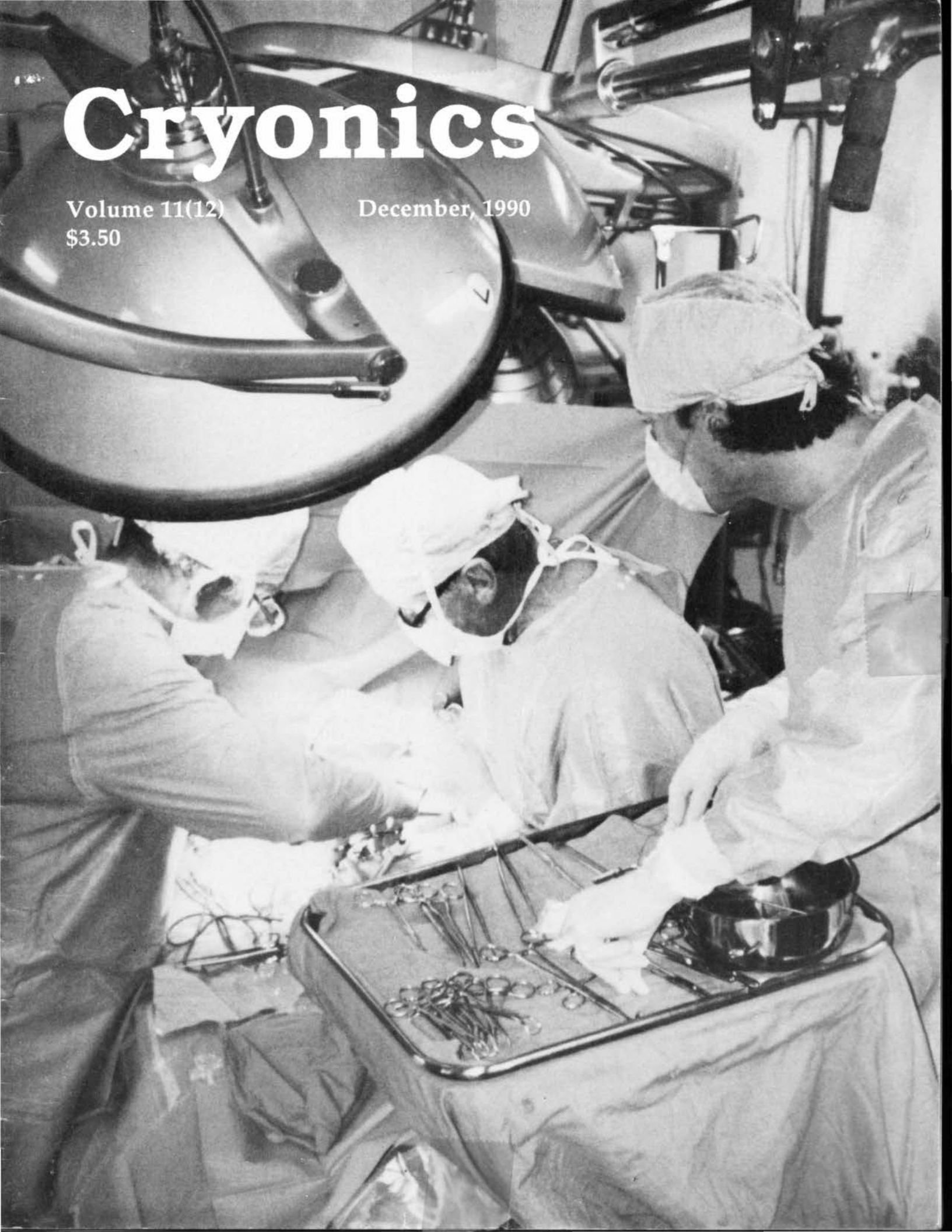


# Cryonics

Volume 11(12)

December, 1990

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# Cryonics

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Cover:

*Cryoprotective perfusion of Arlene Fried. (Left to right: Jerry Leaf, Thomas Munson, M.D. & Arthur McCombs.)*

# Belt-Tightening Efforts Underway

Mike Darwin



### Up Front

It's hardly news that Alcor faces a major cash crunch in a year or two unless we seriously cut expenditures and increase revenues. While our condition is solid and we have virtually no significant long-term debt, it remains that our current level of operations cannot be sustained on our current—or even our projected—cash flow.

At present we have seven employees, six full-time and one part-time. Salary for one of the full-time employees is paid by directed donation and this individual's continued employment is linked to this support. Salary for the part-timer (our patient caretaker) is paid by the Patient Care Fund, which is quite solvent. For the other five employees, salaries (shown in Table I) have amounted to an annual expenditure of \$110,295. As incredible as it may seem, given Alcor's size, all of these people are not just kept productively occupied, they are buried in work: ten- and even twelve-hour days are routine.

Nevertheless, it remains that the scope of operations has grown substantially beyond our ability to pay for it. Partly this was simply bad judgment on our part. Part of it is more complex, but easily understandable: While we have no long-term debt in the usual sense of the word, we have had an economic millstone around our necks—namely the enormous cost of legal expenses. And despite the fact that other cryonics organizations will benefit substantially from the victories we have secured (their very existence may depend on them), it remains that we alone have been paying for them.

In fact, on Alcor v. Mitchell (the Health Department case) alone we have so far spent \$100,000. If other litigation involved solely in defending cryonics and our right to it is factored in, the price tag

soars to over \$250,000. As one Alcor member wryly observed: "Other cryonics organizations have criticized Alcor for getting the lion's share of the publicity and the lion's share of new members. What they fail to take notice of is that Alcor has taken on the lion's share of battles and liabilities as well."

So what do we do about this? Raise taxes (i.e., dues)? That would hardly solve the problem. The bad news is that there is a problem, the good news is that everyone on the Alcor Board of Directors knows it and is committed to doing something about it (including *not* letting it happen again). And we are committed to taking action NOW, while we have a little breathing room, rather than one or two years from now, when we're out of money.

On Saturday, 10 November, a special meeting of the Board of Directors and Alcor employees was held to address the budget problems. The meeting lasted six hours and, unlike most long meetings, accomplished a lot. I intend to share with you, through this article, what was decided and what will be done.

First and foremost, it is very important to point out that we are not insolvent *now*; cash flow coming in is adequate to sustain our operation and pay the bills. But, looking ahead, there is trouble brewing. The only money Alcor can count on for certain is Emergency Responsibility dues and magazine subscriptions. This amounts to about \$50,000 in annual revenue. As even a mathematical cripple like myself can quickly tell, \$50,000 doesn't cover even half of the current payroll. Indeed, we'd have to trim down to two full-time staffers just to cover payroll on that kind of income, and there would still be the problem paying the rest of the operating expenses (like utilities, rent, printing, and so on). So where does the

money come from, and where *has* it come from in the past?

The answer is, voluntary giving. Not only has Alcor never run at a profit, it has never even come remotely close to break-even in terms of fees for service versus operating expenses. But take heart, neither has any other cryonics operation; all run on hefty amounts of contributed labor and capital—even the "for profits." The problem is that we are now in the Big Time. Having 3/4ths of our operating budget come from voluntary giving isn't the same now with a \$250,000 a year operating budget, rather than \$20,000 a year! And, while we have more wealthy members than ever before, most of those members do not contribute to our operation on a basis proportional to their assets.

(We'd love to increase charges for services to cover the real cost of delivering them, but a large percentage of our members would be unable to afford cryonics. Moreover, membership growth (and the attendant economies of scale) would be severely curtailed.)

So, if we are to survive we will have to do two things: trim expenses and increase cash flow. At the meeting on the 10th, a budget was laid out for operating Alcor. This budget is very conservative, and the estimates are on the "high" side to factor in inflation and the usual inefficiencies and unexpected contingencies. This budget was held to the \$250K figure by the following expedients:

- 1) All Staff (excluding the patient caretaker and the staffer whose salary is paid by directed donations) accepted a 25% cut in pay (see Table I). This cut in pay will remain in effect until such time as we have not only a balanced budget but a cash surplus sufficient to allow for restoration of prior salary levels.

- 2) The usual Alcor information pack-

ages will be mailed out bulk rate, resulting in a 3-5 month delay before they are received. A simpler, and very inexpensive package will be sent out immediately upon receipt of the request and will offer, among other things, the option to the requester to pay \$6.00 for immediate First Class Mail service for the usual information pack, or \$19.00 for Federal Express service. This program will be evaluated on a month-to-month basis for any evidence that it is resulting in decreased suspension sign-ups or magazine subscription sales.

We hated to do this, because it is our feeling that high quality information packs have resulted in the high percentage of associate and suspension member turnover information (8.3% subscribe, 3.4% start sign-up). However, we have little choice but to experiment with less expensive alternatives, as it is currently costing Alcor about \$18,000 per year to send out information packs.

3) All capital equipment expenditures will be halted, except by directed donations.

4) A remote standby program will be put in place as soon as possible. While we have repeatedly cautioned members in the past that remote standby is NOT included in the basic Alcor suspension contract, we have never really asked members to pay for it, though the cost associated with being equipped to offer this service runs into the tens of thousands of dollars!

We have a network of trained Coordinators and upwards of \$50,000 worth of hardware out in the field right now. We urgently need to make this program pay for itself. We now intend to do this. So, if you want us to come to your bedside before you are pronounced legally dead and stand by (a wise and reasonable thing to want), you will be able to pay for this service in advance, year by year.

5) We are cutting back on professional services, including accounting and legal. We are now doing all bookkeeping in-house, and our accounting bills should plummet from \$15,000 to \$5,000 as a consequence.

6) We have several miniwarehouses full of equipment, documents, and so on. These will be closed down and equipment will junked or sold if we cannot find storage space for it. If anyone local can help us with this problem, we'd sure appreciate it (i.e., we need free storage space).

7) All "amenities" have been suspended (no, not *that* way), including newspaper delivery, gardening services,

and bottled water delivery. (Some may think bottled water is a real luxury; keep in mind that Riverside tap water is considered unsafe for pregnant or lactating women to drink).

8) No new projects will be undertaken unless there are directed donations to cover them.

9) Existing members will no longer be allowed to use the 800- number. This number is now reserved for marketing purposes *only*. If you want to chat, catch up on news, or ask questions, please call in on the (714) 736-1703 number. We ask all our members' cooperation on this. **If we cannot drastically cut our 800-number costs we will discontinue it.**

10) All Alcor expenditures toward acquisition of a new facility have been halted indefinitely.

11) A permanent endowment was created to help cover the cost of salaries and operations over the long-term future. Everything put into this endowment fund will be kept as *capital*; only the income it generates will ever be spent. A decision was made to transfer \$400,000 from the sale of Dick Jones' home into this endowment immediately. As the home has just been sold, income will begin flowing from this asset within a year. This endowment will be called the Richard C. Jones Alcor Operations Endowment. Contributions made to this fund will always be added to capital rather than spent. The endowment should go a long way toward solving, once and for all, our chronic operating shortfall.

12) A vigorous effort will be made to persuade members to contribute to the endowment with both regular contributions and testamentary (post-deanimation) gifts.

14) The sign-up process has been greatly streamlined, and additional Alcor staffers have been assigned to get the backlog of people signed up. Currently we have a backlog of over 100 people in the

sign-up process. There is obviously an urgent need to convert these people to members and start experiencing the benefit of the ER dues cash flow. **NOTE TO SIGN-UPS: A vigorous, costly, and time-consuming effort is going to be made by most of the Alcor staff to get you signed up. Please, please help us with this. Execute your paperwork promptly and work with the staffer who calls you. We cannot afford to lose any more time/money, and your help will be greatly appreciated!**

With all of the above, we are still going to fall about \$75,000 short of the cash flow needed to sustain our operations on an annual budget of \$250,000 per year. If this shortfall is not made up in voluntary giving and membership growth by December 1992, we will likely have to *both* raise ER dues substantially *and* discharge up to half of the staff (depending upon how acute the shortfall is).

As I think everyone can see, we aren't fooling ourselves and we aren't fooling you. It's a sad fact that cryonics has always suffered from a lack of economies of scale. That is starting to change, but in the meantime, keep in mind that we are operating the equivalent of a medical and legal research department, a rescue/emergency room service, an open heart surgery clinic, a top-flight magazine, a major, major media and public information service (We average 5 tours a week for the public now, not including the media!) and an international in-field MASH capability, as well as doing all the things normal businesses do, like bookkeeping, administration, and so on. And we're doing it with a staff of seven and a budget of \$250K a year!

We will do what has to be done to keep Alcor running, as painful as that may be. All we ask is that you do the same.

Staff Salaries	Before Cuts	After Cuts
Carlos Mondragon, President	30,000	22,500
Mike Darwin, Dir. of Research	20,100	15,075
Hugh Hixon, Facility Engineer	20,100	15,075
Art McCombs, Administrator	18,000	13,500
Joe Hovey, Dir. MIS	14,400	10,800
Payroll Tax	7,695	5,771
<b>TOTAL</b>	<b>110,295</b>	<b>82,721</b>

## If You've Been Procrastinating

### About Signing Up For Cryonic Suspension Coverage With Alcor, You Now Have Another Good Reason To Take Immediate Action!

Minimum funding requirements for cryonic suspension will be 20% greater for persons who have not begun the sign-up process by December 31st. Our current minimums are \$100,000 whole body and \$35,000 neurosuspension. The new minimums will be \$120,000 and \$41,000. (Of course, these numbers are just *minimums*; we encourage suspension members to provide as much additional funding as they can.

How do you start the sign up-process? Easy: send us your sign-up fee of \$300 postmarked by December 31st, 1990. The sign-up fee for additional family members is \$150, or \$75 for minors (members under 18 years old). The student sign-up fee is \$150. If you need to make arrangements to pay your sign-up fee over time, call Carlos Mondragon at Alcor, (800) 367-2228.

## Last Chance To Help Alcor Before Tax Time

You have a choice. You can send your dollars to support space telescopes that can't see, space shuttles that don't fly, art that isn't, and welfare programs that do anything but promote welfare... OR you can send them our way.

Granted, we've made our share of mistakes too! But we think you'd agree we've made fewer of them, and we sure hope you'd agree that we accomplished a lot more than the bureaucrats. And we *know* you agree that if we succeed you stand to benefit a lot more than you do from the government getting your tax dollars.

Alcor offers very high quality services for the dollar. The reason for that is in no small measure due to voluntary giving. This magazine, our fine suspension capability, and our past track history of research (which is now slowly resuming) are all evidence of what we can do when we get the support we need.

And if ever we need your support, the time is now. The enormous burden of litigation costs associated with fighting for

## Do You Work For A Big Company?

### Does Your Employer Offer To Match Charitable Contributions?

Many companies offer matching programs for their employee's charitable gifts. As a 501(c)3 non-profit organization, Alcor is usually qualified to receive such funds. If you're not sure if your company has a matching program, you should ask. It's a great way to make your donations to Alcor count for more.

all our rights to cryonics (including the very right to *be suspended* (Alcor v. Mitchell)) has been borne by Alcor and Alcor alone. We need your help.

As the year draws to a close, this is your last opportunity to take a bite out of the tax man's bill. Won't you consider giving your dollars to us instead of the tax-man?

Membership dues pay less than 25% of our operating costs. The balance is made up by donations and endowments. So please, don't make the mistake of thinking that the amount you give won't make a difference. And of course, donations to Alcor are tax-deductible.

## DHS Lawsuit Update

There's good news and there's bad news. First the good news: On October 25th, Judge Munoz signed his judgment and injunction sealing our victory in the DHS case. As was expected, Ms. Chung's attempts to get the judge to reverse or modify his decision were unsuccessful. The order was signed and was *exactly* what we wanted.

So that's the good news. The bad news? Well, the bad news is that on November 8th, we received a call from a prospective member in Canada who had called the DHS and inquired about the

legality of cryonics. Guess what? He was told "cryonics is illegal in the state of California and you cannot be placed into cryonic suspension by Alcor." Incredible! When further inquiries were made, we were informed that the DHS intended to appeal the case and did not intend to comply with Judge Munoz's order in the meantime.

Sure enough, when Alcor President Carlos Mondragon went down to the DHS Vital Statistics Division in Riverside to file for a VS-9 on one of our whole-body patients, he was told by Riverside County Vital Statistics chief Virginia Whitney that "on instructions from Sacramento, no VS-9 was to be issued." Virginia even obliged us by repeating this information into a tape recorder so that it is admissible as evidence.

Since the DHS has not yet filed an appeal, what they had done is put themselves in contempt of court. Alcor's attorney David Epstein explained this in a faxed letter to A.G. Tammy Chung, the DHS attorney. We received word on November 15th that Ms. Whitney's instructions had been changed. We were invited to go get our form VS-9s. Alas, they would only give us the form if we agreed to list ourselves as a "cemetery" (totally unacceptable). Thus it seems Mr. Mitchell is still in contempt of court. This is the kind of behavior that betters our chances of collecting legal fees and sanctions in the long run.

## Whatever Happened To The Riverside Coroner?

Mike Darwin

As many of our readers no doubt know, in January of 1988 Alcor's facilities were raided by representatives of the Riverside County Coroner's Office, amid accusations that we had murdered one of our Suspension Members by decapitation.

Five staff members and one visitor to the facility were handcuffed and arrested for the better part of a day. The Coroner's deputies threatened to thaw out not just the patient that they were looking for, Dora Kent, but all of Alcor's patients. They

seized all of the patient records, computers, and magnetic media in the facility. They also threatened to cost Jerry Leaf his job as a thoracic (chest) surgery researcher at UCLA and to destroy Alcor. A few days later, they returned to the facility, tore the place apart, and hauled off about a third of our furniture and operating room equipment, claiming it was "property stolen from the UCLA Medical Center."

After being dragged through the press as murderers and thieves, we have been experiencing some vindication. We got our property back, we got the patient records back, and the patients themselves are safe, including Dora Kent. However, Jerry Leaf did lose his job, and the damage to his reputation as a researcher has made him unemployable in his chosen career path after 13 years of work in this area.

For the record: the Riverside District Attorney now tells members of the press who call to inquire about the Dora Kent case that they "have no plans now or in the future to bring charges..." Case closed? Well, not exactly.

Coroner Raymond Carrillo's performance in office has been sufficient to have induced F. Rene Modglin, M.D., the pathologist who returned the finding of lethal barbiturate intoxication in Dora Kent as the cause of death with the mode of death being homicide, to challenge Carrillo for the Coroner's office. Modglin achieved a plurality in the June elections. This set the stage for a runoff election between him and Mr. Carrillo for the office of Coroner of Riverside County. Unfortunately, Dr. Modglin developed what appears to have been a case of the rare degenerative brain disease known as Creutzfeldt-Jakob Disease; this is a relative of kuru, scrapie, and the "mad cow disease" which is now terrorizing Britain. Dr. Modglin died of this illness earlier this year and his name was replaced on the November ballot by that of Scotty Hill, Carrillo's Chief Deputy and the second runner-up in the June elections.

Coroner Raymond Carrillo has had a difficult two and a half years since Dora Kent. In the interim he has mistakenly cremated the body of a homicide victim and been embroiled in so much litigation—internal and external—at the Coroner's office that it would be impossible to list it all here. One of the highlights, which resulted in a 10 million dollar lawsuit, was his allowing two employees to cut up human organs on their picnic table in their back yard and leave their garage full of human body parts for

Local races

# Hill wins coroner race; Carrillo might retire

By Don Babwin and David Ogul  
The Press-Enterprise

Chief Deputy Coroner Scotty Hill, who was knocked out of the race for Riverside County Coroner in June only to see his name placed on the ballot when another candidate died, won an easy victory last night over Coroner Raymond Carrillo.

"It's fantastic," said Hill. "The people out there have made a decision. They want a change and they are going to get it."

The victory was the culmination of a surprising change in fortune for Hill, whose authority in the office where he has worked for more than 18 years virtually disappeared under Carrillo.

In June, Hill, 52, was eliminated from the race when he finished third behind the front-runner Dr. F. Rene Modglin and the second-place finisher Carrillo.

Hill's name was put back on the ballot when Modglin, a pathologist, died in August. The big question in this election was how many of Modglin's supporters would vote for Hill and how many would support Carrillo. Many of Modglin's key supporters backed Hill.

Hill's campaign raised just over half of the \$54,628 Carrillo had received as of Oct. 20.

Carrillo, 61, said he will "look at retiring." Carrillo, who owns an Indio restaurant, said he might open another restaurant.

Hill said he was not surprised by the wide margin of victory. "I've talked to a lot of supporters and I have had nothing but positive remarks," he said.

Hill said he would not fire Carrillo's assistant, R.M. "Mickey" Worthington, who Carrillo said he appointed because Hill could not do his job. He said Worthington would no longer be assistant coroner but, if he chooses to, he could remain at the office as a deputy coroner.

During the campaign for the \$69,097-a-year job, both Carrillo and Hill blamed the other for many problems that beset the office.

For the most part, this campaign was about Carrillo's performance as coroner and what happened at the office during his administration.

The four years were difficult ones for the coroner. Almost as soon as he took office, Carrillo found himself in the middle of a nationally reported tug of war over the body of Liberace.

Though criticized for grandstanding, Carrillo won praise for what was perceived as his standing up to the high-priced Hollywood doctors and lawyers when he de-



Marilyn Odello / The Press-Enterprise  
**Scotty Hill reacts to a coroner vote count that had him leading.**

manded an autopsy for the enter-tainer.

But the praise turned to criticism as the office was the site of one embarrassing incident after another.

The high-profile case of Dora Kent, whose head was surgically removed by a cryonics group and frozen in the hopes of returning her to life, bogged down as county officials were accused of false arrest and harassment.

The office had to answer questions about why the body of a suspected homicide victim was mistakenly released for cremation before an autopsy could be conducted.

And the office again made headlines when one of the office's contract pathologists overlooked a bullet lodged in a victim's chest.

Carrillo was also blasted by his own employees. Last year more than half his employees cast a vote

of no confidence against Carrillo.

A few weeks later the county's 1989 grand jury reported Carrillo did not "provide leadership and direction to the Office" and recommended the office be abolished and its duties be given to the sheriff.

Hill capitalized on all the problems, reminding voters that Carrillo was the man in charge of the office when the incidents occurred.

When Hill campaigned he spoke not so much about practical operational issues as the atmosphere and the mood of the office.

The coroner/public administrator oversees an office with an annual budget of more than \$3.2 million. The coroner directs investigations into sudden, violent or unattended deaths, and determines causes of death. As public administrator, the coroner oversees administrations of estates for which no known will or heirs exist.

the new owners of their home to find when they moved in....

But that's all in the past. Let bygones be bygones, right?

Not exactly. The November 6 elections seemed a cashing in of bygones. Chief Deputy Coroner Scotty Hill won what the *Riverside Press-Enterprise* called "an easy victory" over Ray Carrillo. (A two-to-one landslide achieved with a much smaller election budget than Carrillo had.)

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## New Equipment

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We can't do it alone. We've said it before and we'll say it again. And in particular we couldn't do it without our principal contractor for perfusion services: Cryovita Laboratories. Over the years Cryovita has been responsible for many major upgrades in suspension capability. Due to Jerry Leaf (Cryovita's CEO and Alcor's Suspension Team Leader), Alcor was the first (and to date the *only*) cryonics organization to have a Mobile Advanced Life Support System (a portable heart-lung machine mounted on a patient gurney). The MALSS allows for the possibility of local, in-the-field blood washout and extended support of selected patients in a viable condition following pronouncement of legal death.

Recently, Cryovita has again expanded the range of capabilities available to Alcor through some important equipment purchases. Some of these increased capabilities are very exciting, at least to those of us who are involved in the technical aspects of cryonic suspension:

Perhaps one of the most gratifying additions to our capability is the acquisition of a "C-arm" fluoroscope unit. Cryovita purchased a used Siemens *Siremobil 2 U* C-arm with digital subtraction capability.

What does all this technical lingo mean in practice? Simple: It means that we can now do real-time X-rays of suspension patients and, far more important, we can do *angiography*. Angiography is a procedure wherein a dye which is opaque to X-rays is injected into an artery or vein in order to make the vessel or even large parts of the circulatory system visible under X-ray. From a practical standpoint, this means that we will be able to evaluate the flow distribution of perfusate in suspension patients *during* perfusion (artificial circulation).

The *Press-Enterprise* article, which we reproduce here, makes mention of the Dora Kent debacle, as well as a few of the other high-profile blunders that have kept Carrillo and his office in the spotlight over the past four years.

Enter Scotty Hill, who has the support of many of us, as well as, apparently, the California votership. Here's to happier times ahead.

Thus, if we have a patient who has been in cardiac arrest without support for a prolonged period (and who may have clotting in his or her circulatory system as a consequence), or if we have a patient with a pre-cardiac arrest condition that could have compromised blood flow, such as a head injury or stroke, we will be able to tell whether or not we are perfusing that patient's brain or other organs with cryoprotectant, and either take corrective action (declotting, bypass around the obstructed vessel, etc.) or discontinue perfusion and proceed to cooling to liquid nitrogen temperature.

In the past, we have been more or less in the dark about what our global flows to the brain were in ischemic patients; we have been forced to rely on looking at a 3-5 mm patch of brain *surface* through a small opening in the cranial vault. The ability to look at the entire network of vessels supplying the brain using X-rays should greatly improve our ability to assess patients better and intervene when necessary.

Finally, the C-arm will let us place catheters to measure pressure in the pulmonary artery, and to guard against fluid accumulation in the lungs of our ex-

perimental animals. It will also help in positioning other monitoring instruments—in both humans and experimental animals—that we have been unable to use effectively in the past because of inability to "see" where we were going!

Another important acquisition by Cryovita is a *Sarns PN15200* pulsatile blood pump, for use in both human cryonic suspensions and animal research. A large body of research, plus our own in-house experience, has established the value of pulsatile flow in controlling and even reversing brain edema (swelling) during extended perfusion. Brain edema is a major problem in patients who have experienced ischemia (inadequate or absent blood flow) prior to the start of suspension procedures.

In the past, we have used the Shiley *Turner-Kapliitt* system for producing pulsatile flow. Unfortunately, this system is no longer being supported by the manufacturer, and the special disposable components needed to operate the system are no longer available. The Sarns pump neatly solves this problem and does not require the use of special (and costly) disposable components.

The final item on the list of new acquisitions is also a blood pump—in this case a *Sarns Centrimed System 1* centrifugal blood pump. This pump has the advantage of being only a small fraction of the weight and size of current "roller type" positive displacement pumps currently in use on our MALSS. The Centrimed pump should allow for the construction of a second-generation MALSS that will be smaller and lighter than the first one, and, most importantly, transportable by jet air ambulance or helicopter, something the current MALSS is too big and heavy to allow for.

Our thanks to Cryovita for the improvement in capability!

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## Media Deluge Continues

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*Mike Darwin*

Cryonics continues to go before the public eye with no slack-off in media attention in sight. The coverage has been so widespread that it is impossible to do anything but hit the high points here:

The 12 August issue of *New Jersey's Bergen Record*, one of the nation's largest

newspapers, carried a major article entitled "Cryonics: Can Life Be Put On Ice?" by Laurie Merrill. This was overall a poor article, containing the usual misconceptions about cryonics and failing to communicate any of the basic elements of our world view: suspension patients aren't dead,

freezing injury may be repairable in the future, and so on. This article just goes to show that how much effort you put in has nothing to do with how much quality you get out. Ms. Merrill spent hours and hours on the phone with countless callbacks to Alcor's Arthur McCombs and Mike Darwin (among others). Her questions were generally excellent and detailed. We are at a loss to understand how this article could have turned out so disappointingly.

Going from bad to worse, a choppy article entitled (unimaginatively) "The Big Chill" appeared in *American Legion Magazine*. This article contains one of the most amazing and disgustingly inaccurate quotes ever attributed to a cryobiologist (or anyone else for that matter):

*"Cryonicists get themselves in trouble by what they do and what they say. And they get themselves in trouble not with scientists; they get in trouble with the press. It was the press that did all the muckraking about the things that have happened, like in the early days when they were storing bodies in surplus wing-tip fuel tanks of Air Force jets. When they had people who were too obese to fit, they would chainsaw their arms off and put them in."*

--S. Randolph May, President  
Society for Cryobiology

What can we say about a quote like that (other than that it isn't even remotely true)? Was Dr. May on Acid when he gave that interview? The article is full of other gems of inaccuracy which are left unchallenged, and all in all gets an "F" from me.

Next up is an extensive and generally well-written article which appeared in the Business section of the 9 September *LA Times*, entitled, "They Freeze Death If Not Taxes." This article by Michael Ciple reviews the business and financial aspects of cryonics operations in California with coverage focusing on Alcor, ACS, and Trans Time. A bizarre short piece which accompanied this story entitled "Iraqis Ask Firm About Cloning Saddam Hussein" generated a lot of national and even international media attention. I'd give this piece a "B+."

The Saddam Hussein article (also by Michael Ciple) claimed that American Cryonics Society President Avi Ben-Abraham stated he was contacted by emissaries of Saddam Hussein inquiring about having semen and tissue samples frozen for future cloning.... Give us a break!

The 10 September issue of *Barrons*

contained a thoughtful article also entitled "The Big Chill," by Andy Zipser. This is a broad survey article which discusses Alcor, the Cryonics Institute, Trans Time, and Cryomedical Sciences. I'd give this piece a "C+."

The 25 September edition of *USA Today* ran a fine article by Maria Goodavage summarizing Thomas Donaldson's case and discussing cryonics, entitled "Man Pins His Hopes On A Frozen Future." This article is brief, clear, to the point, and accurate. A solid "B+."

There have also been numerous stories, most pretty straightforward and fair, reporting on Thomas' first go-round in court. There are so many of these we can't begin to report on them all here. Most have been balanced and fair.

A vicious little piece appeared in Britain's *Telegraph Weekend Magazine* detailing the progress with Alcor UK. This piece is full of gross inaccuracies and gratuitous swipes of every kind. For instance, did you know that cryonics was supported by "grants from the American government in its early days?" Gosh, we missed out!

Finally, there were two mentions of

cryonics in the 1 October issue of *Newsweek*. One: a bizarre little piece on Imelda Marcos' reported freezing of Ferdinand Marcos and his public display at a recent birthday party she gave for him. Rumor had it that at the time of Ferdinand's death Imelda contacted Trans Time. Judging from the *Newsweek* piece, she decided on the do-it-yourself approach. As writer Ned (*Spy Magazine*) Zeeman put it: "The former Phillipine dictator actually showed up and did his best impression of a cryonicist: he attended natty as ever in a frozen casket."

The second *Newsweek* cryo-tidbit is our mention in a book review of *Great Mambo Chicken And The Transhuman Condition*. This is a great book which we reviewed in the November issue of *Cryonics*.

Finally, with our recent victory in the Alcor versus Mitchell case (our lawsuit against the California Department of Health Services to establish the legality of cryonics), there has been a spate of articles, virtually all of them positive and accurate. I'd rate the coverage here an "A."

All in all, a lot of media attention!

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## AIDS, Chronic Fatigue Syndrome, The Suspension Team, And You

Mike Darwin

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About the only good thing that can be said about the AIDS virus is that it isn't very infectious. Small consolation to those who *are* infected, but reassuring to the suspension team and those who are not. It had once been assumed that the kinds of behavior that put you at risk of getting AIDS were: unprotected anal intercourse, unprotected vaginal intercourse (with most of the risk being to females), and I.V. drug abuse (with shared needles). Oral sex, either insertive or receptive, was widely believed to be a low-risk activity. In fact, it was only in October of 1989 that the San Francisco Public Health Department documented the first two cases of AIDS transmission as a result of oral sex.

Now a study has been completed by Michael Samuel and Warren Winkelstein of the UC Berkeley Public School of Health that indicates that the risks of transmission of HIV by oral sex are higher than was previously thought. Perhaps much higher. Of the 82 men who became in-

fectured with HIV in the UC Berkeley study between 1984 and 1990, 17% became infected solely as a result of oral sex (no distinction was made between receptive and insertive oral sex). Clearly, the risk of getting AIDS via oral sex is not non-existent.

Additionally, several cases have come to light recently in which the mechanism of transmission is not known. Most prominent amongst these cases is that of a young woman who insists that she contracted AIDS during a dental procedure despite the fact that her dentist (who did have AIDS) wore a mask and gloves throughout the procedure and there was no "break in technique" such as a needle stick or body fluids from the dentist entering the wound. Analysis of the genome of the AIDS virus taken from the dentist and from the patient reveal that they are a close match, which is not normally the case in instances of unrelated infection (the AIDS virus has a very high mutation rate; 100 times greater than that of the in-



fluenza virus!). These cases, while not frequent, raise concerns about the safety of staff during suspension procedures on HIV positive patients.

Alcor has done two suspensions on HIV patients and has not had any suspension team members seroconvert. Additionally, conversations with health care workers who care for AIDS patients indicate that even needle sticks rarely result in HIV transmission to staff. Nevertheless, we are going to try to focus even more efforts on protecting staff from HIV and other infectious disease.

Paradoxically, of even more concern is a nonfatal disease, Chronic Fatigue Syndrome (CFS), one of the latest arrivals on the infectious disease horizon. It is estimated that this illness already afflicts between 2 and 5 million Americans. CFS is a devastating illness that, without usually killing, definitely cripples. The disease is characterized by intense fatigue and low level dementia (memory deficits, sleep disorder), and can persist for a lifetime. The trouble is that CFS seems to be considerably easier to transmit than AIDS. While it looks like CFS can be transmitted

by sexual contact, it is also apparent that it can be transmitted reasonably rapidly between members of the same household, apparently through routine contact.

There are no documented cases of CFS transmission via the medical route, but we believe that caution is warranted. We have now gone to both respiratory and skin contact protection for all staff from the time that they begin caring for the patient. We will keep everyone posted on developments with CFS and AIDS as they reach us.

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## Alcor Abroad

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### The Status of Cryonics in Britain

Luigi Warren

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#### The Conference

The European Cryonics Conference will no doubt be reported on in a forthcoming issue of *Cryonics*. Suffice to say, this was a very successful conference, with attendees from England, France, Germany, Austria, Italy, Portugal, Canada, and the United States, and the biggest press coverage of any cryonics conference to date.

#### Membership

There are now at least ten people with arrangements in place or in process in the UK. The figure is over 20 for Europe as a whole, including individuals in Spain, Italy, and Austria. Membership has doubled in the last year, and the signs indicate that we will repeat this feat in 1991.

#### Publicity

Our national media profile is probably as high as that of Alcor North America prior to the Dora Kent case. Having our own facility has made us a great deal more newsworthy. Hardly a week goes by without a story or an interview on TV, radio, or in the press. In contrast to the storm of negative publicity which surrounded the establishment of the UK group, much of the coverage we are receiving now is sober and accurate.

#### The Eastbourne Facility

Courtesy of Alan Sinclair, who joined

our group only 18 months ago, there is now a brand-new cryonics facility on the Southeast coast of England, comparable in size and equipment to the best the USA has to offer. The \$400,000, 2400 square foot industrial unit comprises a reception, 20' x 20' Operating Room, sleeping quarters for four, a vehicle bay with roll-up doors, conference room, kitchen, shower, plus a large perfusate preparation area and masses of storage space.

#### Technology

Over the last 12 months, all the technology needed to perform high-quality cryonic suspensions in Europe has been put in place. We have an ambulance and all the equipment we require to do a transport and a perfusion, including: HLR, Pizer bath, transport gurney, O.R. table, Heart-Lung Machine, blood gas analyzer, pressure monitor, electrocautery, power surgical saw, and a full set of surgical instruments and supplies.

One of the most important new elements of our capability is the dry ice air shipment unit designed by Alan Sinclair and built by British Oxygen Corporation. This unit has already proved itself in two international suspensions (the recent Norwegian and Australian cases). With this unit, we have overcome the greatest technical obstacle to offering quality suspension services outside the USA: the deterioration in the patient's condition that would arise during the delay imposed by international shipment. Patients can now

be maintained in a stable state on dry ice for days or weeks if necessary.

#### Training and Skills

At present, our level of skills with the equipment we have acquired is still too low for us to perform a quality transport or perfusion in the absence of US personnel. However, we have made significant advances in this respect over the past few months. Jerry Leaf flew to the UK for a week of perfusion training with our core group of volunteers last August. Those who attended came away more optimistic concerning our ability to take on the job. By the time this is published, Mike Darwin will have delivered another four days training on the transport phase to our volunteer group.

One of our biggest deficits is the fact that there are no medically qualified individuals in our group. Quite apart from the knowledge and experience such individuals could bring to the team, I think it's fair to say that we have no idea what kind of reception we would get in a National Health hospital, or how we should go about dealing with the NHS bureaucracy. That said, we have succeeded in developing a relationship with an experienced mortuary professional, and we do have paramedical contacts which we could pursue if the funds become available.

#### Regular Activities

Our group meets once a month, normally at Alan Sinclair's home near the Eastbourne facility. In recent months, we have shifted from a pattern of meeting at Alan's house on a Sunday, to spending the entire weekend at the facility. Our major focus is now practising the skills imparted to us by Jerry Leaf and Mike Darwin.

## Possibility and Prediction

Max More



In making a case for the reasonableness of cryonics, we sometimes hear from poorly informed scientists that cryonics is "impossible." What this actually means is likely: "I do not understand how frozen people could ever be revived. It is not now possible and I am unable to see how it could be done."

Cryonicists are generally good at poking holes in this way of thinking. We standardly point out that just because someone is unable to see how something could be done may show not that it's impossible, but that the person's foresight or breadth of knowledge is poor. I'd like to sharpen up the typical cryonicist's answer to the pessimist.

Possibility can be divided into several types. A minimal list will include technical possibility, empirical (or scientific) possibility, and logical possibility. Unfortunately these divisions are not as neat or straightforward as some people like to think.

To say that a goal, such as reaching the moon, is technically possible is to say that it can be accomplished with current technology. Even this is vague: Does it mean possible with machines currently in existence? Or machines either in existence or on the drawing board? Or possible with technology that exists somewhere in the universe, whether or not we know of it?

To say that a goal is scientifically or empirically possible, is to say that its achievement is not ruled out by the known regularities of nature. A goal may be technically impossible, such as going to Alpha Centauri and back in ten years, or moving one galaxy out of the way of another, but it's still empirically possible if it is not ruled out by a basic scientific principle. It's hard to give clear examples of scientifically impossible goals, but perpetual motion is usually regarded as one because

of the First and Second Laws of Thermodynamics.

To say that something is logically possible is to say only that there is no contradiction involved in claiming that it can be done. It seems that we can consistently conceive of a perpetual motion machine even though it's empirically impossible. We cannot conceive of  $2+2$  not being equal to 4, nor of something both existing and not existing at the same time and in the same respect.

The strongest possible objection to something is to show that it's logically impossible. This means that we cannot really even have a coherent idea of what it would mean for something to be the case. Demonstrating that a goal is empirically impossible establishes that, with our current scientific understanding, the goal, even though coherently conceivable, could never be achieved, no matter how long we tried. Showing that something is technically impossible is much less bothersome. It means only that we need to develop new technology to do it. So long as we can show that the goal requires only new technology which is empirically possible, we can expect to one day accomplish it, assuming that intelligent life continues, and that the technology is not beyond the capacities of our brains (or of future artificial ultra-intelligence).

Unfortunately, relatively tidy and useful though this conceptual scheme is, a satisfactory account is much more complicated. Philosophers of science and language have challenged the logical versus empirical possibility distinction. It's more a matter of degree than an absolute division. Since logical possibility is taken to depend on the logical relation of the concepts involved, and the concepts may be fundamentally revised when science is revised, what previously seemed logically

impossible might become logically and, perhaps, empirically possible (and vice versa). For example, in Euclidean geometry it is logically impossible for the internal angles of a triangle to diverge from the Euclidean sum of  $180^\circ$ . Thanks to Einstein and curved space-time, new geometries have been developed in which the internal angles can add up to other than  $180^\circ$ . Similarly, in Newtonian physics it would have been logically impossible for an object to have more than one length or velocity, but special relativity implies that one object can have different lengths or velocities depending on the frame of reference.

Even if something, say backwards time travel, is empirically impossible, there is still some hope. Empirical possibility and impossibility is relative to the prevailing paradigm. That is, while our science may rule out a goal, a radically different future science might allow the achievement of that goal after all. The change in our views about what is possible need not be in the preferred direction, however: Relativistic physics imposes limits on velocity not present in classical physics, and quantum mechanics tells us that we cannot have precise knowledge of a particle's position and velocity simultaneously. To say that something is possible in the sense that a conceptual revolution might render it conceivable is a rather weak and unsatisfactory kind of possibility.

Cryonicists like to rely on the distinction between what is technically possible now, and what is empirically possible and therefore eventually likely to be technically achievable. Eric Drexler, in arguing for the achievability of nanotechnology, claims that complex nanomachines violate no physical laws and so are constructable even though we cannot currently manage

it. Assuming that he has the empirical facts correct, I agree that his statement is reasonable if the claim is that we therefore have good reason to believe that advanced nanotech (and thus reactivation of bios-tasis patients) is likely to be achievable. I do not think we can conclude that it is definitely possible or inevitable (even ignoring non-technological factors).

Firstly, some things may be empirically possible but too difficult to ever figure out. Perhaps our brains are too limited to ever solve certain problems. Of course no one could be justified in claiming that this is definitely true of some goal. That would require omniscience—a demonstration that every idea and technique that will ever be discovered will be insufficient. We optimists can also cite vast amounts of inductive evidence from the history of science to show that nay-sayers have frequently turned out to be wrong. (See Michael Flynn's "Sixty Astounding Years," in *ANALOG*, January, 1990.) Fur-

thermore, we can project the continuous increase in our species' ability to control energy and to achieve increasing conceptual subtlety. We can hypothesize that intelligence enhancement technology and artificial ultra-intelligence will abolish the current limits of our brains. Still, we cannot guarantee that anything empirically possible will eventually be achieved.

Secondly, some things may appear to be empirically possible, but only because we haven't fully grasped all the implications of the relevant areas of science. Advanced nanotech assembler technology might just turn out to be impossible for unforeseen reasons. In arguing for the plausibility of cryonics, we should therefore make a case for its possibility and probability rather than its uncertainty. To assert that it will inevitably work would be to fall into the intellectual vice of faith. As it is, it's people like Arthur Rowe, who claim that cryonics is impossible, who are taking the position of the devout believer.

I cannot here review the scientific evidence in favor of cryonics. Given that cryonic suspension and our scenarios for eventual revival do not involve anything more than an improved ability to manipulate molecules, and given the apparently unstoppable advance of physical science, what we are doing is probably workable. Perhaps the greatest weakness in our case lies in our relative ignorance of the condition of suspension patients and the integrity of their personality. We need more studies of the microstructure of suspended brain tissue. We also need to know more about the way in which memory and personality are stored. One way of demonstrating our commitment to reason and therefore to strengthening our position with the scientific and critical public is to pursue and examine such research diligently. Perhaps we can focus more on this goal now that our legal position is more secure.

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## Future Tech

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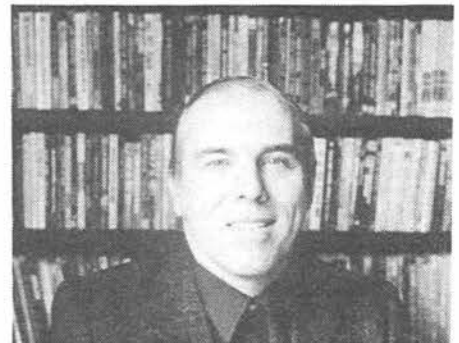
### Trivial Nanotech (Con't)

Keith Henson

Last time we considered some trivial applications of nanotechnology to provide goods and services similar to those we use in our current lifestyle. Providing energy is another such trivial use. It is a good bet that close to 100% efficient solar collectors can be made through nanotechnology (well, OK, so they only hit 50%). Not only that, they should be self-repairing, grow from a seed and double as permanent roofing. To install, you throw a small square on your roof, and a week or so later, it grows an extension into your electric box and starts supplying part of your electricity—the inverter is part of the distributed design. The more elaborate model grows an energy-storage module underground so the supply is steady. Dense housing (if people still live that way) and large-scale industrial activities (whatever *they* are) will still require more energy than can be

supplied by local sunlight, so there is still good reason to keep the power grid operational. I think transmission towers are nice to look at, but if most people want them underground, that can be done. (The lines may be made superconducting as well.)

Transportation (other than surface roads) has been discussed in depth by Eric Drexler in *Engines of Creation*. Eric prefers diamond-lined deep tunnels as expressways to get from one place to another. It is not entirely obvious to me that the "conventional" needs such as commuting to work make sense in such an era, but if people want to congregate in large numbers (rock concerts?), it would be easy to provide a personalized subway stop for every house that wanted one, and with a little notice, a new line could be run wherever there was reason to move a lot of people. As a thought, a hotel/convention



center might consist of a giant tank of undifferentiated nano "stuff," a lot of unoccupied land, and a subway terminal. Choose one of a thousand (million?) designs for your convention.

Another odd possibility is the concept of "movable" real estate. With hoards of minute earth movers, surface structures could be moved slowly to open up new space for public works (again, whatever *that* might be in such an era). If someone really had to have something which took up land like a freeway, or people just wanted to live in a less dense mode, all the structures, trees, roads, utilities, and the like could creep outward at an inch a day or less. Heh, heh, talk about urban sprawl.

A local version of the same idea would be to "timeshare" part of your local real estate. A week before your big party, your house and lot would start to grow,

while the neighbors' moved over and shrunk. By party time your house would have metamorphosed into whatever size was needed, and over the next week, it would shrink down to its original size—or smaller if someone else was planning a party.

I decided not to write about "living" toilets (too gross). The curious can read about them in *Copernick's Rebellion* by Leo Frankowski. For people who want to stick close to their biological origin, mechanical devices could eliminate bathroom cleaning. Even the current

primitive chemicals-in-the-tank are a big improvement over past methods. The self-cleaning house deserves a column all to itself.

Next time: diamond teeth, blind spots, the electric camel, and the doggy "after-burner."

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## For The Record

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### The First Cryonics Newsletter

Mike Perry



The cryonics movement is often thought to have been launched with the publication of Robert Ettinger's *The Prospect of Immortality* by Doubleday, which occurred on June 5, 1964. Before that, however, there was a fledgling cryonics movement (though the term "cryonics" itself would not be coined until August, 1965). The driving force behind this first, public foray into the physical struggle for immortality was an enigmatic figure named Evan Cooper, who would eventually be lost at sea shortly after he had destroyed his private papers. Cooper, who was born in 1926, began to think about the freezing idea sometime around 1957, and over the next five years completed a short book, *Immortality Physically, Scientifically, Now* which was privately circulated in a small quantity late in 1962. Sometime in the next six months he heard of Ettinger's independent efforts, which had resulted in a preliminary version of *Prospect* around the time Cooper finished his book, and the two corresponded. Word was received of Doubleday's intentions to publish an expanded version of Ettinger's book, and plans were laid for an organized effort to promote the idea. The first organizational meeting (which saw the creation of the Life Extension Society or LES), was to coincide, as far as possible, with publication of the book. But delay in the publication led to the meeting being held some months earlier, Dec. 28-29, 1963, in Washington, D.C., where Ev Cooper lived. This was followed by the first issue of the

first newsletter devoted to the freezing idea, which was dated January 1964 and bore the title, *Life Extension Society Newsletter*. Three pages in length, it mainly dealt, as might be expected, with the conference that had just been held and the organization that was formed as a consequence. The opening paragraphs are worth quoting:

#### THE CONFERENCE

The last weekend of 1963 rang down and out with perhaps the world's smallest conference and time's most imposing title: *The First International Conference on the Scientific Prospects for Physical Immortality*. The number depends on how adept you are at counting shadows, waitresses, correspondents and broadcast recorders. Twenty registered, eighteen paid, while fifteen were able to attend.

Larry Jensen opened the morning conference by affirming that practical aging control, for all the promise of present research, lies in the distant future. Therefore, we should get down to business on a freezing program for those who wish a plan for preservation in the event of any immediate deaths. The person so preserved would then wait until reanimation and aging control procedures had been developed, even if it took centuries. First, as the problem is largely one of information distribution, Larry specifically suggested we make available a brochure,

or short information sheet, on both the idea and the best information presently available on freezing procedures. Second, that we form a foundation as an aid in effecting the preservation and extension of life. Third, that a summary of the conference be sent to science writers.

Larry, who teaches at Castleton College, where they call him the ice man, is one of the original formulators of the freeze and wait theory. He has helped spread the idea on radio broadcasts, wrote to President Kennedy in May, gave a talk at Green Mt. College, where the response was highly positive, and has taken out \$10,000 in extra insurance to guarantee a very cool resting place in the event of death.

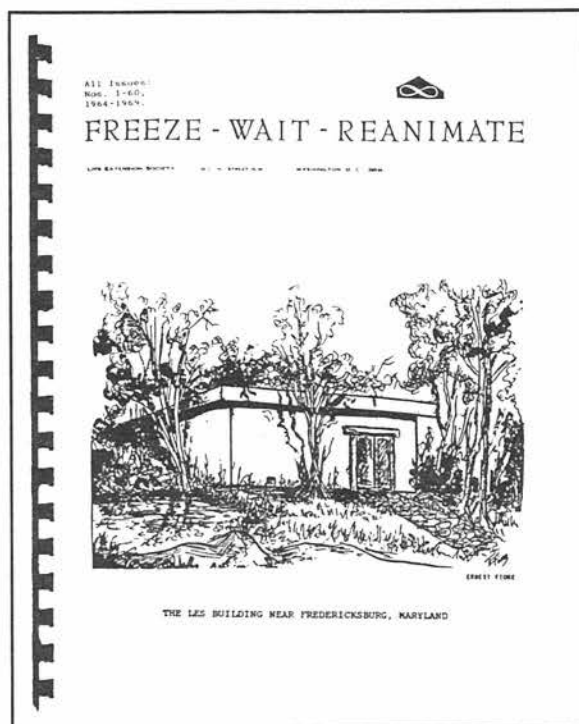
Bob Ettinger led the afternoon session which was primarily a continuation of the morning's attempt to find and agree on a program. (Bob's book *The Prospect for Immortality* is being published by Doubleday, presumably under the same title, and will be to the reviewers in May and the bookstores in June. This most likely will be the greatest stimulus to the movement so far.) There were the usual differences of opinion both days with such strong-minded individualists. However, the name *Life Extension Society* was adopted until and unless a better one can be found.

Among other things, note the quaint term, "freeze-and-wait theory," which was then being used for what is now known as

cryonics. Before the end of the year it would metamorphose into the inspiring imperative, "freeze-wait-reanimate," which was adopted as the title of the newsletter with Issue #8, in January, 1965. For over two years it would be the only newsletter devoted to the cryonics idea. Many important early events would be chronicled in its pages, including the successes with revival of frozen cat brains (September, 1965 and later), the wild cryonics conference in early 1966, the first human freezing later that year, and the first freezing under controlled conditions, that of James Bedford in 1967.

For a while *Freeze-Wait-Reanimate* enjoyed a huge success, with circulation said to number around 1,000—quite a generous figure even by 1990 standards. Unfortunately, this would not endure. LES was beset with problems which became increasingly severe as time went on. The story of its demise is an interesting one in its own right, and has important lessons to

teach; this I plan to consider in a later column. In all, sixty issues of the newsletter were produced, the last dated September, 1969. Despite the large circulation (by cryonics standards), copies of *FWR* are a great rarity today, and many who are now in cryonics have never heard of this pioneering publication. Over a period of years, however, I was able to piece together a complete file of issues, drawing on the collections of several individuals. Recently these were reprinted (with grateful acknowledgment for the help I received) and are now available in a bound volume of some 500 pages from Alcor (\$59.00 ppd.).



## Letters To The Editors

To the Editors:

Alcor's cash flow problems are frequently mentioned in *Cryonics*, and are a subject of constant discussion among its members. Recently, a proposal was put forth by one of the directors that the price of neurosuspension be raised to \$75,000, with a large part of those suspension fees diverted to cover operating expenses, as a means of solving the deficit problem. Another Alcor staffer vigorously opposed this on the basis that it would be tantamount to taxing the neuro members' suspension funds to cover operating expenses, with no corresponding tax to the whole body members.

We agree with the Alcor staffer's position and think that sending the cost of neurosuspension through the roof would do more harm to Alcor than good, in the long run. Further, covering operating costs by hacking away at suspension fees is a very roundabout and questionable practice. Are there other ways to increase Alcor's income which would NOT have negative side effects of this kind? Every Alcor member should put on his or her thinking cap and suggest ideas for the Board of Directors to consider.

One approach which might result in attracting MORE member-generated funding, of a "cash for operating expenses" kind, would be an application of an endowment mechanism. Many non-profit groups use a system like this already. Only the *interest or income* from the endowment may be used; the basic funds are not touched. This approach appeals to those who are concerned that a "donation" might be quickly expended on some short-term project; they prefer that the proceeds be spread over an extended period, for the long-term benefit of the organization.

We saw the senior center (Vintage House) of Sonoma (where Linda's mother lived during the last decade of her life) use this idea very successfully. As a new organization, Vintage House took on many experimental programs, and its wealthy members were reluctant to put dollars into donations for immediate expenditure on such projects. On the other hand, these same members were eager to support Vintage House in general, and when an endowment program was set up, the money poured in.

Linda's mom, a committed volunteer at Vintage House, left them a sizable

amount when she was suspended, for the endowment, not to be spent immediately by the Vintage House Board of Directors. She indicated that she might have put this money into Alcor, if Alcor had had some way of ensuring the funds would be used in a long-term rather than a short-term way. She said, "I don't think the Directors of Vintage House are wise enough to decide what to do with money on the spur of the moment!" She said she felt the same way about Alcor.

An endowment may be revocable or irrevocable. A concept we have developed for Lifepact, which would be equally applicable for Alcor endowments, is that the endowment is revocable "at any time the donor is alive." While this eliminates tax benefits for the donor, which could be obtained if the endowment were "irrevocable," it provides an avenue for revoking the donation upon reanimation, and meanwhile supports the tax exempt, public benefit purposes of the non-profit organization. We know a number of people who would make revocable donations to Alcor in this way, either while they are alive or as a provision to be implemented (via a trust) after they are suspended, if Alcor would make such a

program available.

The dangers of revocable provisions have been treated at length in the pages of *Cryonics*, especially with regard to insurance, and we recognize this concern as valid. Ways of circumventing this difficulty might include making the endowment revocable only under a limited set of conditions, such as:

1) Revocable only if the donor is mentally competent and free of a terminal illness or disabling illness at the time of electing to revoke the endowment, with two years advance notice, and still mentally competent and free of a terminal illness or a disabling illness at the termination of the two year period.

2) Revocable only if the donor is mentally competent and free of a terminal illness or disabling illness at or after some future date, where the date corresponds to a time when the donor would either have been rejuvenated or reanimated. In terms of current practice, such a provision would probably be considered to render the endowment irrevocable, although this approach clearly needs to be submitted for legal review before being applied.

Alcor members are constantly being asked to dig into their pockets, to donate funds for immediate use. The more they hear these pleas, the less popular the pleas will become. If an endowment plan as described above is adopted, more people (especially libertarians and business folk) will have confidence that their contributions will make a "long-term" difference rather than just avert one more crisis or anticipated disaster.

We hope the Alcor Board of Directors will consider this suggestion. More importantly, we hope other readers of *Cryonics* will put their minds to work on this problem and come up with a cornucopia of possible solutions for the Board to consider.

Linda and Fred Chamberlain  
South Lake Tahoe, CA

To the Editors:

First, I disagree with Mike Darwin's statement (*Cryonics*, Nov, 1990) that suspension patients do not benefit "directly" from Alcor recovering its cost of doing business. If Alcor doesn't continue to gain new members, how can they grow to a safe number of people in our organization and insure that someone is

around to reanimate us when technology becomes available? If Alcor should regress to a point similar to 10 years ago due to lack of operating funds, who will do research? How do you feel when you call a telephone number for info on a product and no one answers the telephone or it's always "busy"? What impression do you have of a company that doesn't respond to your written requests for months or never?

What was the cause of failure of the now defunct cryonics organizations whose suspended members lost their chance for future reanimation? It was lack of operating funds! Failure of the well-meaning people who founded these failed organizations to allow for the everyday costs of keeping the doors open. Failure to realize "cryonics" is a business—with daily, weekly, monthly, and yearly expenses above and beyond dewars and liquid nitrogen and one person to watch over same.

Second, they do have a "say" by virtue of selecting a second or third rate suspension organization if that's their choice. Just as Alcor selected a prestigious law firm to represent it instead of "Canwe, Milkem, & Howe" to save money. Let's not pretend that quality cryonics is presently for everyone regardless of his/her financial situation. If we had a large membership, the costs would probably come down, but at present we have a very small membership.

Third, I feel it is not only acceptable but absolutely essential for Alcor to have a degree of excess money above actual costs from each and every suspension done. This "excess" will enable us to grow, do research, have a financial cushion for unforeseen costs (such as unexpected lawsuits), buy a proper facility, and pay our staff *at least* standard wages.

Fourth, Mike is wrong. Collecting all our expenses is the most reasonable approach to addressing our shortfall in operating funds, along with controlling spending whenever reasonable and safe to do so.

Fifth, economies of scale. How much do people pay for certain life saving procedures? Bypass operations: \$150,000 plus. Heart transplant? Dialysis? All common today, but what if *you* needed one? Would you pay even though you'd have to sacrifice? And even though you were the first one on your block to need a new procedure that was *very* expensive since they had only done a few? In medicine,

the first few to have a new procedure *do* have to pay a higher amount to cover "start-up" costs and "inefficiencies," like Barney Clark's mechanical heart before the advanced Jarvik heart, et cetera.

In closing, I think that Alcor members want to pay their fair share whether they are whole body or neuro. I will feel much safer when it's my turn to "go into the tank" if at that time Alcor is being run in a safe and businesslike manner with its present financial problems behind it.

Mike Darwin is a very intelligent person and I'm sure he will eventually agree we must proceed in a businesslike manner if we are to survive, grow, and succeed in our goals.

Sincerely,  
Trudy Pizer  
Wrightwood, CA

To the Editors:

Over the last several months I have seen several news reports on Dr. Donaldson's case and, therefore, cryonics in general. I agree with several viewpoints recently published in *Cryonics*: Alcor and cryonics are still relatively in their infant stage, a fact that I think will remain for a number of years to come, at least in the eyes of the establishment and the general public.

As I have learned in business, you build a base, a solid base of integrity and ideas. The structure of growth will occur almost by nature. Watch for and use opportunity, add to the base, and watch the radical winds of time blow around and ultimately behind you. Yes, those winds will blow at the structure, sometimes shake it, even tear pieces from it. Give time, the base remains.

It is important that we realize we cannot, nor do we want to, conquer. We can only present our case in the best light, using the knowledge and ideas that exist, attempt to educate those to whom we speak, not be known as radical individuals, and realize each person will give merit to the case on their own. One news person's closing comment: "An interesting theory, don't you think?" Quite an accomplishment for television!

Best Regards,  
Jim Binkowski  
Orland Park, Illinois

Dear Editors:

I was intrigued by your *Table of Cryonic Suspension Patients* in the October, 1990 issue. Coincidentally, I was thinking of writing to you to see what level of interest there might be in writing a short biography on each Alcor suspension patient. It might be interesting to provide photographs, etc.

I found the table you published interesting regarding the fair number of patients who are listed anonymously, by initials only. The initials, I presume, are for issues of "confidentiality". The motive for such an issue escapes me. I cannot think of one reason anyone should be embarrassed by cryonic suspension arrangements. I have been out of the closet since first joining Alcor several years ago. All my friends, family, and co-workers know of my suspension arrangements. I figure this offers an additional level of protection in that no matter where I am, there is someone (besides an I.D. tag) who would summon help should I need it. I also take good-natured ribbing, but by and large everyone is supportive of my cryonics interest.

Sincerely,  
Scott M. Toth  
Miami, FL

To whom it may concern:

I am a student at Colchester High School in Colchester, Vermont. I am currently doing a report on cryonics in my Biology class. I would like to take this opportunity to thank the people in your mailing department that mailed me the information that I requested. I would also like to thank the man that answered the phone. I am very interested in cryonics and am very grateful for the information that was sent to me.

Once again, thank you for being there for me and may you be there for other students that are doing reports on this subject. Thanks again for taking the time out of your busy days to help a high school student in need.

Thank you very much,  
Toby Alan Dion  
Colchester, VT

Dear Editors:

I would like to respond to Mike Dar-

win's article in the November, 1990 *Cryonics* entitled "On Pricing Cryonic Suspension." Before addressing some of the issues that Mike raises, I would first like to go on record and state that I have the highest respect for Mike's concerns; both he and I only want what is best for Alcor, it's just that we differ on how to get it.

Also, I am in no way set in my ideas, I'm willing to listen to Mike and others, and willing to change my opinions on presentation of new evidence. Our disagreement appears to be one of business philosophy, rather than specific numbers. In his article, Mike responds to a short note I had sent to "*Cryonics*." However, he seems to have gotten carried away, discussing several issues that were not in my original note, and he even discusses some ideas that he attributes to me that I have never advocated. For instance: I have never advocated taking money out of the Patient Care Fund to pay operating expenses. I feel that the Patient Care Fund should be our sacred cow, and that once money is in there it should never be taken out except to pay for the care of the patients!

What I have advocated is that when we do a suspension, we divide the proceeds up at that time, putting an adequate amount into the Patient Care Fund to cover long-term storage, an adequate amount to pay for the perfusion and preparation, and an adequate amount to cover our overhead so that Alcor can stay in business and be there to do the perfusions and storage in the first place.

In fact, if we don't have prudent business policies to cover our overhead, and if we run out of money to pay our rent and other expenses, there will be a motivation to go to the Patient Care Fund and "borrow" money. This will never happen if we address the deficiencies in the Operating Fund beforehand.

#### *Response to Mike's Article*

Mike lists five reasons why we should not try to recover any of our overhead expenses from suspension charges:

First, Mike says that patients do not benefit directly from these kinds of services. I disagree. I think that efforts to make Alcor grow and attract more members greatly enhance the (existing and future) patients' chances for eventual reanimation. As Alcor grows, we will become more powerful, capable, and com-

petent in proportion to our economic resources. We will have more supporters to defend our cause should we come under attack. We will also have new members to facilitate our reanimation should the technology develop. (If we don't grow and we are all in the tank at reanimation time, who will reanimate us?)

Second, Mike asserts that patients have no say in whether such expenditures (my suggestion of figuring overhead as a cost in future suspension costs) are reasonable. I don't understand exactly what he means. I propose raising the price for neuro suspension in the future, for new persons who are not members yet, not going back and charging the existing patients more money. In fact, I am proposing that all existing members (who are not yet patients) be grandfathered in at the price at which they signed up. Only new members would be expected to pay the higher, more reasonable costs. I don't understand Mike's thinking when he says Alcor raising prices to new members is unfair because persons in suspension don't have a say. I have never advocated the ludicrous policy of raising rates to persons who are already in suspension. Mike needs to clarify what he means on this point so I can more accurately respond to it.

If Mike is thinking that new members who may become patients someday don't have a say, I also don't understand how Mike figures that. When considering whether to join or not, they can say yes or no.

Mike then goes into several paragraphs about how the price raise will be borne mainly by the "ill, old or dying (not by the typical young, healthy member who will live many more years before deanimating and paying his surcharge to reduce operating overhead)." I don't know how Mike figures that. If we raise the price of neuros to recover our overhead expenses for doing the neuro suspensions, the raise will be borne by all new members who sign up for neuro after the price raise regardless of their physical condition. If we ask all future neuro patients to pay their fair share, how will old or sick people have to pay more? Is Mike suggesting that only sick or old people sign up for neuro? In any case, I would not think it is fair to make sick or old people pay any more or less than healthy people. All persons desiring neuro should be asked to pay the same price: a fair price that allows us to recover all of

our costs.

Third, Mike feels that making members pay "for a hunk of overhead provides us with a financial incentive to place members in suspension. It is the exact opposite of what we want. It is both necessary and acceptable for patients to pay the costs of their suspension. It is NOT acceptable for Alcor to profit from their suspension."

I feel that collecting ALL your expenses, including overhead, is not profiting. I think this may be an area where Mike and I are not communicating clearly. I don't understand how collecting your actual costs is profiting. If Mike is suggesting that we don't collect our actual cost, is he advocating that it would be more acceptable to lose money on each suspension?

Also, I don't understand how collecting our actual costs is going to encourage members to die faster. I know it won't encourage me to want to die faster. If anything, losing money on a suspension might encourage the organization not to suspend you.

I think I know what Mike is trying to say and, if I am right, then I agree with him. Our goal should be not to make money or lose money, but to try to break even. Alcor exists to help individual persons by doing cryonic suspensions and to help the community at large by disseminating information about our research. That is why we have a nonprofit status.

Fourth, Mike says "this approach is a black hole to ruin, as other cryonics organizations have shown by tragic example. Whenever people can't control their spending, they just take it out of the patients' hides; silent and defenseless people who can say nothing to stop it."

What the heck is Mike talking about? Once again, LET ME REPEAT: I have never advocated charging patients already in suspension more money. I advocate charging future members the complete and fair amount it will cost to give them the best possible neurosuspension money can buy.

Mike should know that if there ever was a "black hole to ruin," it was when another cryonics organization did not charge enough to recover their overhead, went broke, and allowed their patients to rot!

Mike is further confused as I have NEVER advocated raising our prices just to allow us to waste money. I have advocated raising our prices to collect our full

costs AND lower our expenditures and trim waste simultaneously. Mike knows darn well that I am the one who recently initiated a campaign of introspection into our financial affairs, and that I am the one who has pushed the hardest to reduced expenditures.

Mike's analogy of other cryonics organizations that went broke to try to support his position of losing money on suspensions is a reversal of the facts. Other cryonics organizations went broke and had to abandon their patients because they did NOT charge enough money to stay in business. LET ME REPEAT: The ONLY reason other cryonics organizations went broke in the past is because they did not charge enough TO RECOVER THEIR OVERHEAD and stay in business!

Mike is also advocating that we are not far enough along to charge enough to recover our overhead. (see his *McDonald's* analogy). It is ironic that Mike would accuse me of wanting to allow Alcor to end up like failed organizations, when I am advocating that we avoid the very business policies that led to their downfall.

Fifth, Mike uses his *McDonald's* analogy to try to show that sometimes a new (smart) business doesn't recover its overhead at first and so is able to make it. Mike is dead wrong on this!

I remember when *McDonald's* first went into business. Of course they computed their overhead into their prices. At that time their overhead was very tiny compared to what it is today, but they still recovered a portion of that overhead with every hamburger they sold. They charged 19 cents per hamburger and I bought a lot of them. I guarantee you there wasn't 19 cents (at '50s prices) worth of bread, meat, and bun in those hamburgers!

They figured an allowance for rent, advertising, promotion, growth, labor, profit, and other overhead expenses in every hamburger they sold, and if they hadn't, they wouldn't be in business today and they would never have raised the money to grow into the giant organization they are today!

Mike argues that cryonics is still in the start-up phase (even after 20 years?), and we can't dare try to recover our overhead until we get into the normal stage. I think that if we continue to act as though we are in the start-up phase, we will continue to stay in the start-up phase and will never grow beyond it.

In fact, I think we ARE moving toward economies of scale and we need to start taking action to facilitate and speed up that change. If we act like we are growing, and set new business policies to generate the income to facilitate that growth, we will grow. If we do not raise the money to handle the growth, we will stay small. A company that does not grow and/or prosper is doomed to failure.

#### *My Explanation*

When Alcor first came into existence years ago, cryonics was considered a far out and crazy idea by most. Cryonics was carried out by a brave and unorthodox group. "But the times, they are a'changin'."

Today we see cryonics becoming more acceptable.

Tomorrow, cryonics will be the norm!

As the demand for cryonics grows, the organizations that supply it will need to adapt if they want to grow and stay in business. The financial policies that worked in the past for a very small organization may not always work in the future, especially as an organization becomes larger.

We are in a period of transition. In the past, most of our prospective members were persons of limited means. We had to keep our prices below our actual costs so that cryonics could be affordable by the very rare few who wanted it. We were able to survive because most of the labor needed to run Alcor was volunteered or paid at substandard rates. As we begin to grow, it is harder to find enough volunteer labor and people who will work at substandard wages. We will have to compete with the medical community to find another Jerry Leaf. I don't think we will ever find another person with his skills who will be as charitable. It will take money to get other kinds of expertise. We will need support personnel from the medical community, people who will not be as dedicated as our present staff. It will take money to hire this needed help.

However, as we grow, we will be able to charge a little more on each suspension and we can recover these expenses if we have the will. Charging for your labor and full overhead is a hard concept for some people (especially those without a business background) to accept. It seems greedy to some. I am not advocating overcharging people, but we



must begin to recover our FULL costs including overhead or we will not be able to buy the things we need to do the job right. We cannot run Alcor by buying liquid nitrogen alone. The everyday overhead far exceeds the small costs of liquid nitrogen and dewars.

In 1989, we spent \$193K for overhead and only \$8,715.96 for liquid nitrogen. There is no universal figure that any two persons at Alcor will agree on as our exact cost for each part of the total cryonic suspension and storage program. And, no one knows what reanimation will cost. However, I have watched over the expenses for a short while and my best estimate at the figures is as follows:

Cost to prepare & perfuse a patient:  
\$20,000 (Neuro), \$22,000 (Whole body).

Minimum amount needed for storage:  
\$20,000 (Neuro), \$60,000 (Whole body).

Minimum amount needed to reimburse overhead: \$35,000 (Neuro), \$35,000 (Whole body).

Total needed: \$75,000 (Neuro), \$117,000 (Whole body).

Our cost ratio of neuro to whole body is not one-third; why should we charge one-third as much when we do one?

Of course, this is only my best estimate at this time. Because of the nature of cryonics, and the fact that some of our labor cost is volunteer, some labor is paid below scale, and because of all the uncertainties involved in doing cryonics, it is hard to come up with anything more than an estimate and the cost changes from month to month. However I feel that the above figures are a good average.

Some members argue that legal expenses are not for the benefit of the patients in suspension. I disagree. We spent hundreds of thousands of dollars in protecting Dora Kent and Dick Jones after they were in suspension. We spent a hundred thousand plus dollars fighting the Health Department on their assertion that cryonics was illegal and to prevent actions that might have lead to the defrosting of our patients. Our legal victory is protection for our patients.

There has even been one person who tried to convince me that the legal expenses, and other overhead, should be charged more against whole body patients

because they are bigger. (I am not making this up.)

Personally, I think that neuro patients have just as good a chance of being reanimated some day as do whole body patients. They just may have to wait longer, especially if we begin using vitrification. Therefore, I consider every patient in suspension a potential person and believe that the cost of defending the legality of cryonics should be figured equally for each patient, regardless of how much s/he weighs.

Another reason why I would like Alcor to begin to recover all of its expenses is so that we will not be at the mercy of donations. Donations are hard to depend on. If the economy goes sour, our donations will drop off. If we begin to base our charges on our full costs, we will soon arrive at a position where we can be self-sustaining. Then donations can be used for "extras" like additional research, additional promotions, etc. There is a real lack of safety while Alcor is dependent on volunteerism and donations. We could take control of our destiny by properly pricing our services. A properly funded Alcor, not heavily dependent on donations or volunteerism in the future, is the best safety we can offer our patients.

Also, it is not fair to our staff to continue to pay them substandard wages, so that new (future) members can have lower prices. Some of the staff are forced to live in very crummy conditions because we can't pay them enough to afford decent housing. Some of the staff have to drive old, unsafe junkers because they can't afford to buy decent cars.

Just recently, our already underpaid staff had to take a big pay cut. I, for one, am sick of having to make the staff pay every time we get into a cash crunch. Instead of making them suffer, I would rather charge a fair price to future members for the service we provide. As long as we continue to provide superior service, we will remain the leader in cryonics.

As we begin to grow, I would like to

see us begin to recover our full overhead costs. I prefer recovering them from suspensions, as opposed to the suggestion that we raise dues. If we were to raise the dues enough to recover our overhead, the dues would be so expensive that most members would not be able to afford them. I am not advocating that we raise neuro requirements right away, but that in the future each time we have to raise our prices to cover inflation we should close the gap a little more between whole body and neuro until the ratio is less than two to one.

I know that thinking about recovering our full expenses is frightening to some. I am not advocating pricing ourselves out of the market. But I think it is foolish to take losses on neuros, especially since this is the one area where we don't have any competition.

Lastly and most intriguingly, Alcor already has started to recover some of its overhead when we do a suspension by virtue of the fact that we now mark up the supplies that we use in a suspension to cover a little of the inventory cost. Also, we now reimburse the Operating Fund a little (\$15.00 per hour) for the use of the staff that helps in a suspension. When these ideas were proposed, Mike voted for them. In fact, Mike is the one that figures the charges and is responsible for Alcor recovering what money does go into the Operating Fund each time we now do a suspension. How can Mike criticize me for wanting to reimburse our full Operating Expenses when he is partially doing just that right now?

I put these ideas out for consideration. Any decision will only be made by the full Board. Let's take some time to consider the issue. Let's get some input in from other members. I, for one, will consider new evidence with an open mind, as I am sure Mike Darwin will also.

Sincerely,  
Dave Pizer  
Wrightwood, CA

## Membership Status

Alcor has 188 Suspension Members, 474 Associate Members, and 16 members in suspension.

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## Her Blue Eyes Will Sparkle

Linda Chamberlain

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Arlene's blue eyes sparkled as she told the hospice nurse, "I feel wonderful!" Her voice was weak. It trembled as she continued. "When Linda was about to have her first Christmas, I had a cyst on my ovaries about the size of a grapefruit. I hated the thought of being in the hospital. I'd miss Linda's first Christmas. My doctor told me I could use morphine to get me through to January. My husband's sister, a nurse, gave me the injections. Since my doctor told me I wasn't the type to become addicted," Arlene's eyes sparkled again, "I used to say I needed more morphine even when I didn't!"

My mother was quite a character, a great role model in many ways, and a woman who became a strong cryonics convert in the last few months of her life. Twenty years ago cryonics was, to Arlene, just another of those phases her daughter was going through. Ten years ago, it was less satisfying than reincarnation. Even five years ago, when I finally got her to sign suspension paperwork, she did it only for me—not out of personal devotion to the idea.

But coming face-to-face with terminal cancer at the young age of 68 brought about a tremendous change in her attitude. She told me that her conversion resulted from more and more scientists being supportive of cryonics. A cursory understanding of nanotechnology helped, too.

The change, whatever the cause, was dramatic. When she learned about her cancer in January, she still told her friends and the hospice nurses about cryonics only at my urging. My feed-back from these people remained that "she's only doing this because you want it." But by May she told everyone proudly that she was a "committed cryonicist." The hospice nurses invited her to speak about her involvement

in cryonics at their monthly meeting. She told me with excitement that she needed 12 information packages. Arlene never made that presentation. Her health failed too soon.

This brings up two important points about her change in attitude. First, it is much easier to work with doctors and nurses when they know that the family interests are not in conflict with their patient's. Second (and another important factor in Arlene's conversion), her enthusiasm greatly improved the response we received



from the health care givers.

Never would I have thought that Arlene would care whether or not these people respected her views. In fact, her life had been a constant struggle against societal mores she felt were wrong. But, as startling as it was, Arlene admitted that her greatest motive in hiding behind me on

this issue was her fear of the loss of their respect. She told me a couple of times (in those final days her short-term memory faded, and we heard many stories more than once) that she earlier "could just see the headlines!" She drew a newspaper banner in the air over her frail body. "Scandal in Sonoma. Local Woman Frozen!" She was nervous when we first made an appointment with her general practitioner. She knew my main purposes were to inform him about our cryonics goals and gain his cooperation. She feared deeply that he would be "turned off." She feared that a doctor with whom she had bonded over the years—with whom a deep and mutual relationship had formed—would be lost.

But to her relief and joy, Arlene found her doctor responding with quiet acceptance and willingness to help. We first noticed her attitude shift at this point. Her oncologist was less enthusiastic, but didn't indicate that he would oppose her wishes. (Although later he would become unpleasant to work with.) Arlene's spirits were raised another notch when she heard that the mortician (a woman) had smiled proudly and said, "Just think! Right here in Sonoma!" And the positive trend continued.

A few days later, I met the head hospice nurse for the first time when she came to make her scheduled house call. As I informed her about mother's arrangements, she displayed genuine enthusiasm and eagerness for more information about Alcor and cryonics. I provided her with a "blue book," which she quickly snatched and protectively stashed into her briefcase as she "asked" if she could keep it.

I answered her questions about what would be done after Arlene deanimated (heart-lung resuscitator applied to circulate protective drugs and prevent coagulation, to prevent acidosis, stabilize cell membranes, adjust metabolism, calcium channel blockers, blood volume expanders, free radical protection, et cetera, followed by an ice bath to lower body temperature and limit ischemic damage). The hospice nurse left excited that day. Arlene grew more excited too, and her attitude and commitment raised another notch.

The hospice nurse called the next

morning. She had discussed our needs with the supervisor at the hospital, who was concerned for the hospital's liability. The hospital administration wanted to help us, but their legal staff informed them that they could not become involved in any cryonics operations—they must limit themselves to their normal hospice activities.

I felt my first dose of fear that we might run into opposition. I was also fearful that this might burst Arlene's enthusiasm. I assured the hospice nurse that Alcor had all the trained personnel needed. I told her that all we needed was someone to pronounce legal death so Alcor personnel could proceed without delay. I was assured that they could help us in this regard.

Mother, who had been sleeping, displayed a sudden and surprising awareness. She sat up in her reclining chair and asked, "If I die suddenly, can you pack my head in ice until Linda can get here?"

The hospice nurse said, "No Arlene. That isn't part of our hospice role." Arlene sat back. I worried her, but she didn't ask me how I planned to solve the problem. I wish she had. The next day, when her best friend, Coleene (a pseudonym), came by to visit, she told her friend that cryonics had become a very personal commitment for her and since the hospice nurse couldn't pack her head in ice, would Coleene do that for her!

Coleene paled, but held her voice steady and agreed. I would have advised my mother against such a request had I known her plans. That was too much to ask of someone who does not share our view of cryonics. But Arlene's spontaneous question gave me no way to change things.

The next morning, Coleene called to tell me of the sleepless night she had had, bound up in anxiety over the thought of packing Arlene's head in ice—after she'd died—and misery at the thought of breaking a promise to her best friend. I assured Coleene that I understood her dilemma and that we would be able to handle the problem.

As things turned out, a tumor in Mother's brain caused her to lose the use of her right hand and leg. We needed someone who could live with Arlene and help make her daily routine easier. She did not want to live in Tahoe (she hated snow), and being removed from her own home, friends, and pussycats would have been a hardship we did not want to impose.

I called Alcor to see if they could suggest any suspension members who could

fill this need (and put ice on Arlene's head in an emergency!). Mike Darwin and the staff at Alcor immediately came up with several candidates. Benjamin Hartwick was a single young man, an Alcor suspension member, between jobs, and found the notion of spending a few months in California's wine country while helping another Alcor member a pleasant one.

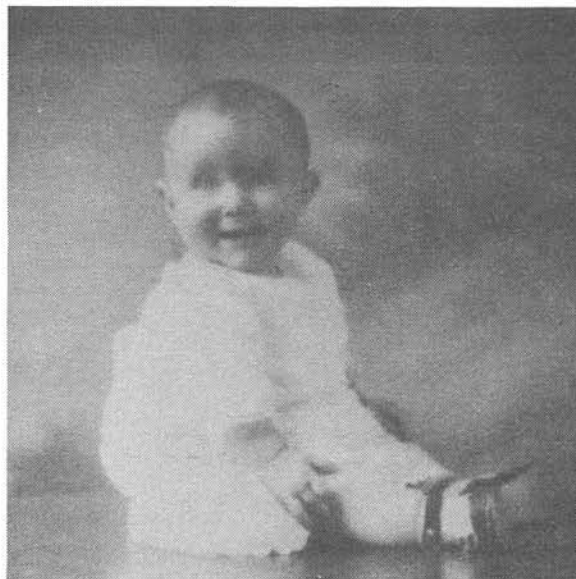
In return for room and board and a salary, we were able to provide 24-hour companionship for Arlene (the hospice nurses visited her home several times a week to provide nursing care). Details were beginning to come together nicely. And, most important of all, Benjamin liked cats. The feeding and pampering of Arlene's three cats, to the standard and style to which they were accustomed, was Arlene's primary qualification requirement for her companion.

Arlene began to improve. Dramatically. She could sign her name again, she could walk (short distances) without assistance, sometimes even without a walker. She could even do a "bump and grind" for appropriate visitors! With Benjamin's care and companionship she was up and around again and hopeful that she might actually be in remission.

We were warned that she had a very aggressive form of cancer, that it would be an up-and-down course, and, worst of all, that just when she felt strong, it might suddenly take a nasty turn. That is what happened. The cruelty of her disease revealed itself. Arlene was suddenly bed-bound again and without appetite. Without energy to enjoy life. A tragedy for one who had always lived life to the hilt.

Being a Kaiser patient, and with a new Kaiser hospital just finished in her area, Arlene now had a new oncologist (a change we both welcomed). Our deflation over Arlene's downturn would find some counterbalance in our visit to the new doctor.

Although most of the medical professionals with whom we had dealt up to this point were cooperative, I still confronted the tedious necessity of educating them on the subject of cryonics. Inside my own head I began to sound like a broken record. To my astonishment, though, when I explained our objectives to the new oncologist, he responded with, "Is she neuro



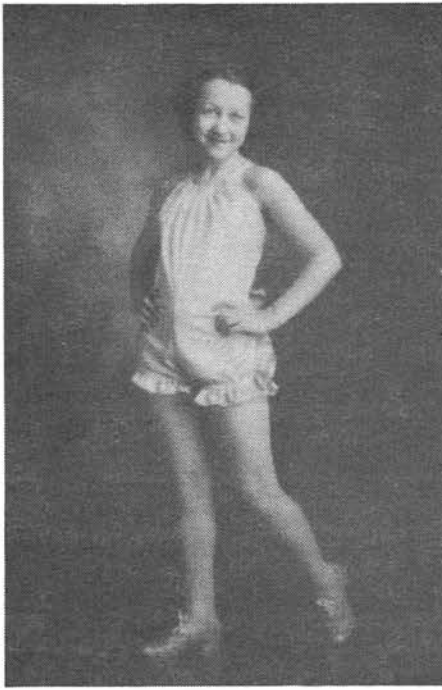
or whole body?"

This doctor had been the oncologist of a cancer patient frozen by Alcor several years earlier! And, in his own words, he was impressed with Alcor, their people, their equipment, their knowledge, their commitment, and the way they move all those people and all that medical equipment around the country to freeze their members!"

Now we had a cooperative mortician, two cooperative physicians, and hospice nurses. Next we needed to find an air ambulance to fly Arlene (in her ice and water bath) and the Alcor team to Riverside—after stabilization at the mortuary—to complete the suspension. The first company I called was enormously helpful and cooperative. The owner even gave me his home phone number in case any problems occurred while he was not there. He even encouraged me to use the private number 24 hours a day if I needed assistance.

In spite of all this good fortune, Arlene became very depressed. She had given up hope of a remission as her energy levels had continued to fall. The cancer wasted her flesh rapidly (she lost 90 pounds between January and June). Without hope of remission, she did not want to draw out her decline. To Arlene, the thought of dying in a hospital with breathing tubes in her nose and feeding tubes in her stomach was unbearable. She asked her oncologist how much pain medicine to take in order to die.

We were alarmed by this, and worried that Arlene might do something without discussing it with us first... something which could cause her to become a



Coroner's case. We discussed Arlene's idea with her general practitioner to see how he would respond. Although it would not be an unusual situation, he told us he would have to report it to the Coroner. Understanding the situation, Arlene agreed not to do anything which might put her in danger of an autopsy (for suicide) without first discussing it with us.

This required a great deal of courage from Arlene. Before her conversion to cryonics, she had made up her mind that she did not want a wasting death or to force family and other loved ones to suffer through a slow termination. She had resolved (if such a disease should befall her) to die of carbon monoxide poisoning in her own garage—taking her cats with her.

We talked to the hospice nurses and to her general practitioner to see if there were any humane alternatives open to her. If she refused food and water, we were told, the current medical ethics would accept this as a natural death.

There seemed no other way. Yet if an experimental animal were treated the way dying human beings are required to be treated, the researchers would be jailed for "cruelty to animals." Society would allow her cats to have a humane death, but Arlene must suffer.

I asked her to tell me honestly if I asked too much of her. I knew that earlier she had only been signed up to be frozen "because I wanted it for her." Now I was asking her to give up her "painless death,"

to suffer the slow and degrading death required by our current societal ethics. I loved her and wanted her to share the future. She had given me life. Now, I wanted to give her life. But... was I asking her to pay a price that—to her—might be too great, even for a loved one?

We both had tears in our eyes. She thought it over. Then she took my hands in her own and said calmly, "I want to be frozen. We're tough broads. We can do this."

The next day, Arlene stopped taking food or liquids. Actually, she had eaten almost nothing for three weeks, due to the effects of her cancer. We called to inform Alcor of her decision. Without food and water, few people survive more than seven to ten days.

The hospice nurses visited Arlene daily and were on-call by beeper to pronounce death. But their best response time would be 10 to 20 minutes. For a cryonicist, this is an eternity of cellular degradation. We had to do better. At our request, her GP wrote orders for a registered nurse to pronounce. We would hire RN's to stay with Arlene 24 hours a day when the end was near. It was the only way we could overcome a 10 to 20 minute wait after legal death before Alcor could begin stabilization procedures.

Once again the responsiveness and interest of the director of the nursing registry amazed me. It wasn't the first registry called, but we were again met with genuine hospitality and eagerness to be involved in our cryonics operation. In fact, the director asked for literature to offer to others as "all we have now is information about the Neptune Society."

On her third day without water, Arlene's energy level dropped markedly lower, though she could still swish out her own dry mouth with water and use her spittoon. She could also still light her own cigarettes. Arlene loved smoking (even though they were the cause of her early deanimation), and she enjoyed her cigarettes to the end.

She woke in a panic. She knew her garage was stuffed with boxes full of cryonics equipment—the Pizer tank, the Thumper,

oxygen, and a freezer with 200 pounds of crushed ice. But where were the Alcor people? "What if I die suddenly," she asked. "Get the equipment in the house! Get the medications ready! When will Alcor get here?!"

"Mike Darwin's plane will be in at 8 PM tonight," we assured her. "He'll call in the rest of the team when it's time."

Those last few days were far more difficult than all the previous months put together, waiting for someone we loved to deanimate. But Arlene had enough grit for all of us. While watching a news program about armed forces in one of the many trouble spots somewhere abroad, she shook her head and said, "Are you sure you want to stick around? Why not book passage on my cruise ship and come with me?"

Even though the end of her own first life cycle loomed near, she characteristically thought of others. Thomas Donaldson had come to Sonoma with several other Alcor members to meet Arlene (some suspension team members, others just concerned members). She liked Thomas a lot, admired his courage, and spoke of him often. One day she expressed her feelings of admiration for his struggle against the system; she wanted to make a video tape that might in some way assist Thomas. The effort exhausted her. She slept the rest of the day.

Too many things had gone well. We were well overdue for some bad luck. Our first serious roadblock was an attempt to get an apnea monitor to check Arlene's



breathing while she slept. We feared she might die in her sleep and be unnoticed for many minutes. Unfortunately, all the local oxygen suppliers had this equipment only for infants, and would not alter the equipment for an adult. Even Mike Darwin could not get them to make the alteration for us.

The next—and worst—problem began when we called the nursing registry to arrange for the RNs who would stay with Arlene around the clock. Fortunately, Arlene lived longer than we expected, giving us more time to solve this brewing and potentially dangerous situation.

In spite of the extremely positive response I'd received earlier, we were now into the weekend and a different person was in charge. No plea would get us in touch with the earlier and more sympathetic director. This new person required that we have a signed letter at the house from Arlene's physician, giving orders to have death pronounced by an RN. Even after we obtained the required letter, they couldn't find a single RN who would work with us... who didn't have ethical problems with our situation.

I asked the hospice nurse on duty to assure them. Unfortunately, the nurse on duty had to be the one with the least enthusiasm for our project. Her conversation with the registry nurse resulted in her own heightened concern about liability. (We'd apparently brought a *very* hostile person into the loop, and she was quickly eroding relationships we had spent much time building.) The hospice director now informed us that their legal counsel recommended that *not even they* should pronounce for us, that only the physician should pronounce!

We found ourselves so positioned that only the physician could pronounce—and, doctor's schedules being what they are, we might be faced with *hours* of ischemia before the physician arrived. This could *not* be tolerated.

Fortunately, the stand-by crew at the home now included Jerry Leaf. We had the best on hand to fight for us. I asked the hospice nurse to make her normal morning house call so that Jerry could talk to her and find out why we were suddenly held to standards greater than those normal for the community.

After discussing the situation with the hospice nurse, Jerry found out the problem and began to plan the solution. The hospice director had requested legal advice (up to this time, they had not been worried about liability because the physician had

given them directions to pronounce for him). Unfortunately, too many attorneys will respond to any unfamiliar situation not by investigating it first, but by going the conservative route, advising their clients not to get involved.

Jerry Leaf had one of the Alcor attorneys call the hospital legal counsel. *That* did the job! Hospice was once again on our side and cooperative. But we were back to square one again. The hospice nurses would pronounce, but by beeper they were still 10 to 20 minutes away at best. Notwithstanding our close brush with hours of delay, this was still unacceptable.

I called every nursing registry in the area. The hospice nurses were asked for assistance in finding registered nurses to help (the hospice nurses themselves could not stay 24 hours a day because of their other patients' needs). Some registries expressed willingness to assist, but we were still unable to find RNs willing to take the assignment. It's a small community, and we were beginning to think that they were all talking to each other—spreading the "fear meme" amongst themselves.

Then, the unexpected. A white-faced Benjamin Hartwick came outside to get me. "The Coroner's on the phone. He wants to talk to you."

When I walked into the family room to take the call, everyone looked uneasy. But our dread was without need. The Chief Deputy Coroner turned out to be friend rather than foe. A windfall just when we most needed one!

The community was buzzing, and the Coroner had been called by the unfriendly nursing registry. Already familiar with cryonics (did he attend a Coroner's convention and hear Alcor speakers on the subject?), he was friendly to our intentions. He even called the sheriff and explained what we were doing so we wouldn't have any problems if they were called by alarmed neighbors or others who might not understand and be concerned. He offered any assistance we might need.



We were thankful for this turn of events, but didn't yet completely appreciate how useful his assistance would be. We still had not found a nursing agency that could—or would—supply us with 24 hour RNs. While brainstorming on how to solve this problem, Benjamin Hartwick came up with the suggestion that I make a list of all the health care (and other) professionals who had been cooperative, then call them and explain our problem, asking for suggestions and/or assistance.

We came up with a list of five names. I sat down at the phone, opened my notebook, and searched for a blank sheet of paper. Flipping through note-filled pages, my eyes scanned the list of nursing agencies previously called.

For the first time, I noticed a name on the list—right in the middle—which did not look familiar. Searching further through my notes, I could find no indication of calling this agency previously. Fatigue changed to excitement. I dialed the phone number and asked for the director.

There was one important difference this time: I gave the nursing director the phone number of the Chief Deputy Coroner and asked her to call him to verify that our needs were legal and represented no liability to their agency. Within a half hour, the nursing director called me back.



She had spoken to the Coroner, to Arlene's physician, and the hospice nurses, and was already at work locating RNs to help us! We had 24-hour nursing assistance within eight hours.

Working in an upstairs bedroom with nothing more than a video camera, a box of snapshots, and a tape recorder, Fred (my partner and husband) made a memorial video tape. With a background of music from the Carl Sagan "Cosmos" television series, he created a slide show from photographs, starting with Arlene's baby pictures, working through her teens, her early marriages, cruises, and other vacations, her retirement years, and her last birthday party (in March). We showed this ten-minute video to all the nurses, the mortician, even the pilot of her air transport plane (who stopped by her home to pick up advance payment).

We felt that if these people knew something about Arlene's life, if they could see some of the sparkle and joy that once lived in those blue eyes, if they could think of her as a joyous human being who loved living... they might be infected somewhat with our own attitude: that we were saving her life, not just engaging in some unconventional death ceremony. It had a profound effect on everyone.

Earlier, when I'd gone to the bank to get a cashier's check to pay for the medical air ambulance, the cashier displayed courteous curiosity about why we had to airlift my mother to Southern California. "Aren't there closer hospitals?" she asked. "There's only one place in the whole world that can save her life," I said. "And we're thankful they exist."

The bank cashier smiled sadly and said, "You're lucky they're there. Good luck." I smiled back, thanked her, and said goodbye.

A little earlier Arlene had asked how

she would get to Riverside. I told her a Cessna 421 would be waiting for her at the Santa Rosa Airport. I raised my hand in the air and said, "We'll get on that plane and fly..." She interrupted me with a weak smile, and raised her own trembling hand to join mine. Her eyes looked up toward the ceiling, and in a small, frail voice she said, "to the stars."

Those who knew Arlene would smile at knowing her spunk prevailed to the end. Frail and spent as she was, her spirit was undaunted. When asked what she thought about the young man who would pilot her plane, her blue eyes sparkled and she said, "What a hunk!"

If there were two primary philosophical ideals that could sum up Arlene's life for those who didn't know her, they would be (1) "Pleasure should be the business of life," and (2) "The more love you put out, the more you'll get back."

Arlene lived her life fully and joyously. Every nurse and other person who met her—even when she was weak and found it difficult to speak—described her as "a great lady," or "a character," or "a wonderful spirit." Near the end, Fred told her to rest and leave the work to us. She replied, "But I want to see what's going to happen!" Fred smiled and said, "I'm afraid it doesn't work that way, Mama-san. You'll have to wait and watch it all on video tape."

Arlene would smile weakly when we passed a cold, wet swab between her lips and gums. She was too weak to utter words. When it became clear that deanimation was very near, we made sure she had enough pain medication to keep her sleeping and comfortable. I removed her ankh (Egyptian symbol for life) and placed it around my own neck. I removed her Alcor bracelet and put it on my own wrist; later to be worn always on my key ring (just as Fred has kept his father's bracelet on his key ring for the last fifteen years—since his father was frozen).

All the struggle and turmoil to find a registered nurse to be with Arlene when she deanimated paid off. A nurse who had become very interested in cryonics (she slept in a sleeping bag in the back yard between shifts, rather than go home and possibly miss being on hand when Arlene deanimated) was with us when Arlene's heart rate rose and her blood pressure dropped correspondingly. "You'd better come," the nurse called to those making prepara-

tions in the next room. "She's going."

When Arlene's heart stopped, the RN stood and moved aside. Mike Darwin and Benjamin Hartwick stepped in, picked her up, and carried her to the Pizer tank. Arlene was pronounced at 5:47 PM on June 9, 1990. The mechanical heart compressor was on her within two minutes after her heart had stopped!

Another RN (also very responsive and cooperative) had just arrived, an hour early for her shift, also anxious to be there when the suspension began. She was about ten minutes too late to see the very earliest firestorm of activity, but she didn't miss out altogether, as she would have if she had not come early. Both nurses' eyes were the size of milk saucers as eight Alcor team members (Fred and Linda Chamberlain, Jerry Leaf, Mike Darwin, Benjamin Hartwick, Naomi Reynolds, Keith Henson, and Arel Lucas) worked like unstoppable freight trains. The nurse who had slept in the back yard jumped in a couple of times and helped. The two of them came by the mortuary for a while and observed the washout. Both of them were so impressed that they have offered to assist other Alcor members in the future.

Due to weight, we had to have two planes. Naomi and Arlene flew in one. Mike Darwin, Jerry Leaf, and Fred and I were in the other. Benjamin Hartwick, Arel Lucas, and Keith Henson remained in Sonoma to clean up and prepare to get the Alcor equipment back to Riverside as soon as possible.

My heart raced as Arlene's plane rolled down the runway. It being night, I could not see the Seneca lift into the air, but my heart soared with excitement and



joy. As our own plane, the Cessna 421, took to the sky, the city lights below twinkled happily at us. As we rose above the clouds, moonlight danced on the cotton fluffs below, giving a surrealistic glow to our surroundings. I was ecstatic with the thought that Arlene would soon board Starship Alcor for a very special cruise through time.

We'd made a promise long ago, to meet again in the future at the most elegant lounge on the moons of Saturn, overlooking the rings, and to toast the old days: the struggle to survive. It will become a centennial event: meeting to share travelers' tales. And being there, together, I know Arlene's blue eyes will sparkle as we toast to success and to being together again!

*A very special thanks to all those who helped save Arlene's life: those on standby for nearly a week in Sonoma as well as those at Alcor Central who stayed up all night to see her suspension through. And thanks also to every Alcor member, for helping to support the organization which made it all possible. May we all toast to success and share a future cram-packed with reunions and the sharing of travelers' tales!*



## Cryonics And Religion

Derek Ryan

Cryonics has gained a great deal of notoriety recently, thanks in large part to Phil Donahue, Larry King, *et al.* And while the Alcor staff has done a wonderful job of addressing the scientific, legal, political, and ethical questions that have been voiced, there remains a vital issue largely ignored both recently and in the past, allowing a large section of intelligent, scientifically-minded individuals to object to the practice of cryonics without researching the above aspects whatsoever. That issue is the supposed incompatibility of cryonics and religion, specifically Christianity.

Statements like: "Cryonicists intend to raise the dead, claiming power that only God holds," "The desire to extend life on Earth contradicts what is taught in the Bible," and "The souls of those in cryonic suspension are caught in a hellish limbo between Heaven and Earth." have been accepted as maxims among Christians (though the last is more often imagined than stated). Are these statements—and others like them—fair? More importantly, are they biblical? I contend that the ideas behind cryonics are fully compatible with the biblical view of life, and furthermore, that the intended results of cryonics coincide with many specific commands of the Bible.

### Cryonics: Extending Life or Raising the Dead?

A major objection many Christians have concerning cryonics hinges on today's common misconception of death. Because cryonic suspension cannot yet take place until after legal death, cryonics is often viewed as occultish. Many Christians regard Alcor as a group of "witch-doctors" out to raise the dead when, in fact, only God has that power. However, presenting clearly the true definition of "death" can often solve this problem.

As medicine has advanced, the accepted definition of death has changed. "Death" meant something rather different to physicians in New Testament times than it means to today's physicians. One of the biggest obstacles Alcor has had to overcome is the inadequacy of the current definition of death. Though it is changing, it is still not accurate in that it is still function-based. Despite overwhelming scientific evidence that the current legal definitions of life and death are flawed, misconceptions persist. Because Christianity teaches that the soul departs the body at the time of death, this issue plays a major role in shaping the Christian view of cryonics.

Science, particularly neurology, has shown that man is an informational being. Memory and personality, and therefore identity, are contained in the brain. They do not depart the body at the cessation of respiration, nor at the cessation of circulation, nor at the cessation of brain activity. This has been demonstrated repeatedly by patients on the operating table and drowning victims in frozen lakes, all legally dead, who have recovered with complete retention of memory, personality, identity, *et cetera*. Until identity-critical structure in the brain breaks down, any pronouncement of death is purely arbitrary.

"It is this knowledge—that anyone who retains identity-critical brain structure is not dead—that gives cryonicists the hope that they will succeed." It is also this knowledge that must put to rest the first major Christian objection: the belief that cryonicists hope to "raise the dead." Suspension patients cannot be defined as "dead" if the term is to retain any of its meaning. While these patients are certainly damaged, they are not dead. They are patients awaiting treatment, but they are not dead in that they are not *irretrievable*. Cryonics is a legitimate attempt by rational men to carry today's "terminal" patients to tomorrow's life-saving technology. Radical medicine, yes. Occultism and witchcraft, no.

### The Sanctity of Life

Since cryonics should be classified with other life-saving medicine, a proper Christian view of medicine must now be established. If it can be proven that the advan-

cement of medicine is in accord with God's will, if God is concerned with improving and extending life on Earth, then it necessarily follows that cryonics is in accord with God's will. A popular Christian objection to cryonics maintains that God is not concerned with man's earthly physical condition, that He is only concerned with man's soul and spirit.

The Bible has much to say about human life. God created man in His own image. He breathed into man the "breath of life." Before man's fall, immortality was his natural state. After his fall, death came as part of the curse. It has been argued, by no less respected Christian thinkers than C.S. Lewis and Henry Morris, that death is not a normal part of life, but rather is an interference with the normal process of life. It seems that all death can be attributed either to disease or accident. Life, then, is the norm, not sickness and death.

Much of the Bible concerns itself with the relief of sickness and death. Most of the miracles attributed to the prophets, Christ, the early Christians, and Christians through the centuries have involved healing the sick and raising the dead. In fact, Christ commanded his disciples to "Heal the sick, cleanse the lepers, raise the dead..." (Matt. 10:8). Though Christians are to take no thought for the day, let the day care for itself, and seek first the kingdom of God, many of the tasks assigned to the Church nevertheless deal with relieving the temporary, earthly problems of men, that they might afterwards open their hearts to the truth of the Gospel.

The book of Job offers much insight into the significance of life on Earth. While in the deepest pit of human depravity and despair, Job still opted for life. His wife and friends (who represent worldly philosophies) pleaded with him to curse God and die. "Job opted to praise God and live, and *live* he did. God recompensed Job's faithfulness with many rewards, not the least of which was long life."

Job is by no means the only biblical example of faithfulness rewarded with longevity. God promised the children of Israel, "And ye shall serve the Lord your God... and I will take sickness away from the midst of thee."

A truly biblical perspective of the earthly experience must necessarily conclude that God is concerned with rectifying man's condition in soul, spirit, and body. The notion that God is not concerned with life on earth, specifically physical life, is not biblical. In this context, medicine, including cryonics, is not only approved by God, but commanded by God.

## Limbo?

After establishing that cryonics is life-extending medicine, and that such medicine is completely harmonious with God's plans for man, the next question usually approached involves the condition of the soul of one who is suspended. If the conclusion that suspension patients are not dead is accepted, then this question is easily answered. The soul of a suspension patient would be in the same condition as the soul of any man who is in a coma, unconscious, or simply asleep.

Unfortunately, many Christians still view suspension patients as dead. But even this is no obstacle to cryonics in view of the explicit biblical teaching on death and the fate, both temporal and eternal, of the soul. There is much confusion among Christians today over this topic, so it is important to go directly to the Bible itself for enlightenment.

Christ's parable of the wheat and the tares (Matt 13:29,30,37-43) is especially revealing. After the householder had sown the wheat, his servant reported that tares [weedy grasses] had started growing with the grain. The servant asked, "Wilt thou then that we go and gather them up?" The master replied, "Nay, lest while ye gather up the tares, ye root up also the wheat with them. Let them both grow together until the time of the harvest, and in the time of the harvest I will say to the reapers, gather ye together first the tares, and bind them in bundles and burn them, but gather the wheat in my barn."

The beauty of this parable is that Christ explains it for us. "He that soweth the good seed is the Son of Man; The field is the world; the good seed are the children of the kingdom; but the tares are the children of the wicked one; The enemy that sowed them is the devil; the harvest is the end of the world; and the reapers are the angels. As therefore the tares are gathered and burned in the fire; so shall it be at the end of the world. The Son of man shall send forth his angels, and they shall gather out of his kingdom all things that offend, and them which do iniquity; And shall cast them into a furnace of fire: there shall be wailing and gnashing of teeth."

When shall the tares be gathered and the wheat harvested? Not until the end of the world!

When we add to this parable Christ's words in John 5:28,29, the doctrine becomes clear. "Marvel not at this: for the hour is coming in which all that are in the graves shall hear his voice, and shall come forth; they that have done good, unto the resurrection of life; and they that have done evil, unto the resurrection of damnation." Jesus taught that both the good and the bad would

come from their graves to receive either life or damnation.

Additionally, Peter claimed, "The Lord knoweth how to deliver the godly out of temptations, and to reserve the unjust unto the day of punishment," (2 Pet. 2:9) providing us with the key word in this issue: *reserved*. It is clear that the souls of the dead go nowhere until the end of the world, and that it is God himself who has them reserved.

The exact state of the soul from the time of death until the end of the world can be ascertained through applying a bit of science to the teachings of Paul in 2 Corinthians 5. Paul taught that to be absent from the body is to be present with the Father, and vice-versa. In light of the above biblical passages, it must then be assumed that the individual soul experiences no time between death and the judgment. The body exists in time and space, but the soul does not. To the soul, there is no time lapse after death, and therefore no limbo to endure.

Whether suspension patients are believed to be fully dead, or simply in a sleeping state, the fate of the soul is not an obstacle to cryonics.

## The Christian's Purpose

Finally, since cryonics does not violate biblical principle, and because it actually fulfills part of God's purposes on Earth, the discerning Christian must now pose the all important question: Is life extension something Christians should actively pursue? The Apostle Paul wrestled with a question similar in principle to this one, revealing the Christian's entire purpose for earthly existence in the process.

In his letter to the Philippians, Paul compares the desire to die and go to heaven with the need to stay on Earth. No Christian would argue that heaven is not a completely moral goal for every believer, but Paul reveals, in plain language, why heaven is an end that can wait. "For me to live is Christ, and to die is gain... For I am in a strait betwixt two, having a desire to depart, and to be with Christ; which is far better: Nevertheless to abide in the flesh is more needful for *you*. And having this confidence, I know that I shall abide and continue with you all for the *furtherance and joy of faith*." (Phil.1:21,23,24) (Emphasis mine.)

Herein lies the purpose of the Christian life: ministry to others. Were personal salvation the end of God's plans for the individual, no Christian would need to remain on Earth after salvation. God would just take each new Christian into heaven the way He did Enoch and Elijah. But God has more, much more, in His plans for each Christian.



Though the believer may want to go to heaven as soon as possible, and rightfully so, it is more needful for others that he stay on Earth.

As was first suggested by John Warwick Montgomery in 1968, the Apostle's words in Phillipians 1:24 "should become the *sedes doctrinae* for orthodox Christian cryonics." They provide more than enough reason for the Christian to desire cryonic suspension.

It is appropriate to conclude with a quote from the Reverend Kay Glaesner, pastor of St. John's Evangelical Lutheran Church.

"Christianity and the church have always been interested in the extension of human life... that he (man/woman) might be

more fruitful in bearing God's witness and doing God's work.

"We have in our hospitals at this very moment electronic stimulators, inhalation techniques, blood transfusions, and many other mechanical medications. These represent only a few of the prosthetics which are used and fostered by our medical sciences and approved by the Christian church... It follows, therefore, that cryogenic [suspension] can certainly be approved and substantiated by the Christian church provided that the same criteria (proper scientific and legal safeguards) are used.

"I am all in favor of extending life. Day by day I pray that God will direct us how to use the techniques, medical sciences, healing, and miracles since he is the Physician of

all physicians... life could be extended a year, one hundred years, or a thousand years, but there is still no doubt in the minds of thinking people that such... is but a small span in the totality of God's plan. No art or craft of man will evade or nullify the judgment of God. We shall resurrect whether in body, in the grave, or in the frozen casket...

"...the church of Christ does not retard science... In this world of ours there are greater things, greater potentials about 90 percent of which we are still in the dark. When we discover new planets in orbit, or new dimensions in the galaxies, or new prosthetics for assisting or extending life, this only proves to us how wonderful, great, unsearchable and inscrutable is the mind of the almighty God."

## Eat or Live

*Max More*

Many cryonicists will have heard of Dr. Roy Walford and his High/Low Diet, also referred to as "undernutrition without malnutrition." The High/Low (high nutrition, low calorie) Diet is the most effective known means of extending both the mean and the genetically determined maximum lifespan (with the possible exception of the drug Deprenyl). The Diet has produced mild to dramatic lifespan extensions in all species tested, including fish, spiders, rats, mice, and protozoa. The program is currently being tested on Rhesus monkeys at the National Institute of Aging. At the three year mark, rumors suggest that it's working on our close genetic relatives.

Many life extension measures can be supported with apparently impressive figures. Too often these show only increases in mean or average lifespan, and then only in short-lived strains of animal (such as laboratory mice bred to be particularly susceptible to cancer). The High/Low Diet, by contrast, definitely extends maximum lifespan, and does so even in genetically long-lived strains.

The most effective results are acquired by starting caloric restriction in childhood. 60-70% increases in lifespan can be obtained this way. Less dramatic but still impressive results appear when restriction is begun in adulthood. Beginning the program in early adulthood could give you 120 years of vigorous life. This might be an addition of 10-20 years if you are in the fortunate group of people whose

genes will keep them going for longer than average. The gain will be even better proportionally for those of us who are short-lived strains.

### Why Do It?

Why should cryonicists consider going on an arduous program like this? After all, we're going to be frozen and reactivated in a nano-engineered young body anyway, aren't we? Perhaps. On the other hand, cryonics may not work. Or the organization might go bankrupt. Or cryonics may be made illegal. Or deathist fanatics may destroy the storage facility. Need I go on?

Here are more reasons, even if cryonics works and nothing goes wrong:

(1) Most of us would prefer to be conscious and living as much of the time as possible. Time spent in biostasis is experience missed. The further behind you are when revived the more adjustment will be necessary.

(2) Cryonic suspension itself, or else the particular conditions of your own suspension, may cause some loss of personal identity and integrity. If you can stick around until aging is abolished, this risk will be unnecessary.

(3) The longer you stay alive the better the suspension protocol available. We don't know how long it will be until perfected suspended animation might be

available.

(4) The Diet provides benefits while alive, such as improved health and maintenance of intelligence into advanced years.

### How It's Done

The object of the Diet is to progressively and slowly reduce your caloric intake (over 4-6 years) until a certain level is reached, while maintaining a very high level of nutrition. Animals' lifespans have been extended an increasing amount as the level of calories was reduced by 50-60%. Any lower than that and the animals gradually starve to death. More usually, experiments involve a 30-50% reduction below the starting level of calories (which is the level at which the animal neither gains nor loses weight). My normal maintenance level of calories is around 3000/day. Therefore, my final calories goal might be as low as 1500-1800. Walford suggests forgetting about calories and going by body weight. A reasonably lean person might expect to eventually lose 10% of his or her weight, while others would need to lose 25%. For example, I started off at around 168 lbs, with approximately 9.8% body fat. I do not expect, if I stick with it, to drop below 144 lbs. Studies have shown that if muscular exercise is continued, no more than 5% of the weight lost will be lean tissue.

Though you are taking in fewer calories, it is essential to keep absorbing all the required nutrients. Almost no one eats a diet that meets all the nutritional requirements. Considerable benefit could be derived from going on Walford's diet without reducing caloric intake. It is, given

the current state of knowledge, the most nearly perfect diet possible.

Fat intake should be reduced to 10-15% (as compared to 40-45% in the average diet). Fiber intake is much above the norm, and vitamin and mineral intake meets all the minimum requirements. The level of calorie restriction is a matter of choice, so long as it doesn't lead to starvation. Rather than eating less every day, it is just as effective to fast once or twice a week and eat more on the other days.

Unless you always have pre-planned meals for a day, you will need to do a lot of adding up of nutrient table figures in order to see if you are meeting the targets. This is made very much easier, even enjoyable, by the Diet Planner computer software. This has a database of just about every healthy food (and you can add others), and it instantly calculates your totals and how close to your day's goal you are. All you need to tell it is how much and what you're eating. (The Diet Planner is available for \$99—LEF members, \$89—from: The Life Extension Foundation, PO Box 229120, Hollywood, FL 33022-9120.)

## Health Effects

The benefits of undernutrition without malnutrition are much broader than just more years of life. As Walford says: "All forms of chronic disease and 'diseases of aging' are (in most cases dramatically) postponed in time of onset and decreased in overall frequency." (p.61). Cancer is much less common in calorie-restricted animals. Diseases of the heart, blood, and kidneys are markedly decreased in restricted animals. Blood pressure is lowered, artery-thickening is reduced, the immune system is rejuvenated and better maintained, and bone-loss prevented.

As measured by biomarkers, aging is slowed down on the Diet. Age pigment (lipofuscin) accumulation is slowed, and the cross-linking of collagen is reduced. The body retains its insulin-regulation longer, lipid peroxidation is reduced, and DNA repair capacity is maintained. Blood cholesterol figures stay low and the HDL/LDL ratio is held at a healthier level. The Diet also protects your brain from some of the aging process. The loss of dopamine receptors is diminished greatly. Other brain activity and structure is preserved, and old restricted rats remember as well as young mice.

## Is It Worth It?

Despite all of the health benefits and other cryonics-related benefits, is it worth it? It looks like a lot of trouble, with too many self-destructive but sometimes enjoyable habits to give up. Yes, it is an effort. But so is all life and growth and improvement. Nevertheless, we should strive to better ourselves, to progressively transform ourselves into higher forms. What's the point of being immortal otherwise?

It's easy to overestimate the difficulty of this dietary regimen. I no longer miss many of the foods I used to lust for. Rather than snacking on M&Ms, now I enjoy a Dannon Light Yogurt or some cereal. New habits gradually educate your tastes. To me now, whole milk is revoltingly greasy and pork unthinkable. I am amazed at my new appreciation of fruit, vegetables, and cereals. Once you get used to the measures of your food and learn which foods to eat for each nutrient, you'll find that the Diet has become part of your life.

The discipline of the diet soon pays off in increased energy and decreased need for sleep, as well as fewer health problems. You will be alert and will stay ahead of the norm as you get older. It's true that some way of producing the same effects with (for example:) a drug may be found, without your having to control your diet. But no one knows how long that will be. Year by year, doing nothing, your chances of making it to the post-death future are diminishing.

Nietzsche once exclaimed: "That which does not kill me only makes me stronger." Those of you who wish to be strong and efficacious may listen to Nietzsche and take charge of your eating. Dietary restriction is an effective and intelligent way to exercise your strength of will and self-control. As you become increasingly restricted and successful in following the diet you will experience a definite enhancement of your self-esteem and strength.

Some life extensionists may prefer to follow a different strategy. Many people are taking large amounts of numerous antioxidants. This is not the place to discuss this strategy. Prudence, based on a recent and preliminary study by Steve Harris (and others) at UCLA, suggests that either dietary restriction or antioxidant supplementation (other than in standard amounts) must be chosen. The UCLA study showed that mice fed the antioxidants Ethoxyquin and 2-mercapto-

ethylamine and dietarily restricted did less well than those mice either restricted or supplemented, but not both. The problem was mostly hepatoma and hepatocellular damage. There are still questions to be answered. It is possible, though not very likely, that the problem was the specific antioxidants used. Further, it might someday be possible to prevent the hepatic problems. As I measure the evidence, antioxidant supplementation is easier (though more expensive) than dietary restriction, but the latter is clearly the superior strategy.

## How does it work?

Reading Weindruch and Walford's technical book, *The Retardation of Aging and Disease by Dietary Restriction*, reveals a large collection of theories of aging and suggestions for how they explain the effects of dietary restriction. The problem with most of them is that they seem to explain some of the effects (increased DNA repair, greater metabolic efficiency, reduced peroxidation, etc.), but they don't account for the broad range of anti-aging effects.

Only two mechanisms offer reasonable explanations of the effects. One of these is a hormonal influence (see *Prolongevity II*, by Albert Rosenfeld). Walford currently favors an adaptation hypothesis. According to this, caloric restriction is an evolutionary adaptation that enables animals to survive times of scarce food. Instead of using energy on reproduction, growth, and cell division, the body focuses on maintenance and repair of tissues. In his recent *LONGEVITY* interview, Walford suggests that this mechanism may work through the trans-acting factors—proteins that bind to DNA and enable normally independent genes to work together.

However it works, it *does* work, and is highly recommended to immortalists and cryonicists. The book to buy is *The 120-Year Diet: How to Double Your Vital Years*, by Roy L. Walford (Pocket Books, 1986, \$4.95 in paperback.) For detailed technical examination, see R. Weindruch's and R. Walford's, *The Retardation of Aging and Disease by Dietary Restriction*. Also see *LONGEVITY*, October, 1990.

The choice is yours: be a sedentary immortalist, content to talk about life extension without practicing it, or take charge and restrict your diet.

## Advertisements And Personals

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MARY NAPLES, CLU and BOB GILMORE - CRYONICS INSURANCE SPECIALISTS. New York Life Insurance Company; 4600 Bohannon Drive, Suite 100; Menlo Park, CA 94025. (800) 621-6677.

## Meeting Schedules

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

The **SUN, JAN 6** meeting will be at the home of:

Russell Cheney  
5618 Ruby Place, Torrance, CA

Directions: Get off the Harbor Freeway (110) at Carson, going east, and go all the way to the end of Carson, in Torrance. Go north on Howard about 1/4 block and turn right onto Ruby place. There is a bear in the front yard.

The **SUN, FEB 3** meeting will be at the home of:

Bill and Maggie Seidel  
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.

The *Alcor Cryonics Supper Club (Southern California)* is an informal dinner get-together in the Greater Los Angeles area. These meetings are for newcomers and old-timers alike - just an opportunity to get together and talk over what's happening in cryonics - and the world!

If you've wanted an opportunity to ask lots of questions about cryonics, or if you just want a chance to spend some time with some interesting and nice people, pick a date and come! All dinners are scheduled for Sundays at 6:00 P.M.

**SUNDAY, 16 DECEMBER**  
*Souplantation*  
Corona Hills Plaza  
370 McKinley, Corona, CA  
Tel: (714) 278-2540

Directions: Go to Corona on the 91 Freeway. McKinley is the first exit east of the 91-15 interchange. Exit north on McKinley and go about 200 yards to the entrance to the Corona Hills Plaza. Turn left and go about 200 yards to the *Souplantation*, on the right.

There is an Alcor chapter in the **San Francisco Bay area**. Its members are aggressively pursuing an improved rescue and suspension capability in that area. Meetings are generally held on the second Sunday of the month, at 4 PM. Meeting locations can be obtained by calling the chapter's Secretary, Carol Shaw, at (408) 730-5224.

The **SUN, DEC 9** meeting will be held at the home of:

Ralph Merkle and Carol Shaw  
1134 Pimento Ave., Sunnyvale, CA

Directions: Take US 85 through Sunnyvale and exit going East on Fremont to Mary. Go left on Mary to Ticonderoga. Go right on Ticonderoga to Pimento. Turn left on Pimento to 1134 Pimento Ave.

The **SUN, JAN 13** meeting will be held at the home of:

Ralph Merkle and Carol Shaw  
1134 Pimento Ave., Sunnyvale, CA

Directions: Take US 85 through Sunnyvale and exit going East on Fremont to Mary. Go left on Mary to Ticonderoga. Go right on Ticonderoga to Pimento. Turn left on Pimento to 1134 Pimento Ave.

There two Alcor discussion groups in the **Greater New York area**. Details may be obtained by calling either Gerard Arthur, at (516) 474-2949, or Curtis Henderson, at (516) 589-4256

The *New York Cryonics Discussion Group of Alcor* meets on the the third Saturday of each month at 6:30 PM, at 72nd Street Studios. The address is 131 West 72nd Street (New York), between Columbus and Broadway. Ask for the Alcor group. Subway stop: 72nd Street, on the 1, 2, or 3 trains.

Meeting dates:  
**December 16, January 19, February 16, March 16**

The *Long Island Cryonics Discussion Group of Alcor* meets on the first Saturday of every month, at the home of Gerry Arthur. The address is: 10 Jefferson Blvd.; Port Jefferson Station, L.I., telephone (516) 474-2949.

Meeting dates:  
**January 5, February 2, March 2, April 6**

There is a cryonics discussion group in the **Boston area**. Information may be obtained by contacting Eric Klien at (508) 663-5480 (work) or (508) 250-0820 (home). Tentative meeting date is December 30.

ALCOR LIFE EXTENSION FOUNDATION  
12327 Doherty Street  
Riverside, CA 92503

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**For information on cryonics call Alcor toll-free 1(800) 367-2228**