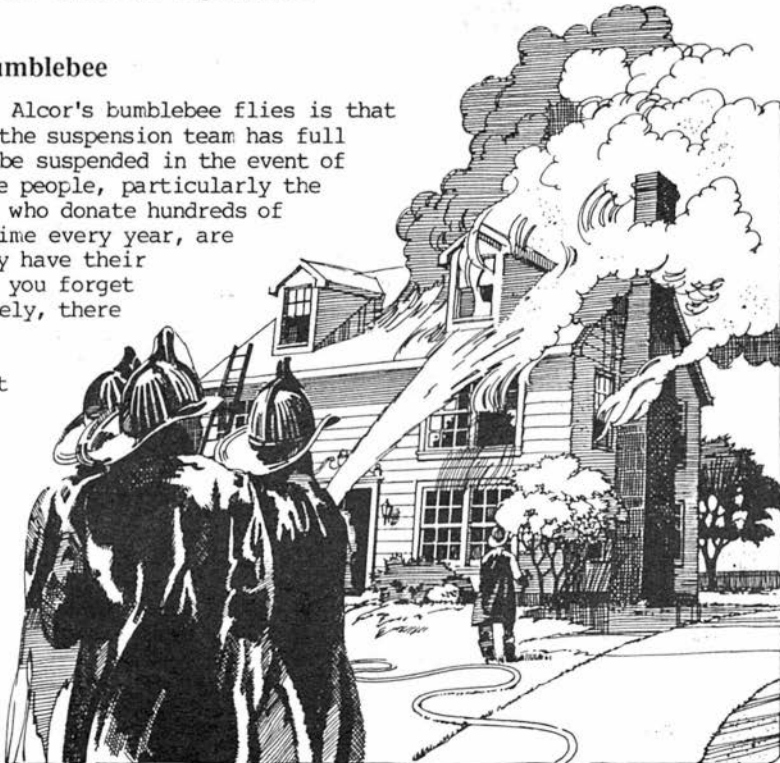
What Alcor's got, folks, is not so different from a volunteer fire squad. In many ways, it's the most elaborate, sophisticated "volunteer fire squad" on the face of the Earth, because on many normal weeknights you've got the essential ingredients of a trained surgical team on call that is literally prepared to carry out operations comparable to heart bypass, not just on a prescheduled basis where you have to plan weeks ahead, but virtually "at the drop of a hat".

What does this cost? \$200 per year for less than a hundred members? You've got to be kidding! Less than \$20,000 a year, before paying rent and utilities? You can't hire a janitor for that kind of money! But the capability exists, nonetheless, just like the bumblebee that flies despite scientists' "proof" that it's impossible.

### The ALCOR Bumblebee

The reason Alcor's bumblebee flies is that every member of the suspension team has full arrangements to be suspended in the event of death. But these people, particularly the key participants who donate hundreds of hours of their time every year, are only human. They have their limits, too. If you forget that too completely, there is the remote possibility that someday you might wake up and find that the poor little bumblebee itself, exhausted and drained of its last ounce of energy, had died the previous night. This is not just hypothetical. It has happened before!

So what's



the solution? Join the "volunteer fire squad", yourself! Not just as a "homeowner" whose house might burn down, but as a firefighter who's willing to be called late at night, and help out if needed. Nobody expects you to become capable of doing heart bypass surgery, but there are less critical skills you can easily acquire which might be vitally important to saving a life on some future night.

## What's Your Life Worth?

Someday when you might most need it, some night when you might suddenly find a terrifying pain growing inside your **own** chest, you want to be sure that the little bumblebee you helped keep flying is still alive and well, able to come to **your** assistance, don't you? We're sure you do! That's why we're writing this! This isn't just a "discussion"... it's an "invitation"! How do you get started? It's incredibly simple. All you do is pick up your phone, call Alcor at (714)736-1703 (that's the number on your new bracelet), and ask for Mike Darwin. Tell him, "Mike, I'd like to know more about how I could help in an emergency; I'd be willing to help out if you need me!"

Just do that one thing, and you're instantly transported from the stadium seating area to the sidelines. From that point on, it's just a matter of how much you're willing to learn... and how late at night you're willing to be called. There are two basic benefits of getting on the Alcor "volunteer fire squad". Here they are:

### (1) You'll understand what's supposed to happen.

You're a suspension member, right? Do you have a clear idea of what takes place if something happens to **you**? Don't you think it might improve your own chances in an emergency if you **did** know? The more involved you are, the more you'll understand what conditions get you the best fighting chance. You'll become more and more aware that in many situations, it could be hours before anything would happen, and you'll learn to avoid those situations like the plague.

The very first result is you'll become a safer, more careful driver, but that's just the beginning. In the end, you'll be better able to handle just about any kind of situation, better able to take care of yourself, or help if another member of your family who's signed up is in danger, or if a friend who's a suspension member is dying, etc.

Some of you are probably thinking, "I don't want to have to even think about such things!" But you're kidding yourself, really. Picture an ostrich with its head buried in the sand, right in the middle of a railroad track. That's how the rest of the world looks to a cryonicist. Now picture an ostrich who pulls his head out of the sand once in a while and opens just one eye, then quickly pokes its head back in the sand again. That's what it looks like when someone signs up for cryonic suspension but then lets the years pass without acquiring the first idea of what to do in a crisis.

It's important for all members to have a pretty clear idea of how to take care of themselves. If you're willing to have even the most rudimentary training in how to help out in emergencies, you'll be much better prepared to

take care of both yourself and others you care about.

(2) Alcor "keeps track" of who's helping out.

Alcor's always "kept track" of who's helped out, but now it's going to be a lot more methodical. Volunteer effort is being recorded each month on log sheets, then it goes into a computer. Twice a year an acknowledgement letter showing the hours put in comes out to those who are participating. Jerry Leaf is handling the data collection, and we're doing the computer work.

Alcor can't promise to "pay you back" in the future for helping out, but someday this may be possible, if not in dollars, then maybe in membership benefits. If nothing else, someday when all the struggles of these early years are behind us, the old "volunteer fire squad" members are going to have some fantastic life extension parties!

Seriously, when Alcor's operations are large enough to be staffed on a fully professional basis, those who "make the bumblebee fly" today are going to be a very close knit group, especially ready to help each other in emergencies.

The day will never come when you don't need to know how to handle emergencies, or when you wouldn't want to be in close touch with others who could assist you if you needed help.

Perhaps there will always be an Alcor "volunteer fire squad", and you can bet they'll go beyond all reasonable limits if it's one of their own who's in trouble.

## How Do You Get Started?

You're sitting somewhere, reading this issue of CRYONICS, maybe contemplating whether or not you want to take the trouble to learn more, whether or not you're willing to help out once in a while if you're needed. This is a serious matter; you've got to make sure you don't later feel bad about the time you've spent. At the same time, you've got to ask yourself this: What's the significance of your life? What good will it be if, in the end, you just vanish and are forgotten? If you don't know what to do and you're suddenly in danger, if you aren't one of a group of people who'll try to bend the universe into a new shape to keep each other alive, what's the sense of it all, anyway?

When you join Alcor as a suspension member, you're reaching for a chance to taste the future. When you volunteer to be on the "fire squad", you've made those chances more realistic, more tangible.

When Alcor reaches a point where almost every member is prepared to help almost every other member, it will be an even further step closer to that magic world, in the future, where nobody grows old and the universe is sitting there beckoning to be explored.

Alcor needs an ever growing, bigger and better volunteer fire squad. Alcor needs you! Now!

## The Question Column

"I am in the process of signing up for cryonics coverage with ALCOR and like most people, I'll be paying for it with life insurance. Unfortunately, almost everything I've ever heard about life insurance is bad. I've run across a very helpful little book called "THE LIFE INSURANCE CONSPIRACY" by Speilmann and Zelman and they recommend term life insurance as the only sane investment. I realize that term insurance isn't a good idea for use with something like cryonics -- since the likelihood of needing the coverage only gets greater the older I get. Still, I'm concerned about getting the most bang for my buck. I want to try and keep pace with inflation and I'd like to see some reasonable rate of return on my insurance dollars...

The life insurance people I've spoken with so far have been hopeless. These guys appear to have been drained of any useful information before being turned loose on the public. I actually had to help one of the salesmen I spoke with read his own tabular data! Does your "Question Column" offer such advice?

Oh yes, please don't publish my name -- I don't need to hear from any more life insurance salesmen.

Name withheld by request,  
Los Angeles, CA

You have asked some tough and interesting questions. How to make money on whole life insurance?! We can offer only some general advice and it will be up to you to go back to the marketplace and gather some additional information on specifics. If you want to be put in touch with salesmen we feel are at least ethical, phone us and we'll refer you. We now know of several salespeople whom we feel offer good insurance products and represent them fairly.

The most common kind of "investment oriented" policy these days is the Universal Life policy. The policies come in all shapes, sizes, and flavors. Basically they combine whole life, term insurance, and an "investment feature" in a way that allows the policy face value or cash value to grow with time as the economy does. "You pays your money and you takes your chances." Some of the policies can be very attractive indeed. New York Life (a company that will write for cryonics purposes and has a letter of intent with regard to insurable interest on file with ALCOR) has an excellent Universal Life portfolio.

Without more information about your financial and personal situation it's hard offer more specific advice. You mention in your letter that you are 50 years old and that you are in an upper end tax bracket. One possibility which suggests itself is a Single Premium Whole Life (SPWL) policy. If you contrast a SPWL with a Certificate of Deposit (CD) or a Municipal Bond (MB) it can be a very good investment indeed -- and provide you stable and affordable cryonics coverage in the bargain. How?

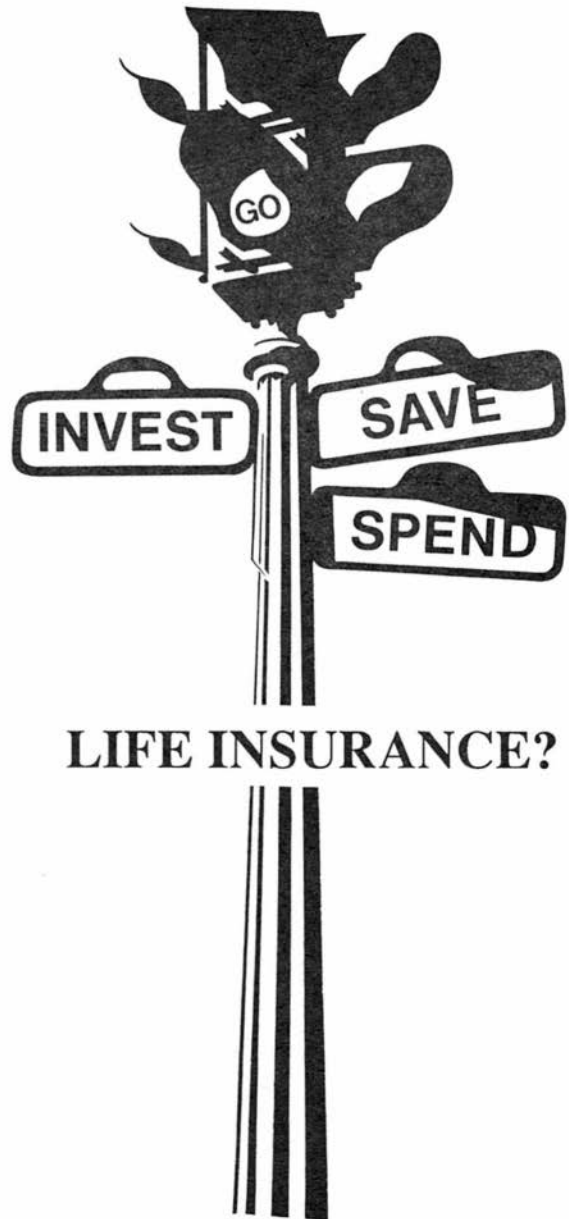
Well, you're 50 years old and we'll assume you're in the 50% tax bracket.

If you buy a bank CD for \$100,000 (ALCOR's whole-body minimum) that is paying 8.5% (don't you wish!), that works out to only \$4250/year after taxes. If you die, your estate will get your original \$100,000, which will then be eroded by taxes and perhaps severely eaten away by probate -- or nibbled at up front by the substantial costs of creating a living trust for cryonics or for other purposes (figure on spending a minimum of \$3000 for such a trust!). Not nearly the good deal you thought it was!

Now let's assume that instead, you bought a SPWL with your \$100,000. An immediate advantage is that your \$8,500/year is tax-free because it comes to you as a loan, not as "income" (Ahh, those crafty insurance companies!!). Right away you're ahead of the game to the tune of \$4,250/year that would have gone to set up moving targets for the Iraqis in the Persian Gulf. As a side bonus you get an immediate "death" benefit in excess of \$375,000 that goes to ALCOR (and/or other beneficiaries) completely free of tax, probate, and other hassles!

Of course you needn't start with \$100,000. SPWL policies in smaller amounts are available too. And there are more affordable options (such as paying off the premium over a several-year period) which preserve most of the tax and other benefits.

The point is, whole life insurance doesn't have to be a rip-off. Shop carefully, ask questions, and be patient till you find a good salesman. Believe us, they ARE out there.





## Funding Emergency Response Via A Credit Line

by Fred & Linda Chamberlain

What happens if you're suddenly taken ill and are in the hospital? You're very sick, perhaps on the verge of dying, but the outcome is uncertain and you may live after all. In cases like that, some of us would like to have an ALCOR Representative there, talking to the hospital officials, making sure there would be no problems with cooperation if the worst should occur.

But ALCOR cannot put representatives on planes and fly them around the country (if you should be outside the Los Angeles Basin) without a lot of expense. Some members, able to afford to do so, can arrange to cover this by paying over several thousand dollars to ALCOR as a reserve, to be drawn on for this sort of emergency. Others cannot raise these funds, or even if they could, they wouldn't want to just have them sitting idle in an account somewhere to cover a sudden illness.

How can you arrange for ALCOR to show up on the scene, even if you're still alive but in serious danger, without putting up a reserve of funds in advance? It **can** be done!

Do you have a credit card? Many of us are always getting mail from credit card companies trying to get us to take on more debt, by signing up for their credit cards and then going out and buying a lot of stuff. But there's another way to use credit cards, without paying any interest, and still get some benefit.

We signed up for a credit card and put an ALCOR officer on the credit line as an additional party. Then we authorized ALCOR to use the credit in the event of emergency. Copies of the letters we used for this, adapted as forms from which you could pattern similar letters, are shown below. You'll easily get the idea by looking at them. You'll notice that we gave ALCOR a wide range of discretion in determining what conditions might apply, since we were trying to make sure that we didn't put in so many restrictions the thing was useless.

Check with your credit card company first to find exactly what they need, but in general you'll probably find this will be a workable approach. You do have to pay the annual fee for the card, like paying an insurance premium, but that's all it will cost. If you could find an insurance company which would sell you a policy like this, it would probably cost a lot more.

You'd want to arrange for your estate to pay off the card if you were actually to die, but normally that's part of any will, where it says that the first thing to be done is to pay off existing debts. On the other hand, if you survive, you're still alive and can pay off the credit line over time, if you wish.

Here's a way to cover a life extension service, and then finance it over several years if you survive. Perhaps a hundred years from now we'll be able to cover our suspension costs this way, by having a huge credit card to cover

the costs of being suspended if need be, and then when we're brought back we'll have to work a couple of extra years to pay it off. Better this than nothing, right? Plenty of incentive for the credit card company to get us back on our feet fast, so we can start making payments regularly again.

\* \* \* \* \*

**SAMPLE LETTER TO BANK OR CREDIT LINE COMPANY**

Gentlemen:

I am currently the holder of a Mastercard Account (No. xxxx-xxxx-xxxx-xxxx), and wish to add an additional authorized user. This user will be:

(ALCOR Officer's Name)  
c/o ALCOR Life Extension Foundation  
12327 Doherty Street  
Riverside, California 92503

I understand that (ALCOR Officer's Name) will receive a card imprinted with my name but that he will sign the card with his own signature and thereafter will be able to use the card in all respects.

I understand that for this request to be accommodated, you need to receive a copy of this letter signed by the existing account holder as well as by the above named user. All required signatures appear below. Please mail the new user's card to the Riverside address given above. I understand that billings for this account will remain unchanged. Thank you for your assistance in this change.

Sincerely,

\_\_\_\_\_  
(Member's Name)

\_\_\_\_\_  
(ALCOR Officers' Name)

\* \* \* \* \*

**—LETTER TO ALCOR—**

(ALCOR Officer's Name)  
ALCOR Life Extension Foundation  
12327 Doherty Street  
Riverside, California 92503

Dear (ALCOR Officer's Name):

In order to provide immediate funding for expenses that might be incurred in predeath travel, to prevent autopsy, and otherwise secure cooperation in the case of myself, I am naming you as an additional user on a credit line (Mastercard xxxx-xxxx-xxxx-xxxx) currently carrying a credit limit of \$(amount).

I am not presently using this credit line at all for any other purpose, as you will be able to verify at any time by calling the account information number (800-xxx-xxxx). This account can be drawn upon in a number of ways, including cash advances to other accounts, direct charges of plane tickets, rental cars, meals, and lodging. You are authorized to incur such charges within the limits of the account, in the event that you determine that a serious life threatening condition exists with regard to myself, which would require the presence of yourself or other ALCOR Staff personnel on site.

Please feel free to use copies of this letter in any way you wish, to facilitate your use of this credit line, should any question ever be raised as to the validity of such use, either by those with whom charges are being placed or by other ALCOR Officers and/or Directors. This authorization is intended to give you the widest possible discretion and usage of this credit line, within the limits described above.

Sincerely,



# BIG STORY

## Part III

by Cameron Rockwell

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Synopsis: Mac Neuman, a wealthy industrialist with only six months to live, finds suspended animation has been proven through vitrification of small animals, but very high pressures are required. The tremendous expense of developing a high pressure facility and using it puts suspended animation outside the reach of the average person, so cryonics organizations are still very small. Few people are being suspended, and those are going the vitreous neuropreservation route. Mac and his business partner, Jim, finance a crash program through a cryonics organization, Vitrilife, to develop a high pressure chamber for whole humans and conduct research to eliminate the need for high pressure. Shortly before he is to be suspended, Mac finds himself irresistibly attracted to a young newspaper reporter, June Carter, who has overturned Mac's preconceived notions about media people. Mac is on his last legs as he holds a long, emotion filled interview with June; the next morning, he is suspended.

\* \* \* \* \*

At Neuman Electronics, there was a pervasive sadness for months. Only a few people understood what was really going on. The public knew, of course, that Mac was frozen, but they assumed it had happened only after the final throes of his illness. June's stories announced that now it was possible for entire human beings to enter vitreous suspension, but even she was not aware of exactly what had taken place at the last. Only Jim and the Vitrilife team knew that Mac had walked into the operating room on his own and laughed about it before surgery started.

A year and a half later, things had changed. Mac's disease had been "cured", and plans were underway to bring him back. Sadness gave way to high expectancy, but there was one problem. A Federal Judge, citing some obscure case history in connection with a complaint by a reincarnation group, had ordered that Mac could not be reanimated because the process was "unproven".

Vic and Blake responded to the complaint, pointing out that there could never be any absolute "proof" until the first person had made the round trip. They presented the strategy Mac had approved to spell out when reanimation would be attempted. The judge held his position, and appeals were started to higher levels. This could take years, they were advised.

"We'll have to do it in Japan," Vic finally announced at a closed meeting of the Vitrilife Board. Jim originally suggested it, but Vic and Blake made all the arrangements. Three of the researchers who'd been hired were from Japanese universities, and they'd found it easy to persuade their medical schools to go along. "What if he isn't the 'same' when he wakes up?" they'd all been asked, but finally there was agreement that "somebody had to be first".

A great deal of equipment and personnel had to be moved. When everything else was finally relocated and ready, the final step was to move Mac. A horizontal capsule with double lid closure had to be used, a rather sophisticated device since it had to meter liquid nitrogen from a reservoir through a heat exchanger to maintain a temperature of exactly  $-135^{\circ}\text{C}$ . The capsule was on a truck headed for the airport when a red light appeared in the rear view mirror.

"I've got a warrant," the policeman said. "An injunction has been issued to stop what appears to be an attempt to bypass litigation in progress; we're taking possession of the capsule, and you people are under arrest on the basis of conspiracy to interfere with the judicial process!"

Release on bail was simple for Blake and a technician, who had been in the truck. The problem was the capsule had only a six day supply of liquid nitrogen left. Vic called an emergency meeting, and for hours they struggled to come up with a solution.

"Where is the capsule being stored?" asked Jim.

"It's in a vehicle yard at police headquarters," said Blake. "It's not being guarded in any kind of careful way, but they'd probably miss it after even a few hours. Before we could get it on a plane, they'd alert all the airports, and we'd be back where we are now, except worse."

"We bought two or three of those horizontal capsules with regulators for  $-135^{\circ}\text{C}$ , didn't we?" asked Jim.

"Yes!" said Blake. "We have two others." His eyes widened. "Oh! We switch them somehow?"

"Suppose we loaded a large truck with one of the other capsules and some liquid nitrogen supply dewars," said Jim. "Then we'd tell the policemen on duty the capsule requires recharging and we have to lift it into the truck to reach it with the fill lines. We have the empty capsule covered by a wooden crate with the bottom cut out, kind of a walnut shell. They'll be trying to make sure we don't drive away, and we'll just shut the door, lift the crate over onto Mac's capsule, and then unload the empty one."

"Don't you think they'll notice the capsule coming out is on the other side of the truck?" asked Vic.

"We'll have to take that chance!" said Jim.

The next day all was ready and the loaded vehicle rolled up to the gate of

the vehicle yard at the police station. The policemen were very suspicious; they didn't like the idea of a truck being brought into the compound in the first place, and the necessity of loading the capsule onto the truck to recharge it concerned them even more.

Squad cars were carefully parked on all sides of the truck before permission was given to hoist the capsule aboard, and for a long time one of the policemen watched through the rear door as hoses were attached to the capsule and the topping-off procedure was begun. Vic set the fill valve for the narrowest position possible, where it made the most noise and transferred the least liquid nitrogen. "Isn't this ever going to be finished?" demanded the policeman.

"Soon," said Vic. "I'm going to have to start the truck to recharge the battery, though," and he jumped down and started to walk toward the cab. Even though the truck was completely surrounded by parked vehicles, the policeman accompanied him.

Vic started the truck and ran the engine up to three thousand RPM, then let it roar away as he fiddled with things in the cab. He even partially engaged the clutch now and then and let the vehicle jerk against the parking brakes. Each time this happened, the policeman looked as though he wanted to draw his gun, but instead he just paced back and forth nervously. At the rear of the truck, the doors swung closed momentarily. Flow of liquid nitrogen halted briefly as lines were disconnected, the false-bottom crate was switched, and lines were reconnected, this time to the empty capsule.

Vic heard a knocking sound from inside the back of the truck. "That ought to be enough," he shouted, over the roar of the engine. Turning off the ignition, he climbed down from the cab, and said, "things should go much faster now with the battery topped off." This is ridiculous, Vic thought, as he slammed the cab door shut, but the policeman probably doesn't know the slightest thing about what we're doing. "How's it going?" he called out as he rounded the rear of the truck.

"Pretty well," said Blake, bending over the empty capsule on the other side of the truck. "It's just about full!"

As Jim actuated the truck's overhead crane extension and prepared to unload the capsule, the policeman scratched his head in puzzlement. He sensed that something was not right, but he couldn't put his finger on it. "How often do these things need to be recharged?" he demanded.

"Every week or so, sometimes more frequently," replied Vic. "We'll probably want to do it at least twice a week, so there's some safety margin. Do you want us to call in, from now on, before we come out?"

"Next time, we'll need written authorization in advance from the shift supervisor," the policeman said. "The truck just won't be allowed in the gate without it!"

Vic climbed up into the truck, along with Blake and Jim, and they slowly drove out of the compound. Half a block down the street, hysterical laughter

broke out in the cab. Ninety minutes later the capsule was loaded onto a chartered jet and was on its way to Japan. "That's the last of this lab equipment," Jim told the pilot before the plane took off. "These two technicians are going to ride with you because this particular item's so delicate."

At the Japanese hospital, there was a sense of difference in attitude from anything they'd run into in the United States. Vic tried to put his finger on it but couldn't.

The Japanese researchers on the Vitrilife team helped translate, and told them the excitement level was very high. "They know they're going to be in on it the first time ever!" one of the Japanese researchers exclaimed.

The Japanese hospital had already cleared using the new treatment for Mac's disease the moment he was strong enough to receive it, and the prospects for a quick recovery were very good.

"But will he know who he is, even?" the questions kept coming. The Japanese news media were persistent, and the U.S. correspondents were even more insistent, but they were told little; the identity of the patient was not revealed.

No one even suspected it was Mac. Back at the police station in the United States, a truck came regularly every four days and serviced the empty capsule. The technicians with the truck pointed out, each time, that they were using a special long hose so it would not be necessary to load the capsule into the truck.

The legal process dragged on interminably, as to whether or not the reanimation of Mac Neuman should be permitted. It appeared that the better part of another three years might be required to even begin to resolve the matter. Vitrilife's attorneys regularly made their court appearances, arguing for a prompt resolution of the matter.

June ran a series of heated articles in favor of releasing Vitrilife to do as it saw fit, and public fervor over the matter rose. She was a frequent visitor to the police compound, with her photographers, and became the organizer of a political action committee to permit Mac's reanimation.

As public attention to the matter of suspended animation reached a fever pitch, June appeared on countless TV talk shows, insisting that Vitrilife be permitted to bring Mac back. Often, late at night, she sat in her apartment listening to the hours of tape recorded interview she'd had with Mac. Mornings afterward, her fellow reporters would ask June why her eyes were so red and swollen. She never explained.

Meanwhile, the day for Mac's reanimation arrived, in Japan. It had been a long week, and an even longer forty-eight hours immediately preceding warmup to the freezing point of water. At 2°C, all biopsies looked normal, and Mac's chest was opened. Using modified heart bypass equipment, replacement of cryoprotective agent with an intracellular asanguineous perfusate began. Gradually, return to a normal body water state was attained, and at last everything was in readiness for final warmup.

Transfusion of whole blood began at 15°C. Oxygenation and blood chemistry management became more critical as temperatures rose. At 25°C, heartbeat returned spontaneously. Intubation was accomplished and ventilation began, a prophylactic anesthetic was administered, and at 37°C artificial circulation was completely discontinued.

Mac was alive, on the operating table, and surgeons closed all incisions and prepared to discontinue anesthesia. Proper respiration and cardiac function were verified once more, all support was withdrawn, and Mac was on his way to an intensive care unit. There, at exactly eleven PM on September 2, 2006, Mac Neuman's eyelids began to move. Jim found himself in an indescribable state of euphoria. Vic and Blake, completely exhausted, looked as though they'd just awakened from twelve hours sleep.

"Uh... what's the matter?" Mac muttered. "I don't think you gave me enough stuff!" His eyes weren't fully open, yet, but he was beginning to move restlessly in the bed. All physiological signs were normal.

"Short term memory!" blurted out Vic. "We've got short term memory! He thinks he's just going under!"

Vic's voice, uncontrolled in excitement, shot through the room. It woke Mac up completely. His eyes blinked open and he looked around, then he made a choking sort of laughing sound.

"Son of a bitch!" he exclaimed, looking around the room. "Son of a bitch!" he said again, louder and more clearly. "Jim! Vic! How long have I been down?"

"About two years, Mac," said Jim, smiling. "They're going to start treating your disease in a few hours. Looks pretty certain you won't have to go back into suspension again! You know, we had a bunch of legal problems with getting you back out. They're still arguing about whether or not to let us try it, back in the States!"

"Back in the States?" laughed Mac. "If we're not in the 'States', then where? Japan? The hell you say! Japan? Too much!"

There were explanations, even as Mac's treatment was started. It was apparent that he was completely normal, and within two days it was clear that his retrovirus problem was fully under control. At forty-two years of age, MacLain Neuman was going to be back up to full speed in no time at all. "Mac," said Jim, "You expect there's going to be a kind of 'land rush' on suspended animation after this, don't you?"

"No question about it," said Mac. "It's going to be like everybody found out overnight they could live forever, but nobody's equipped to do it. Hospitals will try to gear up, now, but they won't have any way to handle the procedures until Vitrilife sets up a training program. Storage will be even more of a problem, or an opportunity, depending your point of view.

"Convalescent hospitals are going to practically have riots until there's funding for it, for old people. Paramedics are going to have to carry out transport protocols for people who ordinarily would just be turned over to



morticians. Government will try to regulate it, but it will be like a handful of cowboys trying to stop a stampede of a million head of cattle. It's just going to be a damned circus, you can bet on that!"

Jim looked concerned. "Mac, what happens to the limited partnership with Vitrilife? I mean, I'm glad you're back with us, but is there any return on the investment we've made?"

"Jim, if you could patent aspirin, would that be valuable?" Mac asked.

Jim appeared confused.

"Those cryoprotectant researchers who broke through the pressure barrier!" Mac laughed. "Most of what they developed is patentable, right?"

Jim nodded, his eyes widening.

Mac continued, "The licenses on those patents should cover, even go way beyond the research investments quickly, without adding much to the cost of the procedures at all! But that's not where the market really lies!

"There's going to be huge demand for better safety and emergency communications systems for cars; personal medical monitoring systems are going to be unbelievable volume items. You've already started looking at what Neuman Electronics is going to do with this, right?"

Jim shook his head, smiling with relief. "We've just been thinking about how to get you back on your feet, Mac!"

Mac grinned. "Well, planning for market development; that's always been my end of the business anyway, Jim. Right now, I'm just glad to be back, myself! Speaking of being glad to be back, has June's plane landed yet?"

"Yes, she's here, Mac," Jim said. "We did it just like you asked. She thinks she's here to cover a Vitrilife reanimation experiment in Japan that has nothing to do with you. She didn't want to be away from that crazy empty capsule for more than a day or two; she's become a fanatic on making sure nothing stops it from getting filled on schedule. But we convinced her that the precedents set here might help get things moving back home."

"That's true, of course," smiled Mac. "In a more profound way than she has any idea at the moment! Now, if you guys don't mind, I'd really appreciate your clearing out of here and leaving us alone, all right?"

Moments later, June Carter stepped into Mac's room. For a long moment, she was absolutely speechless. Then tears came to her eyes, and she tried to say something, but it was lost in the swelling of her throat. Mac came to her and held her. June began to relax and melt into his arms, crying and quivering with happiness.

"No one else in the media has the slightest idea of what's happened, yet," Mac whispered. "Here's your 'Big Story!'"

# SCIENCE UPDATES

## by Thomas Donaldson, Ph.D.

### FISH CRYOPROTECTANTS

Some fish and insects living in polar regions can survive remarkably low temperatures. Arctic beetles, for instance, can revive after temperatures as low as  $-60^{\circ}\text{C}$ . These animals survive so relatively well because they make cryoprotectants of their own. Even though the temperatures they survive are far above those we want for our own suspensions, we might learn a lot from studying their methods.

In some cases their methods resemble our own. For instance, Arctic beetles will make **glycerol** in response to cold. Glycerol, of course, is one of the cryoprotectants cryonicists have used. However other animals also use new substances, special proteins which seem to have an antifreeze effect.

Recently in **NATURE** several scientists at the University of Cambridge report studies of some of these special proteins (F. Franks et al, **NATURE**, **325**, 146-147 (1987)). They isolated these proteins from the blood of polar fish and call them AFGPs (AntiFreeze GlycoProteins) for short. Franks and his coworkers weren't primarily interested in verifying whether or not these proteins had any antifreeze activity. What they wanted to do was to explain why.

The major effect of AFGPs turns out to be that they prevent **growth** (rather than initial formation) of ice crystals. Franks and his coworkers compared AFGPs with **polyvinyl pyrrolidone (PVP)**, a chemical which also acts as a cryoprotectant.

When water freezes, freezing begins with formation of tiny ice crystals spread throughout the water. These are **ice nuclei**. Franks and his colleagues measured the rate at which ice crystal nuclei formed in supercooled water containing either of these chemicals. Both PVP and the AFGPs had almost identical effects on formation of ice nuclei. However these researchers found that unlike PVP, AFGPs would very markedly prevent **growth** of the ice crystals once formed. Apparently the chemical structure of AFGPs allow them to attach to the surface of an ice nucleus, preventing it from growing any larger. The ice nuclei remain too small to see in a microscope.

Objectively and absolutely, the AFGPs aren't very successful against ice. For instance, they lose their antifreezing effects below about  $-2^{\circ}\text{C}$  (WARM!). Nevertheless, I believe that their **mechanism** could be very significant. One major problem in freezing whole organs consists of damage done to the capillary system by ice crystals. This work with AFGPs raises the speculation that perhaps a special protein could change ice nucleation so as to mitigate or prevent this damaging effect of crystallization. Furthermore, a second problem in cryoprotection consists of finding a way to prevent spontaneous freezing of a water-drug **glass**, of the sort Fahy at the Red Cross has proposed for "nonfrozen" cryoprotection. Special proteins like the AFGPs might help this problem. Serious experiments with modified AFGPs, however, must wait on ways to make them in quantity.

**AUGUST - OCTOBER 1987 MEETING CALENDAR**

ALCOR meetings are usually held on the first Sunday of the month. Guests are welcome. Unless otherwise noted, meetings start at 1:00 PM. For meeting directions, or if you get lost, call ALCOR at (714) 736-1703 and page the technician on call.

# ALCOR

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The AUGUST meeting will be at the home of:

(SUN, 2 AUG 1987) Bill Seidel and Candy Nash  
10627 Youngworth Rd.  
Culver City, CA

Directions: Take the San Diego (405) Freeway to Culver City. Get off at the Jefferson Blvd. offramp, heading east (toward Culver City). Go straight across the intersection of Jefferson Blvd. and Sepulveda Blvd. onto Playa St. Go up Playa to Overland. Go left on Overland up to Flaxton St. Go right on Flaxton, which will cross Drakewood and turn into Youngworth Rd. 10627 is on the right (downhill) side of the street.

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**DUE TO THE PRESENCE OF ALCOR AT CACTUSCON (NORTH AMERICAN SCIENCE FICTION CONVENTION) 3 - 7 SEPTEMBER, 1987, IN PHOENIX, AZ, THERE WILL BE NO SEPTEMBER MEETING.**

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The OCTOBER meeting will be at the home of:

(SUN, 4 OCT 1987) Paul Genteman <sup>213-386-2265</sup>  
535 S. Alexandria, #325  
Los Angeles, CA

DIRECTIONS: From the Santa Monica Freeway (Interstate 10), exit at Vermont Avenue, and go north to 6th St.  
From the Hollywood Freeway (US 101), exit at Vermont Avenue, and go south to 6th St.  
Go west on 6th 4 blocks to Alexandria, and turn right. 535 is the first apartment building on the west side of the street. Ring #325 (Note: See the building directory for the correct phone number to punch) and someone will come down to let you in.

WAVION  
MVT  
1987

**Alcor Life Extension Foundation  
12327 Doherty St.  
Riverside, CA 92503**

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