

Cryonics

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Cryonics

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Cover:

Judge Aurelio Muñoz

New Format, Old Cases, Recurring Celebrations, and—Money

Mike Darwin

New Format

You've certainly noticed, over the past couple of months, that *Cryonics* magazine has a brand-new look. Our larger format and more professional appearance are just the first of what we anticipate will be many changes improving both the style and the content of the magazine.

We have wanted to make these changes for several years, but time and skills limitations of the editorial and production staff conspired to make it impossible. Then, almost simultaneously, two new developments occurred which changed everything. Two long-time members, Eric Geislinger and Jane Talisman, offered to take over layout and printing of the magazine and Ralph Whelan, a young man fresh from the military with editorial aspirations, joined the Alcor staff. The result is *Cryonics* in its current form.

The dramatic improvement in production values and the use of a desktop publishing format is the work of Eric and Jane. Many of our readers will know them from one of their other publishing activities: *Claustrophobia*. What you may not know is that Eric and Jane are also involved in publishing several other magazines; one of them a professional, four-color glossy dealing with art. Thus, they are fully qualified to handle the job of production editors for *Cryonics*.

The new line-up for editorial staff is as follows:

Managing Editor: Ralph Whelan

Editor: Hugh Hixon

Contributing Editor: Mike Darwin

Production Editors: Eric Geislinger and Jane Talisman

This month brings even more changes to the pages of *Cryonics*. Due to Ralph Whelan's efforts the internal structure of the magazine will alter to include more-or-less regular columns on future technology and culture, philosophy, cryonics/immortalist history, and life extension/general health.

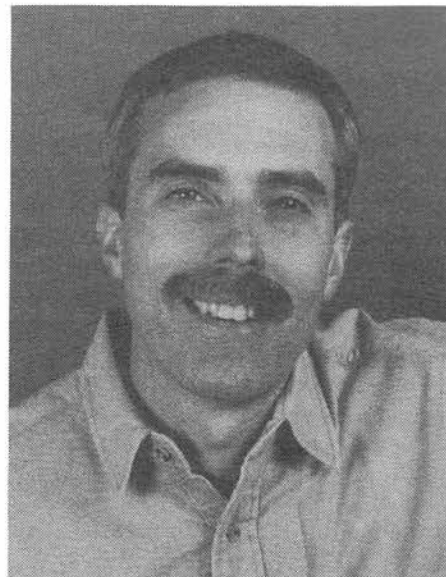
One of the nicest things about these changes is that they have resulted in only a modest increase in production costs; about 10% to 15%. We hope to improve our production efficiencies in the near future, effectively returning our costs to what they were in producing *Cryonics* in the old-style format.

Now, if we can just get caught up and back to our regular production schedule....

Donaldson's Chances

Everywhere I go, I hear the same question: "What do you think Thomas Donaldson's chances are of winning his case?" That's been a hard question to answer and it still is. But the odds may have gotten a little better due to a recent case in Nevada which is very similar to Thomas' from a legal standpoint. It definitely bears reviewing here:

Kenneth Bergstedt was a quadriplegic, paralyzed since 1969 in a swimming accident he suffered at the age of 10. Bergstedt was respirator-dependent since that time and was cared for by his father, Robert Bergstedt. In June of this year, Kenneth petitioned Nevada District Court for permission to be anesthetized and removed from



the respirator. In papers filed by Kenneth in support of his request he noted that his life was "devoid of fulfillment" and that he spent most of his time strapped to a gurney and hooked to a respirator, able only to watch television or work with a specially equipped computer.

District Court Judge Donald Mosely granted Kenneth Bergstedt's request to die and further ruled that anyone who assisted him would not be guilty of any criminal wrongdoing. Mosely also asked that Kenneth and his father (who was to carry out Kenneth's wishes) delay any action until the case was heard by the Nevada Supreme Court. On 5 October, Kenneth's father administered a dose of Seconal and Valium and then unhooked Kenneth from the respirator when he lost consciousness, ending his life.

Kenneth's father reportedly told the *Las Vegas Sun* that Kenneth was no longer able to wait until the Supreme Court could render a decision on the matter. The elder Bergstedt is also dying, having been diagnosed a month ago with terminal cancer, and this may have been a factor in not waiting out the high court's ruling, although no specific mention has been made of this in the media accounts published so far.

This case is a little different from Thomas' in that Bergstedt required "treatment" in the form of a respirator

to maintain his life. The question now becomes, for how long will the legal and moral fiction of a difference between anesthetizing a "healthy" (i.e., non-terminal) person and unhooking his/her respirator (effectively suffocating them) upon request and anesthetizing and freezing a terminal patient who faces destruction of his brain, go on?

On one level it can be argued that Bergstedt's and Donaldson's cases are not in any way equivalent. Bergstedt was NOT terminally ill and wanted to die; Thomas IS terminally ill and wants to live. But on another, deeper level they ARE moral equivalents: Both men want the right to control their bodies and their lives, the right to determine for themselves without the interference of the state when and how to live or die.

Kenneth Bergstedt was granted permission to end his life. As repugnant as that may be to some of us cryonicists, it may go some measure of the way to giving the California courts the courage to honor Thomas' request to *continue* his.

Once A Year We Have A Celebration! And You're Invited!

Somewhere out there, a turkey has arrangements with Alcor. They are NOT suspension arrangements. It's time for the annual Alcor Turkey Roast and get-together. The date will be the first Sunday in December, the normal day for an Alcor business meeting. FORGET BUSINESS. The Turkey Roast is a time for serious socializing. Topics will be *anything you can get through the door!* See old faces! See new faces! Meet people who are seriously planning to live forever. Mark the weekend on your calendar with indelible ink and swear on your Alcor Emergency ID tag to come. No tag? Come anyway. You may come away convinced you can't do without one. Remember, Alcor is its members. If you think this is going to be a memorable Turkey Roast, you're going to have to come and see for

yourself!

The format will be as it has always been; POTLUCK. Bring a covered dish, a pie, a cake, a round of sodas. We have our two usual Turkey Roast Coordinators, so if you want some helpful advice on what to bring, please contact Marce Johnson at (714) 962-7898 or Maureen Genteman at (213) 398-3464.

The celebration will start at 1:00 P.M. on Sunday, December 2nd at the home of Saul Kent and Jo Ann Martin. Directions for reaching Saul and Jo Ann's are given below. It's a little hard to find, so if you get lost feel free to give us a call at (714) 780-3366.

All of us at Alcor hope you will come. We look forward to some "unstructured time" to just sit and talk and share the events of the past year. The food is always great and the conversation seems likely to be better than ever.

Directions:

Saul Kent and Jo Ann Martin
16280 Whispering Spur
Riverside, California
Telephone: (714) 780-3252

Take the Riverside Freeway (Hwy 91) east to Riverside and get off going South (right) on Van Buren. Whispering Spur is south of the Freeway four miles, and 1.0 miles beyond Mockingbird Canyon Road, on the left. 16280 is the second house on the right, at the end of the white fence.

If you haven't seen the Alcor facility, it is close enough that we will probably be conducting a trip or two.

We look forward to seeing you on December 2nd. Please come!

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 Mondragón 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 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 taxman's bill. Won't you consider giving your dollars to us instead of the taxman?

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.

Alcor Treasurer Dave Pizer and Alcor bookkeeper Joe Hovey have a modest request of *everyone* who writes checks or money orders to Alcor:

Please write a clear memo on the face of the check or money order identifying its purpose.

This is vitally important for two reasons: First, it allows us to serve you better. If we don't know the purpose of your remittance, we have to *guess*. That's not likely to make you very happy if we guess wrong. Second, I have watched Dave and Joe struggle, often for hours, trying to figure out what checks or money orders were sent for. This is a waste of valuable time and money for all concerned (and it's your money being wasted in the bargain since you pay our wages!). So please, remember to write on the check what the remittance is for, and of course, *please* don't send cash!

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.

New Brochure

A slick new color brochure has been produced by Alcor entitled "Why Cryonics Can Work." The brochure, the effort of Saul Kent (in both content and financing) is a high production, four-color, glossy paper tri-fold aimed at arguing the scientific case for *biopreservation* and *bio-repair* in an accessible, easy-to-understand way.

"Why Cryonics Can Work" starts out by providing some expert opinion on the chances that cryonics can work, and then goes on to briefly summarize the available scientific evidence that

current suspension techniques are preserving brain structure well enough to allow for repair in the future. The idea of a structure-based versus a function-based set of criteria for patient viability is also discussed, along with the implications of this "shift in paradigms" in terms of prospects for repairing suspension patients and restoring them to life and health.

Over 10,000 copies of this brochure were produced and before long each of you reading this article will have the chance to evaluate the brochure for yourself; a copy is being mailed to all current Associate and

Suspension Members as well as to prospects who have contacted us in the past.

We want to see wide distribution of this brochure and plan to include it in future information packages. We are also providing copies of the brochure to members who want them for \$6.40 per 20 copies.

All in all, the brochure fills an important gap in our promotional literature which has needed filling for many years. Kudos to Saul Kent for his fine efforts and financial support of this project.

A Stunning Legal Victory For Alcor

Carlos Mondragón

On Tuesday, October 2nd, California Superior Court Judge Aurelio Muñoz decided that the Health Department *must* certify death certificates and issue disposition permits for cryonic suspension patients. His ruling affirmed the validity of all eight issues that we had raised in support of our rights. The ruling by Judge Muñoz upheld the constitutional right to be cryonically suspended, the right of Alcor to contract with its members for cryonic suspension, and the ap-

plicability of the Uniform Anatomical Gift Act to cryonics.

For more than two years we have been occasionally reporting on the legal case we brought against the California Department of Health Services, Office of the Registrar of Vital Statistics. The suit was originally known as "Roe v. Mitchell"; and now "Alcor, Merkle & Henson v. Mitchell." This litigation has cost Alcor over \$100,000 in legal fees and countless hours of work by our staff. Alcor ac-

tivist Saul Kent also spent tremendous effort helping to direct and promote this lawsuit. Was it worth it? Absolutely!

The History

The local county health department registrars are responsible for registering births and deaths in their jurisdictions, thus making it possible for the State Health Department to maintain statistics on birth rates, causes of death, life expectancy, etc. Their records concerning death involve two forms: the *Death Certificate* and the *Permit for Disposition of Human Remains (Form VS-9)*. Death certificates are generated and signed by the attending physician or pathologist who names the cause of death. Before the county registrar will certify the death certifi-

Alcor freezes body without county OK

By DON BABWIN
The Press-Enterprise

The Riverside cryonics laboratory under investigation in the death of an 83-year-old woman whose head was surgically removed and frozen last December froze another body May 8 — over the objections of county health officials who refused to issue a permit to store the body.

"It looks pretty convincing that they broke the law," David Mitchell, the chief of the Office of State Registrar, whose office advised the county health department not to issue the permit.

Alcor president Carlos Mondragon defended the cryonic suspension of an elderly man who died of heart disease in Florida and was flown to California. "Just because something is not permitted doesn't mean it is forbidden."

"From what our attorneys tell us, we've discharged all of our legal obligations," said Mondragon.

Mondragon said the firm went to the health department and was denied the permit because there is "no box for cryonics" on the forms that the county requires be filled out.

Mitchell said if the cryonics people want to change the law about disposing and storing remains they should be working in that direction. But, he said, "The bottom line is state law doesn't authorize cryonic suspension."

Virginia Whitney, of the health department's vital statistics section, said the laboratory was not licensed to receive and dispose of remains. "If they have a body there in (cryonic) suspension they are in violation of the (state's) health and safety code," she said.

Supervising Deputy Coroner

Dan Cupido said it was the coroner's contention at the time of the investigation into Dora Kent's death "and it is still our contention that they're violating the law" by keeping the frozen remains at the facility.

Alcor has been under investigation since December when the coroner's office learned of Kent's death. The coroner's office has classified the death as a homicide, saying the woman was killed by a lethal dose of barbiturates.

The case has been turned over to the Riverside Police Department for investigation.

broke the law.... The bottom line is state law doesn't authorize cryonic suspension"), David Mitchell's edicts should be taken very seriously by any hospital administrator who wants to protect the interests of his institution.

At a minimum, Alcor needs non-interference from hospitals when they are caring for a terminally ill suspension member.

cate, they require a completed VS-9 form stating the disposition of the body. That form contains four options: burial, cremation, cremation and disposition other than a cemetery, or scientific use. In instances of cryonic neurosuspension, we have been checking off "cremation."

In May of 1988 we suspended a long-term Alcor member named "Bob." Bob was the first suspension patient after Dora Kent. He was also the first whole body patient suspended by Alcor. Two months earlier, ACS/Trans Time had suspended its first whole body patient since 1980. We knew that in the past, whole body patients had been classified as "scientific use" on the VS-9. Much to our surprise, Riverside County Registrar Virginia Whitney refused to issue a VS-9 for Bob. Had his death certificate not been recorded in another state, she would have refused to do that too. Trans Time had had a delay in getting a death certificate for their own patient, but when they did, they too were denied a VS-9.

Why was this happening? According to Ms. Whitney, she was following the instructions in her "Registrar's Manual," written and issued by the State Health Department in Sacramento. This manual specifically states that cryonic suspension is not a recognized form of disposition and therefore unlawful.

I made a few phone calls, working my way up the bureaucratic chain of command to David Mitchell, Chief Registrar in Sacramento. Mr. Mitchell told me that there was no law permitting cryonic suspension, therefore it was illegal and therefore we couldn't get his form VS-9 and therefore Alcor was operating illegally. I offered to meet with Mr. Mitchell and his staff in order to devise an appropriate remedy

to the situation. He told me to go to the legislature. Had the matter ended there, perhaps we could have lived without the precious form VS-9. After all, do we care if the state's statistics are accurate? (Not me, at least not to the tune of \$100K.)

Of course, the matter didn't end there. On May 21st, 1988 there was a story in the local paper which reported that Alcor had done another suspension. (Remember that at this point we were still suspected of murder and grand theft; Coroner Carrillo's string of self-destruct programs would not be obvious for at least five more months.) The headline read, "Alcor freezes body without County OK." David Mitchell, Virginia Whitney, and Supervising Deputy Coroner Dan Cupido were all quoted saying that Alcor was breaking the law by having bodies in suspension without permits.

Did this justify undertaking a \$100K battle? Who cares about the public rantings of bonehead bureaucrats (sticks & stones...)? Unfortunately, these particular boneheads are officials in the same Health Department that regulates hospitals. In spite of his Stalinist views on civics ("It looks pretty convincing that they

We feared that no hospital in the state would release a patient to us, let alone allow us onto their premises. Why would any hospital risk running afoul of the Health Department, sticking its neck out for a patient they'd already written off?

It so happened that it had been 18 months since Dick Jones had been diagnosed with AIDS. Dick understood our concerns. He made inquiries. He was told that only a licensed mortician would be allowed to remove him from Sherman Oaks Community



Dick Jones

Hospital. They wouldn't be particularly hasty about it either. Dick wanted the best transport that Alcor is capable of, but he wasn't going to get it unless this problem could be resolved.

Getting legislation in a big state like California takes a lot of time and costs a whole lot of money (we have the best legislature money can buy). Moving to another state was impractical as well as expensive and not guaranteed to solve our problems. Litigation was really the only way to go. The issue seemed fairly straightforward: We live in an ostensibly free country. An activity which has not been specifically outlawed by means of legal "due process" is permitted. Conversely, because an activity has not been recognized, mentioned in law, regulated, or otherwise sanctioned by the state, it is not automatically unlawful—quite the reverse. Communicating these concepts to Mr. Mitchell via the judicial system seemed an easily attainable goal. (It really could have been quick; read on to find why it wasn't.)

After numerous conferences between myself, Saul Kent, attorney David Epstein, Dick, Dick's less-than-enthusiastic partner Jenna McMahon, and his now infamous entertainment lawyer Barrett McInerney, Dick decided to file a lawsuit, and paid the first \$25K legal retainer fee. Because he wanted to avoid personal publicity, the named plaintiff was "John Roe." On the advice of Chris Ashworth (who had been handling the Dora Kent matter), David B. Epstein, a new associate at Garfield, Tepper, & Ashworth was selected to handle the case. (David is now a named partner in the firm.)

On September 1st, 1988 the suit was filed in Los Angeles County Superior Court. Since plaintiff "Roe" was suffering from a terminal illness, the case was put on the "Fast-Track" program (theoretically to be resolved at the Superior Court level within 180 days—HA!). We were encouraged when the case was assigned to Judge Muñoz. A former public defender, Muñoz had a reputation as a civil libertarian.

The defendants, Dr. Kenneth Kizer (Director of the State Department of Health Services), David Mitchell, and the Health Department itself were represented by Deputy State Attorney

General Tammy Chung.

In the first week of October, 1988, Dick became seriously ill and was admitted to Sherman Oaks Community Hospital. In line with our continuing efforts to secure voluntary cooperation from the hospital, Mike Darwin gave a presentation to the hospital's bioethics committee on October 10th. Jerry Leaf, Saul Kent, David Epstein, and I were in attendance. The questions following the presentation were not encouraging. While the nursing and administrative members of the panel were anywhere from neutral to friendly, the physicians were uniformly hostile.

Before the presentation, we all went upstairs to see Dick. His condition had deteriorated dramatically since we had last seen him. He was semiconscious, completely unable to communicate, and suffering from elevated intracranial pressure due to the dramatic growth of parasitic lesions in his brain (toxoplasmosis). His physician, Dr. Scarscella, informed us that it was quite possible Dick wouldn't last the night.

My experience is that lawyers don't normally do anything in a hurry unless a real emergency exists. Seeing Dick in this state instantly motivated Epstein. He shifted into high gear. Five days later, the hospital had been added to the suit as a co-defendant and a temporary restraining order against it had been issued.

Before even hearing the oral arguments over this restraining order, Judge Muñoz said that in any conflict between the rights of a patient and the administrative requirements of the Health Department or the hospital, there was hardly a contest in his mind. The lawyer for the hospital had to avoid any bureaucratic arguments and instead find practical reasons against cooperating with Alcor. At one point, she actually said that our post-mortem procedures (particularly cardio-pulmonary support) might revive the patient after their doctor had pronounced him dead! While acknowledging that this might cause a hospital



Judge Muñoz

some embarrassment, Judge Muñoz didn't see this possibility as a "problem."

Meanwhile, Dick had survived the crisis. He was able to go home again, one last time. The language of the restraining order was worked out with the hospital so that they would agree to let it stand until Dick died. We were allowed to use the heart-lung resuscitator, but we couldn't administer any drugs while on their premises. Also, we had to engage the services of a local mortician, who would officially take charge of the body, though we would be allowed to stand by in the hospital. We felt this compromise was worthwhile since it eliminated any risk of having Muñoz' decision overturned.

When Dick was suspended in December of 1988, the lawsuit was also temporarily suspended. This was because of the dispute and litigation over the control of his estate. It would be up to his executor to decide if the suit could be continued in his name. Settling the estate took over six months. During this time, Epstein and Deputy AG Chung appeared before Judge Muñoz to explain the delays on three occasions. At one of these "status conferences," Epstein explained that one

of the problems regarding Dick's estate was that there was no certified death certificate. Ms. Chung (who is young and very inarticulate) helplessly tried to explain to the judge why her client wouldn't certify Dick's death certificate as he repeatedly interrupted her with the same question: "But he's dead, isn't he?"

The issue of Dick's status in this lawsuit was resolved in July, 1989. Included in the settlement that ended the dispute over Dick's estate was a clause to the effect that his estate would not participate further in the Health Department lawsuit. A new plaintiff had to be found.

We decided that Alcor, along with some suspension members would best serve as plaintiffs to continue the litigation. Epstein wanted people who were signed up themselves and who also had family signed up. It had been established in other cases that living persons have a right to choose the disposition of their human remains, and they have a right to make lawful contracts. Kinship establishes rights also. Unfortunately, legally dead persons have no rights.

Several Alcor members who fit the requirements Epstein had set volunteered. After he reviewed their personal profiles (provided by me) and interviewed some of them, he selected Keith Henson and Ralph Merkle to be the individually named plaintiffs. On October 24th, 1989 we filed a motion to amend the suit. It took nearly two months to overcome the objections made by the defendants (legal maxim:

when in doubt, stall).

In December, 1989 we began the discovery process. "Discovery" is the gathering of evidence in support of one's legal position. Epstein took the depositions of Dr. Kizer, Mr. Mitchell, and one of Mitchell's underlings. Later, these were supplemented with written interrogatories. Keith Henson, using the Freedom of Information Act, secured copies of the Health Department's files on cryonics. We found that the department had adopted its stand on cryonics after the Chatsworth debacle. We also found that Mitchell had sent letters to the Riverside District Attorney asking that Alcor be prosecuted for storing human remains. In one of those letters, he appointed himself judge and jury and said that we *were* guilty of a misdemeanor.

The case came down to four strong legal points in our favor:

- 1) Cryonic suspension is lawful and constitutionally protected.
- 2) The Health Department's position constituted "regulations." Since regulations must be adopted by a lawfully specified process (holding hearings, etc.) that was not followed, the Department was in violation of the law.
- 3) The Uniform Anatomical Gift Act is applicable to cryonics. The Health Department's assertion that cryonics did not constitute "scientific use" was arbitrary, capricious, and discriminatory.
- 4) Alcor and its members have constitutionally protected rights of contract and freedom of association.

During the spring of this year, the defendants waffled several times over the first of these issues. They would concede the legality of cryonics in written documents, only to go on asserting its unlawfulness in verbal communications. In the end, they took the position that cryonics is indeed legal, but Alcor's practice of it was not.

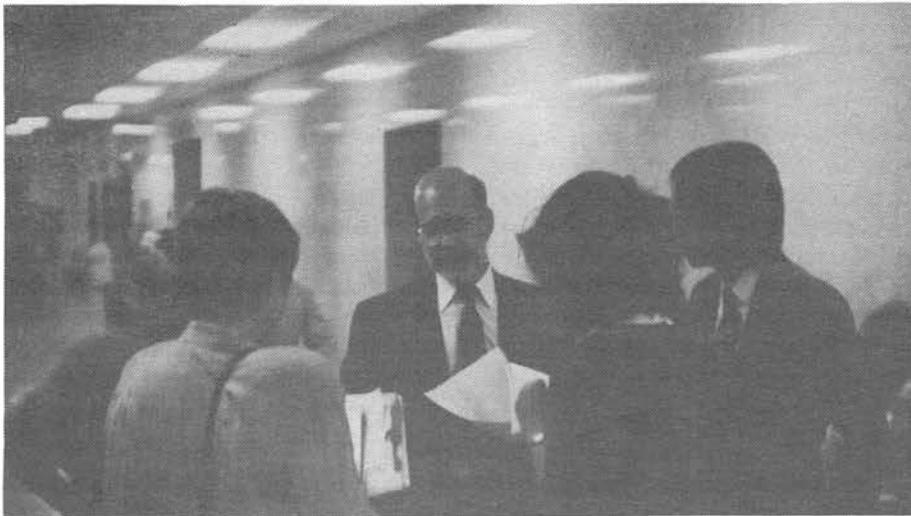
Their reasoning was that of the various entities that could be recipients of anatomical donations, Alcor could only fit that category named "procurement organizations." The legislature had defined eligible procurement organizations as those having been duly licensed as such by the Health Department. Since Alcor has no such license, they concluded, we were operating illegally.

So what might Alcor do to get such a license? Nothing. There is no such license. The Health Department never got around to creating it. An absolutely classic bureaucratic Catch-22: "You have a right to do what you're doing, but you need a license. Sorry, there isn't one."

A few conservative Southern California municipalities had done something similar in the late 60s and early 70s. People had a constitutional right to freedom of speech and assembly. But they had ordinances on the books saying that you had to have a "parade license" to demonstrate. The police departments didn't issue such licenses. The parallel was obvious. Epstein tried ever so hard to explain it to Deputy Attorney General Tammy Chung, but she just couldn't grasp the concept. Fortunately, one of the civil rights attorneys who helped have these kinds of ordinances overturned as unconstitutional was a young lawyer named Aurelio Muñoz.

After several more frustrating delays (all on the part of the defendants), Judge Muñoz ordered that final written motions be submitted by August 17th. He would hear oral arguments on August 23rd. Alas, it was the Judge's turn to delay. At the last minute he postponed the hearing to September 27th.

The majority of the people in the courtroom on Thursday the 27th were Alcor suspension members. The event was being covered by the Los Angeles *Times* and the Riverside *Press-Enterprise*. The Health Department was asking for summary judgment in their



David Epstein (center) and Carlos Mondragón (right) brief reporters after decision.

C 697 147
JOHN ROE AND ALCOR LIFE
EXTENSION FOUNDATION, INC.
VS
DAVID W. MITCHELL ET AL

MOTIONS FOR SUMMARY JUDGMENT AND/OR
SUMMARY ADJUDICATION OF ISSUES

Plaintiff's motion for summary adjudication is granted as to Issues 1 through 8. Plaintiff is ordered to prepare a judgment for the court's signature which directs defendants to desist from prohibiting the registration of death and issuance of death certificates for people who have directed that their bodies be placed in cryonic suspension. Additionally, the judgment is to provide that should defendants desire to regulate in this area, as the legislature probably intended, defendant may set up a licensing and registration system for organizations such as plaintiff who desire to qualify as procurement organizations, as that term is used in Health & Safety Code sections 7051.1 and 7153.

Defendants' motion for summary judgment is denied.

favor. We were asking for summary adjudication of eight issues in our favor. There was nothing new in the oral arguments. Yet the hearing ended in an anti-climax. Muñoz said he would render a decision on Tuesday, October 2nd, promptly at 8:30am.

The suspense ended a little early, when on the evening of Monday the 1st, I got a call from Epstein. He told me the judge's clerk had read him a "tentative ruling" over the phone. We were to win on all eight issues, the defendant's motion for summary judgment was denied, and we were to prepare a summary judgment and injunction in our own favor which the judge would sign.

In court the next morning, Tammy Chung tried frantically and in vain to change Muñoz' mind. But the minute order he signed was identical to his tentative ruling. The Health Department was ordered to refrain from NOT issuing VS-9's or certifying death certificates for Alcor's suspension patients. If they ever get around to setting up a licensing scheme for procurement organizations, it must be fair and reasonable. At last, TOTAL VICTORY! Epstein informed the court that we would be back soon, asking for our legal fees and sanctions against the Health Department for "frivolously defending the suit."

Outside the courtroom the newspaper reporters were joined by colleagues from a news radio station and TV Channel 9. David Epstein and I gave them interviews while Alcorians

fairly accurate. (We even got congratulated by the UPS deliveryman and our

Hugh Hixon and Dave Christiansen looked on. Summarizing all of the above for these people wasn't easy. We did get across the main message: We won, and we won big! On the way out, the TV people got a good shot of Dave's Venturist T-shirt, "WORLD CRYONICS TEAM—We Play For Keeps."

Over the next few days, we endured a flurry of media coverage. It was all positive and

postman.)

Because four of the eight issues decidedly nailed down our right to use the Uniform Anatomical Gift Act, our sign-up paperwork for new suspension members will soon be radically simplified. The decision also means that the zoning variance for our facility (pending for two years) can finally go forward.

As any cryonicist knows, it's not over 'til it's over. Tammy Chung filed objections to the wording of our judgment on October 19th. As we go to press, we await a hearing on October 25th when Muñoz will hear her arguments. Neither we nor our attorneys expect any changes to the result described above.

Once Judge Muñoz signs his judgment and injunction, I will be personally re-applying for new VS-9 forms and certified Death Certificates for each of our suspension patients.

Wednesday, October 3, 1990, Riverside Press Enterprise

Alcor allowed to get bodies

Cryonics firm wins suit over documents

By BARBARA METZLER
The Press-Enterprise

LOS ANGELES — A Riverside cryonics group won a crucial legal decision in Superior Court yesterday that allows the often controversial organization the right to acquire the bodies of its members for freezing and, it hopes, the chance to live again in a new age.

Alcor Life Extension Foundation in August 1988 sued the state Department of Health Services and Office of the State Registrar, which is responsible for issuing birth and death certificates, after state officials stopped issuing documents Alcor needed to claim and store the bodies of its members.

Yesterday's ruling by Judge Aurelio Muñoz is the most direct holding by a court that a person has the right to determine what happens to his or her body after death, Alcor attorney David Epstein said outside court. The judge granted all eight points of a motion made by Alcor to establish cryonic rights.

"It's a complete victory," said Carlos Mondragon, president of Alcor. "It's going to make our lives a whole lot easier."

Cryonics is an experimental procedure in which a body is frozen with liquid nitrogen to 320 degrees below zero. Adherents hope the bodies will be revived and live again in the future when medical technology is more advanced. Alcor, founded in 1972, has six bodies and 10 heads at its Riverside facility.

Alcor was joined in its suit by an ailing client, Emmy-winning television producer Dick Clair, also known as Richard C. Jones, who feared he would be prevented from being cryonically suspended when he died.

Clair, who worked on "The Carol Burnett Show," "It's a Living," and "Facts of Life," died of AIDS-related complications in December 1988. As expected, the state refused to issue the death certificate and disposition permit Alcor needed to take Clair's body, but Alcor won a court ruling allowing Clair to be frozen.

During the suit, the state had argued that Alcor was not eligible to store bodies under the Uniform Anatomical Gift Act. Under the law, organizations such as hospitals can be licensed to receive bodies, but licenses have not been issued to cryonics groups. State officials recommended that Alcor approach the state Legislature for a new law allowing cryonics organizations to store bodies. But Alcor argued successfully that the gift act allowed the firm to claim the bodies.

Munoz' decision orders the state to either issue the permits Alcor needs or create new regulations to provide licensing.

Deputy Attorney General Y. Tammy Chung said yesterday she does not know which path the state will choose. The state has not determined whether it will appeal the case, Chung said.

Yesterday's ruling is the fourth Alcor has won in its efforts to further its clients' rights to be cryonically suspended. The judgment should resolve a two-year-old dispute between Alcor and Riverside's Planning Department, which had refused to issue the group a conditional-use permit for its La Sierra warehouse as long as the legality of cryonics was questioned.

The judgment will allow the city to process Alcor's request for its permit, said Ken Gutierrez, princi-

pal planner with the city.

Alcor is most famous for its legal tangles with the Riverside County coroner's office in the death of Dora Kent, an 83-year-old woman whose head was removed for freezing at the facility in 1987. The coroner's office determined that Kent died of a lethal dose of barbiturates and sought homicide charges. Alcor officials said the drugs were administered after Kent's death to prepare her body for freezing.

No charges have been filed against Alcor, and the organization won a court victory prohibiting the coroner from disturbing remains at the facility.

Mondragon and five other Alcor associates have filed a \$1.6 million suit against the county coroner's office alleging they falsely were arrested in the 1987 coroner's raid on Alcor offices. The case has yet to go to trial.

The organization also grabbed headlines when it wrestled with Clair's relatives over his \$10 million estate. A last-minute change in the actor's will gave a good portion of the estate, which originally was to go largely to Alcor, to the relatives. Alcor challenged the new will and won an out-of-court settlement that amounted to about 90 percent of Clair's estate, Mondragon said.

In this most recent suit, Alcor plans to seek attorneys' costs of around \$100,000 and also will ask for sanctions against the state, Mondragon said.

The Health Services department had requested that Riverside County District Attorney Grover C. Trask II prosecute Alcor on a misdemeanor or offense of storing bodies without proper permits. But no charges were filed.

"Let's Hear it For C. Elegans!"

Hank Lederer



Do people buy the idea of future longevity?

Most people don't expect their children or grandchildren to live much longer lives than the current older generations will live. A few future-oriented people may expect their progeny to live a decade or two longer, but they expect much of the added lifespan will be due to prolonged rather than delayed old age. This is consistent with their perception of the nature of increased life expectancy since the turn of the century.

Because of this prevailing mind set, few people really believe that those born a hundred years from now will expect active lifespans measuring much over seventy or eighty years. Fewer still expect future lifespans of many hundreds of years. (It's interesting to note that most SF authors, when writing about the next millennium, project lifespans not much longer than today's.) Since most people don't subscribe to the basic reasoning underlying cryonics, how can we expect them to be interested in joining Alcor?

Introducing C. elegans.

C. elegans is a small worm about a millimeter long. Scientists know a lot about this little nematode. I believe that scientific knowledge about this animal is more complete than about any other in the world. Its nervous system circuits have been completely diagrammed, and researchers expect to decipher—not just map—its genome in the next decade. This is a good, basic animal on which to focus this type of basic research, since less than one thousand cells make up its entire body. Not impressed? Consider that its six chromosomes contain one hundred million letters of code. Human DNA is only thirty times longer.

Why should cryonicists cheer for this tiny worm? Thoma E. Johnson reports in the August 24, 1990 issue of *Science*, p. 908, that a mutation of a recessive nematode gene, *age-1*, results in generations with maximum lifespans averaging an increase of 110% over normal. This means that progeny with the mutant gene live over twice as long and without delayed maturity (they can reproduce when they're three days old, the same as their cousins) or other undesirable side effects. The only side effect mentioned in the report is an associated fourfold decrease in fertility, which might, if a species has an overpopulation problem, be desirable.

This increase in lifespan is an effect separate from that achieved by the low calorie, high nutrition diet regimen experiments. These worms eat the same diet as their control groups. Since C. elegans is a genuine, albeit relatively simple animal, insights about its DNA are applicable to other species, including humans.

The changing perceptions of future longevity.

Persons now alive are unlikely to benefit directly from a discovery of an anti-aging gene mutation for humans since it apparently must be part of an organism's genome at conception to confer its effects. But, cryonicists may benefit from the spreading realization, during the next decade, that science may soon find ways to significantly extend lifespans. Since the type of genetic mutation mentioned above delays the onset of old age, rather than just prolonging the last stage of life, it seems that most persons would wish they had been born with such beneficial genomes.

As publicity about the effect of genes on senescence and longevity

continues and humankind's knowledge of biochemistry continues to expand dramatically, thoughtful people will understand on a deep, basic level that medical science hasn't yet discovered all that it's going to discover. Many will appreciate that the truly fundamental breakthroughs in our knowledge of how life works and in our ability to act on that knowledge are yet to come.

The "Nuts, I was born too soon!" reaction will often be followed by the "What, if anything, can I do about it?" line of reasoning. I think there are only two things anyone can "do about it."

The best thing would be to live long enough to reach the era of nanotechnology-based cell repair machines. Eric Drexler thinks people his age—thirty-something—or younger are likely to live that long. Mike Darwin—Eric's age, give or take a year—isn't so sure. If, for example, cell repair machines are fully operational starting in 2050, Eric and Mike will need to live past ninety to avoid being among the last of the short-lived generations.*

The second best, the *only* other choice, is to join a cryonics organization. It is our job to make sure that people know about the existence of that choice when they come to the realization that future generations will indeed live far longer than past and present generations.

* I believe that Eric expects basic cell repair technology a decade or so before 2050. Assuming he's right, cryonics membership still seems a sound investment. Even if the longevity enhancing medical technologies that are likely to become available to Eric and Mike during the next two or three decades can give them life expectancies exceeding ninety years, no one can be sure of living until any given year, be it 2050, 2040, or even 1995.

The Volunteer Protection Act

Carlos Mondragón



Potential and real problems associated with legal liability have occasionally affected the way we operate Alcor. In fact, we had to move into our current facility because of our inability to get the liability insurance required by the landlord at our previous location. (We still can't get any.)

Recently, we've asked for more of you to volunteer for work at Alcor. Of course there has been concern about possible liabilities. The news item below was reported in the October issue of *Membership Organizations Newsletter*:

Volunteer Protection Act

Passes House

The Volunteer Protection Act was passed by the U.S. House of Representatives on September 13 as an amendment to the National Service Act of 1990.

The VPA provides that beginning fiscal year 1993 every state must adopt a law immunizing all volunteers of nonprofit organizations from "any personal financial liability for any tort claim alleging damage or injury from any act or omission of the volunteer on behalf of the nonprofit organization."

In addition:

a) the volunteer must have acted in good faith;

b) the volunteer must have acted within the scope of his or her duties;

c) the damage or injury must not have been caused by willful or wanton conduct by the volunteer.

If a state does not adopt such a law, then it may not receive any federal grants provided for under the National Service Act of 1990.

The two primary advantages to the VPA are:

1) it applies to all "volunteers," while many state volunteer protection statutes presently apply only to officers and directors; and

2) the VPA will encourage the few remaining states without protection statutes to adopt such legislation.

The VPA, however, is not a panacea. First, *it applies only to tort actions*. Lawsuits based on breach of contract or fiduciary duty are not covered. Second, *the nonprofit organization itself is not protected*. Also, the VPA will not eliminate lawsuits

completely. Plaintiffs will now just allege that the defendant volunteers did not act in good faith or within the scope of their duties, or acted with willful and wanton conduct. Of course, the plaintiff will have to prove these claims, but just defending them can be expensive.

Nevertheless, anything that may protect those who work for nonprofits is a good thing, and therefore the VPA is worthy of support.

The Senate has already passed its own version of a National Service Act, though without a VPA.

This is one of the few political issues in which Alcor, as a nonprofit, is allowed to get involved. Of course, we wholeheartedly support this legislation.

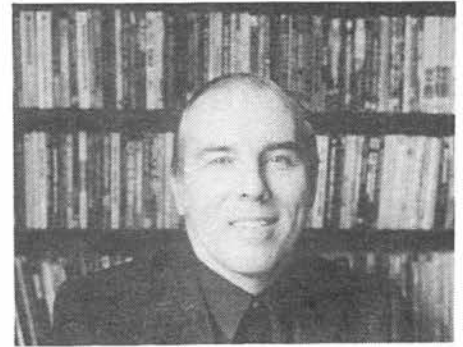
Alcor needs the continuous support of volunteer labor. Time that you give us is time we don't have to pay for. The next issue of this magazine will run a feature story on the dire condition of our operating budget. It will bring home the point that we need all the help we can get.

Membership Status

Alcor has 181 Suspension Members, 495 Associate Members, and 16 members in suspension.

The Pleasures of Overkill

Keith Henson



Though one can never know the future with much confidence, it seems likely that the development of nanotechnology (or something of similar capabilities) will proceed the revival of those in suspension. So it is kind of a given (assuming we are revived) that we will have complete, or nearly complete, control over the structure of matter.

This changes just about everything—or does it? There are substantial numbers of Amish and Mennonites in this country who stick as close as they can to a way of life frozen over a hundred years ago. There still is a market for buggy whips!

Some people or groups of people *might* try and live a life very similar to current standards using a minimal amount of the new technology. As long as they stay much like us, it is fairly easy to speculate about what goods and services nanotechnology might supply them, and how it might be done. New technology is often used for very old needs—the classic example is erotic use of voice mail computers.

Consider the computer on which this article is being composed. It is massive overkill for the task. I'm sure the people who ran computers of this capability in the early days would be appalled at the prospect of a machine spend-

ing almost all of its time waiting for me to type a keystroke. And to be sure, a simple mechanical typewriter would suffice for the task, though they are getting hard to find. Even a pencil would do (though you would suffer—pencils currently lack spell checkers.) So a MIP (million instruction per second) or so of computer power is being used for the very old human task of written communication.

Here is a similar "overkill" application for nanotech—the gasoline tree, or in the early stages, an organic to gasoline converter. (I am presuming that cars will still be driven for fun, if nothing else.) The early stage device might be something about the size and shape of a washing machine. You lift the lid and drop in food waste, paper, cardboard, chunks of wood, etc. There is an ash hopper off to the side (if it is not connected to the sewer). Energy and materials put into the machine are rearranged at the molecular level to form liquid fuels suitable to burn as automobile fuel. There is nothing in the idea that could not be done today on an industrial scale, so the chemistry and physics are sound. It just needs a little engineering development to put it into the home.

A later version comes as a seed. Plant it next to the driveway, and it grows into a nice looking

tree, complete with a recessed filler hose. Instead of making more tree after it grows up, however, it makes gasoline and stores it in the trunk. There is a vine in the Amazon which has enough oil in the sap that it can be tapped to run diesel engines, so the gasoline tree might even be done by genetic engineering. If you wonder how roads would be maintained with no fuel taxes being paid, consider a self-repairing road which used solar energy and made more road in place, kind of like crabgrass. If the "road-plant" were partly derived from kudzu, road crews might be more concerned with keeping the roads from covering everything!

Next time: the self-repairing, photovoltaic roof, the "living toilet," and "expandable" real estate.

Cold Starting

Ralph C. Merkle



There are basically two ways to build a brain. The conventional method takes place in liquid at about 98.6F. The other way takes place when everything is frozen solid at perhaps 140 Kelvins.

There's a lot to recommend the first method. It's traditional. We know it works. Why change a good thing?

Well, there are reasons why solid-phase construction *might* be more convenient. The biggest reason: Things don't slosh around—they stay where they're put. There are also no chemical reactions. This is important if building a brain takes a few months or years. The chemicals used in the early phases of construction might otherwise go stale.

That said, we should make it perfectly clear that liquid-phase construction should be quite feasible and might prove better (though it's a bit hard to say just at the moment). The fact that airplanes work doesn't mean that helicopters don't, and vice-versa.

Which brings us to the point of this article. Suppose you've actually built a brain and suppose further that you've built it using solid-phase construction at 140 Kelvins. You've still got one problem: *how do we warm it up?*

We'd like to warm it up *fast*. The quicker we can warm it up, the less time there is for recrystallization damage and other bad things. Ideally, it should instantaneously reach 98.6F, not spending any time at the intermediate temperatures, thus preventing damage.

So, a modest proposal: put 10^{15} "heating pellets" into the brain as you build it, each one about one micron

away from its neighbors. When you want to warm the brain, trigger all the heating pellets at once. Heat need only flow from the pellets to the surrounding tissue, a distance of less than 1 micron. The heat can travel this short distance in almost no time (well, a few microseconds or less).

The heating pellets can contain highly reactive chemicals (they need to react at 140 Kelvins!) to provide the energy. The pellets can be large enough to hold a molecular size "trigger" mechanism. And there'd better be a tough outer casing around the reacting chemicals to prevent them from escaping into the tissue.

So we need to know two things:

- 1) How much energy is required to warm up the brain?
- 2) How much energy can we get from a chemical reaction?

We can approximate the energy required to heat the brain by the energy required to heat 1.4 kilograms of ice from 140 Kelvins to 310 Kelvins. The heat of fusion of water is 333 kilojoules/kilogram, the specific heat capacity of ice is 2220 joules/kilogram-Kelvin, and the specific heat capacity of water is 4190 joules/kilogram-Kelvin [1]. (We neglect the fact that the heat capacity of ice is lower at lower temperatures. This just means we'll conservatively overestimate the energy required for heating.) To go from 140K to 273K (the melting point of water) requires $(273 - 140) \times 2220 \times 1.4$, or 4.4×10^5 joules. Melting takes 333×1.4 kilojoules, while a further increase of 37 Kelvins requires $37 \times 4190 \times 1.4$ joules. This totals about 10^6 joules (about as much energy as in a "diet

meal with 240 calories").

The reaction of hydrogen gas with fluorine gas (to name simply one possibility) proceeds rapidly down to about 20 Kelvins. The production of one mole of HF (20 grams) will produce about 2.7×10^5 joules [2]. Production of 75 grams of HF from H_2 and F_2 would generate the 10^6 joules needed to heat a 1400 gram brain.

Heating would be finished in a few microseconds—rapid enough to prevent ice formation (and almost anything else) from taking place during rewarming, and eliminating rewarming damage.

Extra credit problems:

- 1) What should you make the "tough outer casing" from to contain the HF (hydrogen fluoride)?
- 2) What pressure will the casing have to withstand? (Assume that you can occupy 10% of the total volume of the brain with heating pellets.)
- 3) Find chemicals that react at 140 Kelvins and produce a relatively innocuous compound ($2H_2O + O_2$ would be ideal, except they don't react at that temperature). Catalysts may be used to help your reaction take place.

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1. Halliday, David, and Resnick, Robert, *Fundamentals of Physics*, Third Edition extended, Wiley, 1988.
2. McQuarrie, Donald A., and Rock, Peter A., *General Chemistry*, Second Edition, Freeman, 1987.

John Hunter, Cryonics Forerunner

Mike Perry

This is the first installment of what is planned to become a regular monthly feature on cryonics history. I am planning these as more-or-less self-contained vignettes, to make the information more accessible (though of course I hope readers will find it worthwhile to read them consecutively, too). Although I do not intend to adhere to strict chronological order, the opening installments will emphasize the origins of the cryonics movement and its earlier history.



Although the cryonics movement started in earnest in the 1960's, there are some fascinating anticipations of the central idea of freezing the newly deceased for possible later reanimation. The one I'm reporting on here didn't occur in the present century at all, or even the preceding century, but goes all the way back to the "Age of Enlightenment" in the mid-1700's. John Hunter (1728-1793) was a renowned British physiologist and surgeon who is credited with establishing surgery on a firm scientific footing. Among his many accomplishments was a study of the recovery of apparent drowning victims (*Philosophical Transactions of the*

Royal Society, 1776), an early milestone in the reversal of clinical death. He also made important contributions in understanding hibernation, demonstrating, for example, that metabolism largely ceases as the chilled organism enters a "holding pattern". What follows is his report of an experiment in the freezing of organisms (two fish) with some thoughts on the possibilities should such a process prove reversible.

"Experiment. In the year 1766 two carp were put in a glass vessel with common river water, and the vessel was put into a freezing-mixture. The water surrounding the fish froze very rapidly on the inside of the glass all round. When the freezing-process approached the fish it became, as it were, stationary; and the remaining water not freezing fast enough, in order to make it freeze sooner, I put in as much cold snow as made the whole thick. The snow round the carp melted. I put in more snow, which melted also. This was repeated several times, till I grew tired, and I left them covered up to freeze by the joint operation of the mixture and the atmosphere. After having exhausted the whole power of life in the production of heat, they froze; but that life was gone could not be known till we thawed the animals, which was done very gradually. But with their flexibility they did not recover action, so that they were really dead. Till this time I had imagined that it might be possible to prolong life to any period by freezing a person in the frigid zone, as I thought all action and waste would cease until the body was thawed. I thought that if a man would give up the last ten years of his life to this kind of alternate oblivion and ac-



tion, it might be prolonged to a thousand years: and by getting himself thawed every hundred years, he might learn what had happened during his frozen condition. Like other schemers, I thought I should make my fortune by it; but this experiment undeceived me."¹

Although Hunter's account ends on a note of discouragement, we should not overlook the significance of his experiment and his thinking on the possibilities of human life extension some two hundred years before the idea was popularized and a small knot of "true believers" began to take it seriously. (We hope, of course, that technology of the future can make up for deficiencies in the natural thawing process, and also reverse freezing damage, diseases, and aging so that those deep-frozen today can one day be restored to consciousness and health.) From a primitive vantage point, then, John Hunter saw and accomplished much. In the words of a commentator, "His doctrines were, necessarily, not those of his age: while lesser minds around him were still dim with the mists of ignorance and dogmatism of times past, his lofty intellect was illumined by the dawn of a distant day."²

References

¹*The Life of John Hunter, F.R.S.* by Drewry Ottley; Haswell, Barrington and Haswell, Philadelphia, 1841, quoted in *Life Extension Society Newsletter* #3, Aug. 1964, pp.1-2.

²*Encyclopaedia Britannica*, 1948 ed., vol. 16, p. 921.

Alcor Europe

Luigi Warren

Alcor Chief Surgeon Jerry Leaf came to the UK last August to commission the new Alcor UK facility and train volunteers to perform cryoprotective perfusion. The week-long training period was a decided success: We emerged with practical, hands-on skills and a much improved understanding of the procedure. Just as significant, we came away with the feeling that we can reasonably hope to attain enough proficiency in perfusion to carry it out without on-the-spot help from Alcor North America. That position won't be reached overnight, but already we've made a start on practicing and developing the skills which Jerry imparted to us.

Jerry is the man who single-handedly brought cryonics from the 60s era of mortuary technology to that of modern, high-technology medicine. His achievement has been all the more notable since in has been almost entirely a spare-time, self-funded effort. For many years, Jerry worked as a researcher at the UCLA Medical Center: the surgical team he was on developed some of the most advanced techniques available for protecting and recovering the heart after coronary infarction. His position at UCLA was a casualty of the Dora Kent affair. Fortunately, cryonics activity and funding has expanded substantially since then. Today, Jerry works full-time on cryonics research and practice at Cryovita.

Starting at the simplest level, those of us who attended the sessions now know where everything in the operating theatre is and what it is all for, which certainly wasn't the case before Jerry's visit. A formidable array of equipment and supplies has become a well-organized tool-kit. Each of us concentrated on gaining a good knowledge of two or three instruments or procedures, and at least a basic familiarity with most of the other

equipment and techniques. With this knowledge now distributed among our members, it should be relatively easy to pass it on to others as required.

Alan Sinclair's ability with machinery always amazes me—I think even Alcor's Hugh Hixon could learn a thing or two from Alan—so it was not surprising that he showed the greatest aptitude for the two most complex items of technology: the heart-lung machine and the blood gas analyzer. The latter is notoriously temperamental—nursing it is a full-time job for one person during a suspension—yet Alan was able to get results out of the unit when even Jerry Leaf's patience had been exhausted.

I concentrated on learning the instrumentation: the blood gas analyzer, the arterial pressure monitor, thermocouple thermometers, and the refractometer. Mike Price and Garret Smyth developed a good understanding of the heart-lung machine and the pump circuit (at first sight, a horrendous confusion of tubes and reservoirs), and the two of them were

gung-ho to learn the most demanding aspect of the procedure: the surgery. After explaining the relevant anatomy, Jerry had us practicing purse-string sutures, first in table napkins, then in sheeps' hearts purchased from a local butcher.

Although Jerry's focus was on perfusion rather than transport, he did give us a run-down on the transport medications as preparation for Mike Darwin's forthcoming training sessions on this topic. Mike Price and Garret Smyth had enough biochemistry and physiology between them to give Jerry an almost inquisitorial grilling on each drug in the transport protocol. Jerry remarked that it was rare to find students so ready to challenge and make suggestions, and so unwilling to take things on authority. For our part, we were grateful for Jerry's patience and his refusal to patronize us or intimidate us with jargon.

The sessions weren't just informative, they were fun. Jerry Leaf is a "soldier-citizen-scientist." He's been a few places and done a few things. The stories were interesting! Even the anarchic British sense of humour didn't throw him. I hope he enjoyed his stay here as much as we did... at the very least, I know he got to take a prized relic of the Cold War—picked up on a flying visit to Berlin—back home with him. Funds permitting, this is an experience we hope to repeat.

Cryonics Association of Australia Activities — October 1990

Simon Carter (President, CAA)

Since the inception of cryonics in Australia, we have recognized the necessity of having emergency equipment on hand. Our thinking was that Alcor staffers would be able to fly out and conduct a suspension in-country. As the shortcomings of this approach became apparent, several members pushed to increase the scope of our activities with the eventual aim of having full perfusion services provided in

Australia. The suspension of Roy Schiavello in June of this year galvanized our group. At a subsequent annual general meeting of the CAA, we decided to raise funds via a levy on members and agreed upon a Development plan calling for the training and equipment necessary to reach Alcor coordinator status by March 1991. We aimed at flying an Alcor staffer out to conduct a week-long intensive training

course in February 1991.

Late morning on Friday, September 21, I received a call at work from a television station interested in flying Thomas Donaldson and Mike Darwin out. Monday, October 1, saw me at Melbourne airport awaiting their arrival. My hat goes off to Mike, who, with only a week's notice, assembled a nearly complete transport kit together with training manuals and medications. Our task was to assemble as many members as possible in order to maximize the opportunity of this bonus training session and find a suitable site at which to work.

Unfortunately, Thomas had been delayed by a day. Mike took a long time to clear customs but finally emerged with not only his share of the equipment, but Thomas' as well. (Incidentally, it is a lot cheaper to airfreight goods as extra passenger baggage rather than unaccompanied goods.) Mike was obliged to spend

time with the media preparing for the Wednesday evening show and associated promotional activities, but we were able to hold a "get acquainted" meeting in the evening which grew to encompass a lecture on mechanisms of cryoinjury and the start of our condensed course. Mike was very specific about what he expected us to have achieved prior to his next visit.

After a second day of media interviews, this time in the company of Thomas, who flew in in mid-morning, Mike continued the course on Tuesday evening. Thursday was the busiest day (Wednesday being the big media day and completely out for training purposes). We completed reviewing the Alcor training material by mid-morning, and then assembled the Pizer tank prior to a briefing on CPR techniques. Most members have yet to take CPR training. After breaking for lunch, we spent an afternoon practicing rapid set-up and use of the HLR.

Probably as much as Roy's suspension this flying visit brought home to our group that cryonics in Australia is for real and no longer a talking shop. I think all attendees gained from Mike's "hands-on" tutoring and soaked up facts, stories, and hints too numerous to mention. There are things that only experience can relate. I well remember the learning and fascinating discussions held well into the night that I have participated in when visiting Alcor. That certainly happened in Melbourne throughout the week. People engaged in complex tasks have to meet face-to-face. Not surprisingly, we built a long list of tasks to be achieved before we can contemplate bringing Mike over again. The week was a chance for us to get a preview of what a full-scale Alcor training session is like. Our performance next year will be the better for it.

Science Updates

Ralph Whelan

Beano

The producers of Lactaid, the enzyme product that makes milk digestible for people with lactose intolerance, have a new product—an enzyme aptly dubbed "Beano"—that digests the gas-producing compounds in foods like beans, broccoli, cabbage, onions and eggplant. Studies sponsored by the manufacturer, as well as anecdotal reports from scores of people who tried it, strongly suggest that use of Beano can greatly reduce the gaseous legacy of many vegetable foods.

To the many *Cryonics* subscribers who are vegetarians, this is obviously great news. However, there is another aspect in this development for which anyone interested in life extension can cheer. Beano, which is actually the sugar-digesting enzyme *alpha-galactosidase*, is a commercially produced enzyme, made by the fungus *Aspergillus niger*.

If Beano isn't locally available for you, call Lactaid, Inc. at (800) 257-8650.

[The Riverside Press-Enterprise

(October 15, 1990)]

Understanding cell growth

Using cultured endothelial cells, molecular biologist Thomas Maciag and his colleagues at the American Red Cross in Rockville, MD say they have now succeeded in prolonging *in vitro* cell survival, defined as the number of times a cell population doubles during its lifetime. Relying on reports from other researchers that the cellular protein *interleukin-1 alpha* (IL-1 alpha) tends to inhibit the growth of these cells, Maciag and his team injected older cell cultures with daily doses of a compound that blocked messenger RNA from producing IL-1 alpha, thus preventing the onset of cellular senescence and extending the lifespan of the cells. Though continued exposure to the compound that halted the production of IL-1 alpha cannot stave off cell aging and cell death indefinitely, Maciag suggests that the protein may be the first of a repertoire of chemicals that slow endothelial cell growth.

This research may help elucidate the causes of cancer, atherosclerosis, and other illnesses in which cell growth runs amok, enhancing our knowledge of and control over cellular mechanisms. [*Science News* 138(13) (September 29, 1990)]

Axon Regeneration

Recent research by a group in Lund, Sweden offers hope for central neuron regeneration. The group found that by implanting human telencephalic neuroblasts (ganglion cells in the early stages of development) in the central nervous systems of rats, they could enable axon growth of up to 20mm.

Axons are quite able to grow, given an acceptable environment, but normally the nonpermissive nature of the central nervous system inhibits them. However, the embryonic axons that they experimented with had an "extensive pathway-forming capacity" that allowed them to flourish.

The researchers believe that their

results indicate a potential for reformation in adult axons as well, "provided that the regrowing axonal elements can escape or neutralize the inhibitory features of the growth trajectory." How it will do this remains to be discovered. [*Nature*, 347 (October 11, 1990)]

Telomeres

DNA has a weak spot. The ends of DNA strands have a tendency to replicate incompletely and unreliably, so nature has devised repetitive sequences that queue up at the ends of DNA strands to prevent the loss or mutation of information. These specialized

structures are *telomeres*.

Now, much recent research suggests that the loss of these repetitive sequences can lead to genetic abnormalities. Experiments with budding yeast even equate the gradual diminution in telomere length with an increase in chromosome loss and mortality.

This explanation, if ratified, could have profound results. First, it could explain the change in genetic information through time that is usually ascribed to long-term exposure to radiation and/or environmental toxins. Second, it could bolster the theory that cells lose their genetic identity through

errors in replication after years of cell divisions. Telomeric loss of genetic structure could explain the *how* of this process, which has so far been highly speculative. Moreover, telomeric deletion may be responsible for human disease.

But there's good news and bad news. The good news: telomeric deletion may be alterable and ultimately *controllable*. The bad news: more recent research suggests that the shortening of telomeres is merely a *result* of aging, rather than a cause of it. Stand by while the lab coats fight it out. [*Nature*, 345 (May 31, 1990); 346 (August 30, 1990); 347 (September 27, 1990)]

Letters to The Editor

Dear Editors and Readers,

I must thank the kind individuals who so generously contributed to our **International Space Development Conference** efforts. You know who you are, and I'll be glad to shout it from the rooftops if you want that. But I have a feeling that you wouldn't. Because you happen to be the same individuals who lend support to everything we do down at Alcor. You are few in number, but you loom very large in my heart as individuals and as people who are truly helping me travel that tricky and difficult road that will lead us to the future.

We're still several hundred dollars short of paying for that conference, and whether we make an appearance at next year's conference or any others depends upon you. If you feel it's important that we continue, to make these efforts, please make it apparent by sending us whatever amount you can. I've just gotten word that at least three of our "space friends" who were at the conference are now becoming members of Alcor. There very well may be others that I am not aware of at this writing. I'm very happy and I think more will follow. Especially if we show up to remind them that one more year has gone by and none of us is getting any younger nor, unfortunately, any closer to tooling around the universe.

What do you say?

Brenda Peters
Alcor

(Make your check out to Alcor, with a note regarding its purpose. —Eds.)

Dear Editor,

It looks like we won the Mitchell case in a big way! Having been in several lawsuits in my earlier years, I realized that after a long, expensive and emotionally draining trial, and even after the judge's final decision, it is often hard for a litigant to tell if he won. The reason is that the judge does not say who won or who lost and the lawyers for both parties always tell their clients that they won. The judge does issue a decision, but it is an award that usually can be interpreted as many different ways as there are lawyers. Probably, the first thing they teach you in law school is that no matter how bad you lose, always figure a way to convince your client that he won. One could imagine a lawyer telling his client, who had just been sentenced to death, that he had won because he was going to be hanged instead of electrocuted, or killed by lethal injection rather than a firing squad.

In fact, although a judge almost never specifies a winner or loser by those terms, it is acknowledged in the legal system that there is a clearcut winner when attorney's expenses are awarded to either party. Most people

don't realize it, but often lawsuits are settled without either party receiving reimbursement for legal fees. Let there be no mistake, Alcor's victory is a clear and undeniable win. Now let's recover our attorney's fees!

Also, let's use this decision to see if there is now some opening for us to make friends with the California and Riverside (and all other) bureaucrats. Sometimes, after a big battle is the best time to make friends. Someday we need to bring cryonics into the mainstream of society for the protection of our present and future patients. This may be a golden opportunity.

Congratulations to all the members and board members who worked so hard to protect our rights.

David Pizer
Wrightwood, CA

Dear Mr. Darwin,

In my opinion, you had no need to apologize for publishing the John LaValley book review of FM-2030's *Are You A Transhuman?*. Any reader who would complain about that review is so lacking in liveliness and vitality that they need immediate cryonic suspension.

Paul Wakfer
Toronto, Canada

On Pricing Cryonic Suspension

Mike Darwin

In the letters section of last month's *Cryonics* is a communication from Alcor Treasurer Dave Pizer on the critical issues of how much should be charged for cryonic suspension and how our projected operating shortfall should be addressed.

Dave says "Mike Darwin and Mike Perry have long argued for the large price difference between whole body and neuro...I do not agree with their financial philosophy. I would like to see the price for whole body stay at \$120,000 because that is high enough for reimbursement of some of the overhead. I would like to see the price for neuro rise to \$75,000 to allow for reimbursement of some overhead expenses."

First of all, the readers should know that this issue, namely that of trying to extract from suspension patients some fraction of the cost of keeping our doors open, has been long and carefully debated by the Alcor Board as well by the officers and staff members of Alcor. I believe that it is unfair of Dave to try and give the impression that "Mike Darwin and Mike Perry" are trying to keep the cost of neuro unjustifiably low because they have some axe to grind. This is hardly the case, as the facts will bear out.

It has been a long and centrally held policy of Alcor that suspension patients' funds be used only to defray the costs of doing business *directly* related to placing them into suspension. Very simply: Suspension patients should not be billed for the costs of Alcor literature, promotion, answering of the telephone, production of the magazine and so on. There are five very good reasons for this:

First, they no longer benefit directly from these kinds of services the moment they cease to be dues paying members and become patients.

Second, they have no say in whether or not such expenditures are reasonable, whereas dues paying

members *do* and can protest, switch organizations, etc.

Now, it can be argued that if the money is taken out as a "lump sum" or surcharge right up front the patient will know about it and will be able to protest and that such a charge merely constitutes amortizing the cost of getting the member in the first place. Maybe. But do we really want to address our operating shortfall this way? And more to the point, how effective will this maneuver be? The price tag for this will be borne mostly by those who are already 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).

It will be mostly those who can least afford to pay who will be asked to do so, since they constitute and will probably continue to constitute the lion's share of suspensions we do. It might be argued that such is only fair since they aren't paying dues. Perhaps. But keep in mind that economies of scale such as being able to do a large enough number of suspensions to employ a full time team and bring down liquid nitrogen and storage costs is critical as well.

And what about young and healthy members who get surcharged on their suspension fee to cover the operating shortfall? Well, they pay too, and the sad thing is the only operating shortfall they will help to address over the time course of our greatest need is the insurance company's, not ours. This will only raise the cost of the procedure, create enormous human misery and lost lives by excluding people who could otherwise have afforded suspension, cost us economies of scale and experience in doing suspensions, and create a public relations nightmare by making cryonics seem even more inaccessible to people of average means than it already is!

Third, making each patient pay for

a hunk of the operating overhead provides a financial incentive for us to place members into suspension; 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 suspensions. We are intimately involved with our members' well-being not only after legal death, but often before as well. It is not only unseemly, it is unacceptable to set up a situation where the more members that die, the less is our operating shortfall!

Fourth, this approach to addressing operating shortfall 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.

Fifth, the central problem here is lack of any real economies of scale. Imagine going into a McDonalds the day it opens and finding yourself the first customer. You order a hamburger and the counterperson informs you that it will cost you \$850,000! "WHY?!" you gasp. You are then told, "because that's what it cost us to open the restaurant and prepare this hamburger for you." What is wrong with such an analysis should be obvious: You cannot pass on all your start-up costs and startup inefficiencies to the first customer, or the first ten, or the first 1,000 for that matter.

Cryonics is still in start-up phase, even though we've been going for over 20 years. This should come as no surprise, since history teaches that such is the rule rather than exception in revolutionary new businesses. Look at the insurance industry. It took over 50 years from the first efforts to establish an insurance company until the idea "took." They suffered from the same kind of problems we do.

We need to keep our prices as low as possible in order to build volume and get economies of scale. We will not achieve this end by pricing ourselves high. Such behavior will only limit demand for cryonics and delay the day when we *can* balance our budget from dues income.

Each part of the program should pay for itself. The fact is, Alcor is

spending and always has spent far more than its income from dues can generate. This situation has been addressed in the past by voluntary giving by both living members and those in suspension who have left bequests for operational activities. If this level of voluntary support doesn't continue, and if our membership base doesn't expand fast enough to meet the shortfall, then *we will have to throttle back on our program*. It is just that simple.

But even leaving aside the reasons above, given our current rate of suspensions, the addition of the kind of surcharge Dave wants would hardly address the problem. How, for instance, is it that the \$120,000 we now charge for whole body helps to address the shortfall in operating expenses and "cover overhead" when no more of it per unit of time or service delivered goes into the operating fund than does the money from a neuropatient's account? Where does the money from the \$120K whole body fund come from to cover "reimbursement of some of the overhead?" (Somehow I must have missed that in my inventory of what money goes where in "The Cost Of Cryonics.")

The unfortunate truth is that what Dave is in effect proposing is that whole body patients get billed per the fee scheduled published in the August issue of *Cryonics* and neuropatients get billed at a *different rate*, or perhaps that they be surcharged to the tune of \$34,000, which will go into the operating fund, as this is the only way this extra charge would help to defray the costs of such operating "overhead?!"

We are *already* surcharging non-member suspensions (both whole body and neuro) by \$25,000. Since there is no conflict of interest for us in non-member suspensions (we don't have any relationship with them until they call us), and since our real costs are substantially higher, I did not oppose, and in fact supported this surcharge.

But there is something else Dave is leaving out of his analysis: the *reality* that the typical Alcor neurosuspension member is *vastly* overfunded compared to the typical whole body suspension member (based on an extensive random sampling). In fact, the average Alcor neurosuspension member has 220% of the minimum funding requirement, as compared to only 102% for whole body patients.

Also, there is the issue of compassion and decency. I could say that we are not in the charity business, but then that would hardly be accurate because according to the law, our history, and our intent, we are. I would agree with Dave that we have to balance our books. But the way to do that is not to jack prices up to the point that only people of substantial means can afford it. Yes, I do happen to think neuro is a very workable and in fact superior option. But I also believe that leaving biological considerations aside, it provides a low cost path of entry to the program for those who would simply be excluded otherwise. I have had to turn away enough people as it is who cannot even afford the *current* minimums. To raise them even higher to address an operating shortfall that results from lack of economies of scale coupled with our (undisciplined) desire for a high level of service is untenable.

The vast majority of our neuro members are already overfunded. However, this will no more address the operating fund shortfall than will the existing \$120K funding of whole body suspension members.

Finally, I want to point out to the reader that if this article seems

lengthy, harsh, or overkill in response to Dave's relatively brief criticism, please be advised that you are seeing only the tip of the iceberg. Dave has relentlessly brought up this issue at Board meetings, in personal meetings, and in repeated phone conversations. He has raised this issue not only with me, but with Alcor's president Carlos Mondragón and other Alcor directors. In every instance where I have been present *all* have argued as I have above (in whole or in part). Now, with Dave having raised the issue in print, and with the membership as a whole asking for comments and direct communication, I feel compelled to respond as I have. Thus it is hardly Mike Darwin and Mike Perry against the rest of Alcor over the issue of setting suspension minimums. Rather, it would seem to be Dave Pizer who occupies that position. I would also add that any members who wish to express their opinion on these matters are urged to do so in print, in the pages of *Cryonics*. And further, any member who wishes to speak with me personally about this matter or about how to hold down the costs of suspensions should call me at (714) 736-1703 anytime after 4:00 PM PST.

The Common Thread: A Review of Ed Regis' "Great Mambo Chicken and the Transhuman Condition"

Addison-Wesley; 1990, \$18.95

Mike Darwin and Ralph Whelan

"When Saul Kent had the suspension team at the Alcor Life Extension Foundation in Riverside, California, surgically remove the head of Dora Kent, Saul's mother, from her body, his hope was that she could eventually be restored to life and health, probably even youth. The last thing on his mind was that they'd all wind up being investigated for murder."

So opens the first chapter of *Great Mambo Chicken and the Transhuman Condition: Science Slightly Over The Edge*. Every cryonicist will want to read this book. Not just because of the Dora Kent story, or the disparate

doings of the people from Alcor who appear on its pages, or because it is full of interesting people with exciting, challenging ideas. You'll want to read it because this book is **just plain fun**.

Regis has achieved quite a number of special and extremely rare things with this book. Any one of them would have made *Great Mambo Chicken* worth your time and money. The combination of them makes the book irresistible.

First, Regis tells the tale of cryonics, Alcor, and the Dora Kent saga in a highly readable, clever and accurate way. He uses the Dora Kent

SCIENCE SLIGHTLY OVER THE EDGE

THE GREAT MAMBO CHICKEN & THE TRANSHUMAN CONDITION

GREAT MAMBO CHICKEN & THE

TRANSHUMAN CONDITION

BY ED REGIS

ED REGIS

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case and cryonics as a recurring theme throughout the book, to be picked up and put down with great finesse, a unifying element to tie a number of seemingly disconnected characters together. And he does all this with humor, decency, and wit. To non-cryonicists, the Dora Kent story must seem more than a little bizarre, to say the least (even to those of us who lived it, it was bizarre!), and it would have been easy for Regis to follow in the well-worn tracks of others who have covered it by evoking laughter with cheap shots and petty viciousness. Not once does he fall prey to that approach, and yet he manages to tell the tale in a way that exposes the craziness of what happened.

Part of the reason he succeeds in doing this is that he tells *all* of the story, including the balancing background on the opposing side, such as Ray Carrillo's Keystone Coroners scandals with "Tissuegate," wherein the Riverside County Coroner's Office was found to be allowing employees to cut up corpses on the picnic bench in their back yard and leave buckets and bags of body parts for the new owners of their house to discover upon moving in. It obviously took Regis a long time to write this book, and he paid attention to every detail, doing the year or two of background work required to

sensibilities, and just plain hard to explain. Regis manages to communicate each and every idea he touches simply, accurately, and with incredible objectivity.

Meet, for instance, Bob Truax. His ambitions are humble: All he wants is a chance to put the first man into space in a *private spacecraft*. Well, that's not quite all he wants. He'd like to "...cut the cost of space transportation down to the point where it's affordable." while he's at it. And in case that's not enough to keep him busy, he'd like to do a way with this aging business. That's if abolishing war doesn't take up too much of his time.

And so what if he's side-tracked a bit along the way? Rocketing Evel Knievel across Snake River Canyon in a steam-powered craft

get everything just right, subscribing to and reading *Cryonics* magazine for several years, and attending Alcor-sponsored conferences to listen to what we had to say and to meet and mingle with Alcor members (he even covers the debate over which word to use in describing the condition of patients who are legally dead but not *really* dead).

Second, he tackles a number of seemingly outrageous and disconnected ideas, giving their protagonists an even and fair hearing while retaining his objectivity. Telling someone else's story fairly and thoroughly is almost impossible when the story is at once complex, alien to common

may not be any giant leap for mankind, but it's certainly interesting reading, and anyway *could you have done it?*

Or how about Dave Jefferson? Realizing that he could develop computer programs that simulate most (if not all) of the processes once unique to "natural life," he set out to develop a hard-disk habitat of flowchart flora and evolving "Programinals."

And for those of us eager for one less thing to worry about, Dave Criswell has just the thing: a scenario to save our aging sun. We can either squeeze out some of that profligate sun stuff or just spin it off, depending, one would suppose, on whom we contract to do the job.

And then there are the more familiar members of the cast: Here's your chance at a fresh perspective on some of the old faithfuls, to include Saul Kent, Ralph Merkle, Mike Darwin, Eric Drexler, Hans Moravec, Bob Ettinger, and Keith Henson (who pops up all over the book like a virulent meme).

A surprising thing about all these people is the degree to which they relate to each other *despite* their disparate starting points and wildly differing careers. How, for instance, would a guy like Hans Moravec, who heads the Robotics Lab at Carnegie-Mellon University and is a respected Artificial Intelligence researcher, end up involved in the Dora Kent case? Answer: Because of Moravec's theoretical work exploring "uploading" human consciousness into "robot" bodies, he was willing to give a legal declaration in

Photo: Rebecca Orenstein



favor of Alcor in our successful attempt to block the Riverside County Coroner from autopsying her brain.

And what about Bob Truax, the do-it-yourself rocket scientist? Would you believe he was once a Bay Area Cryonics Society Member, and is preoccupied with gerontological life extension? Curiouser and curiouser, as Alice said. And if there is any unifying character in this book it is Keith Henson. Keith is everywhere. He is seen early on founding the L5 space colonization society. Then he pops up giving lectures on nanotechnology at the Artificial Life Conference. And there he is

again in the thick of the Dora Kent affair, deeply involved in cryonics. Indeed, *Great Mambo Chicken* might be more aptly titled: *Gadfly Keith Henson's Guided Tour of Science Slightly Over The Edge*.

And would a cross-section such as this be complete without a side sample of Freeman Dyson, of Richard Feynman, of Robert Forward? Rue the day that we neglect such pillars of speculative science.

There can be no doubt that this book will be good for cryonics. Here we are juxtaposed with the was-greats, the greats, and the destined-to-

be-greats. The content is first-rate, the context is open and favorable, and the whole thing is *well done*. If you want a style comparison, think of a collaboration (however unlikely) between Tom Wolfe and Arthur C. Clarke, the net result being an offhand, tongue-in-cheek approach, something like: Well sure, it's looks to me like they're nuts too, but *what if they're not?*

So don't be misled. If that's the current state-of-the-attitude toward us and our ilk, then friend, *we are making progress*.

The Chicken And The Man An Interview With Ed Regis

Ralph Whelan

He was born in the city, spent his childhood in Queens, went to high school in Brooklyn, and to college in the Bronx. If his first twenty years in New York didn't kill him, and fifteen years as a philosophy professor at Howard University couldn't finish the job, then Ed Regis may be justified in putting off cryonic suspension arrangements for himself. Besides, there's something of an aesthetic appeal, perhaps, in achieving immortality through one's work, though most of us would still prefer just not dying.

But how many of us can claim a betting chance at both? Ed Regis, with four major publications to his name, is certainly one of the few. Of his three previous books, Extraterrestrials and Gewirth's Ethical Rationalism were collections of essays that Regis edited and unified. Then, in 1986, he authored his first book, Who Got Einstein's Office, about the people who followed in Albert Einstein's footsteps—von Neumann, Oppenheimer, et al—at Princeton University's Institute for Advanced Study.

And that's the story of his life, but for a couple of things....

Cryonics: Let's start at square one. What got you started as a writer?

Regis: I think it goes back to when I was watching an episode of *Cosmos*, Carl Sagan's TV pro-

gram—must've been eight or nine years ago. I had always been interested in science as a boy, but then I went into philosophy, for a variety of complex reasons, and anyway, I saw this *Cosmos* program and I became re-enthralled with the whole... scientific enterprise. He talked in one of these episodes about an interstellar journey which would take longer than a normal human lifespan. In other words, this interstellar journey would be on a space *ark*, and the journey would take four hundred years to complete. And as a philosophy professor specializing in ethics at the time, I asked myself, "Could this really be moral, to send a group of people on this journey which would take four hundred years?" I mean, people would be born on this journey, they'd die on the spaceship.... Is it really *moral* to engage in an enterprise like that?

Cryonics: So you wrote about it?

Regis: I wrote up a paper about this—this is in connection with a conference taking place at the Los Alamos National Laboratory. They invited me out to give this paper

analyzing whether this journey could be moral or not, and at the same conference I heard Dave Criswell give his paper about taking the Sun apart. This was such a mind-boggling idea, I thought: "Why not propose this to *Omni*?" which I was a very great fan of... maybe do a little outside writing, besides the scholarly stuff I was doing in philosophy. So I proposed an idea to *Omni*, and they bought the idea, and I wrote the article, and they published it with hardly any changes at all. It was one of the easiest articles I had published. It wasn't too easy to write, but there was no need for major revision at all. And anyway, that's the long and short of how I got into the writing business. Through that first article in *Omni*.

Cryonics: Can you tell us what your mindset was when you sat down to write *Great Mambo Chicken*? What did you hope to accomplish?

Regis: Well, the intent of the book was to gather together a bunch of people who had the furthest-out ideas, none of which, however, violated any known scientific laws, or laws of nature. In other words, people who were really doing "on the fringe" thinking and pushing back the ideas of what's possible. I didn't want to include any people who I thought were crackpots—and by a crackpot I mean



Photo: Rebecca Orenstein

someone who is proposing things which are known to violate laws of science. For example, people who want to build perpetual motion machines... that violates the second law of thermodynamics, so those machines are impossible.

Cryonics: So you gathered these people together....

Regis: Yes, and I made an outline of the book I wanted to write. And I proposed it to my publisher, the same publisher who did the Einstein book. They liked it, so I started writing. But the interesting thing about this is that my proposal—which I still have a copy of, naturally—didn't have anything in there about cryonics. Nothing at all. Cryonics was just not a part of my original proposal. But my overriding goal as a writer was to write a book that people were going to have fun reading.

Cryonics: So your criteria, then, were that these ideas be interesting and yet not in violation of any laws of physics?

Regis: Be interesting, way out—way out to the point that it sounds impossible and stupid at

first. When I went to that conference and heard Dave Criswell give his talk about dismantling the Sun, I thought that it was the stupidest idea I'd ever heard in my entire life. I couldn't imagine why the taxpayers of this country were being asked to support this kind of thing. The great Los Alamos National Laboratory! This actually made me *mad*. When he gave this speech I was livid. However, I thought about it and he sent me a copy of the thing and I read it, and the more I read it, the more I learned about it, the more plausible it seemed to me. And now... it's a way out idea, but it doesn't make me mad anymore. So I was really trying to bring together a bunch of ideas that were so far out that they're almost crackpot, but not quite.

Cryonics: Were there any that were within the laws of physics but were still too far out?

Regis: The only idea which I don't think violates any laws of physics, but which I personally don't believe will ever happen is time travel. I do not think time travel is possible. I think time travels in one direction, *forward*, and I don't think

it can be recaptured. I don't think you can go back in time. I just don't think it will ever happen. Even if the laws of physics do permit it, I think the laws of what you might call metaphysics do not permit it, so I don't anticipate that that will ever happen.

Cryonics: What about time travel into the future? Are you objecting just to time travel into the past?

Regis: Yes. Right.

Cryonics: So then, time travel into the future is fine?

Regis: Well....

Cryonics: Using, probably, relativistic effects.

Regis: Right. There's no problem with that.

Cryonics: Is your objection basically one of causality, then?

Regis: Yeah, causality is part of it. But more fundamentally than that, it's just not something I can believe. I just do not believe that this will ever happen. Everything else in the book I have no problem believing will work, or could happen, or is possible. But time travel just doesn't hold anything for me at all.

Cryonics: Were you ever a member of the L5 Society?

Regis: Nope. Nope. I first heard about it when I attended that conference and found out one of the people who organized the conference, Eric Jones, was an L5 member. But I had not heard of it before that. And when I did hear of it, I thought that they were a bunch of crackpots too. I was not a very forward-looking thinker—and still I'm not, I'm a journalist—but for a long time I couldn't accredit any of these ideas.

Cryonics: *Let's back up for a moment. You told us what you hoped to accomplish with Great Mambo Chicken. Do you feel like you succeeded?*

Regis: Oh, yeah. I think that the book is a hell of a lot of fun to read and I love it! *(Laughs.)*

Cryonics: *Would you consider yourself a futurist? A "transhuman?"*

Regis: Me? No, I'm a rather conventional, conservative guy. Although I believe that all these things—with the exception of time travel—are possible, I myself do not want to become a computer. I myself don't want to be a computer program, or anything even remotely approaching that stuff. I don't want to go to Mars, I—

Cryonics: *You don't want to be a bush robot?*

Regis: No, I don't want to be a ro—I do not want to be a bush robot. *(Laughs.)* I'm more or less satisfied with my body, with the circumstances that I enjoy here on Earth, in my little farm out here in the mountains. I'm more or less satisfied with the way things are. I do think the body could be improved, I would like to live much longer than apparently I'm going to live if nature just takes its unaided course. I'm in favor of life extension—to some degree—but most of these things I'm not a great fan of personally.

Cryonics: *Do you have a personal interest... if not in taking part, at least in finding out what happens with all these crazy ideas?*

Regis: Oh yeah. Yeah. I would love to live long enough to find out if any of these things are going to come true. Like whether cryonics will really work, whether... especially nanotechnology. I mean, that's very fascinating to me. I would love to know whether this will ever in fact be developed and

come on line and make a difference. I suspect it will, but it may take much longer than Drexler and some of the other optimists are thinking. There's a slogan that if we're lucky, it will happen in thirty years, if we're unlucky it will happen in ten years. To me, both of those estimates seem wildly optimistic. I don't look for these things to happen in the next fifty years.

Cryonics: *Can you tell us when you do look for them to happen?*

Regis: No, but... *(laughs)* I'm rather pessimistic about most things, and I don't think I'm a good one, really, to be making predictions.

Cryonics: *You don't even want to give us a worst-case scenario here?*

Regis: No. I wouldn't know. See, I just don't have any principle on which to make a guess, so it would be fatuous to try to do that, really.

Cryonics: *Well, that's a novel viewpoint these days. It's refreshing to hear. So what about your view of cryonics? Since you think that these developments are probably a long way off, do you have a personal interest in cryonic suspension?*

Regis: Well... um... the main difficulty with cryonic suspension is all the goddam forms that you have to fill out. I mean, I've been doing some radio interviews publicizing the book, and I'm gonna be going on television. The answer that I have worked out for this—'cause people have asked me this and are going to ask me this—is, one of the major obstacles I see in cryonic suspension is all the forms. Alcor has this booklet called "Signing Up Made Simple," and you know that if they have to publish a booklet, it's not simple! Right? I mean, how many pages long is that booklet?

Cryonics: *Ah... too many.*

Regis: Too many! Right! *(Laughs.)* I think that one of things that Alcor and other cryonics organizations will have to do is make signing up legitimately—*actually*—so very simple that it will be like... I don't know, buying a car. You know, as simple as that.

Cryonics: *So, moving on, what are you working on now?*

Regis: Well, I really don't have any book under contract right now. I found this last book so difficult to write that I was taking a good long time off as a breather, and after I finally got to the point where I wanted to do something, I came up sort of dry when I tried to put something together. So I really don't have a book under contract right now. I'm thinking about possibly doing something in the area of life extension, but that's been done so often in the past, and books on that subject don't sell well at all—with the colossal exception of Durk and Sandy's book. But mostly it's not too popular a subject, and I may or may not do it. I don't know.

Cryonics: *Would this book be entertainment or education?*

Regis: Well, it'd be sort of along the lines of *Great Mambo Chicken*. I'd try to combine some hard science with things that are fun to read about. It would not be scholarly at all, it would be a fun read which also acquaints people with the science.

Cryonics: *Which of the people that you mentioned in Mambo—Bob Truax, Keith Henson, Bob Forward—which of these people did you meet with?*

Regis: Well, I met with everybody, with the exception of Evel Knievel. I've never met him. I could never get in contact with him. And the

people at OTRAG—Lutz Kayser... God knows where he is. He's over in Europe somewhere. I could never get a line on him. With those two exceptions, I met with practically everybody at one time or another.

Cryonics: Have you ever been in the Hensons' tunnels?

Regis: No, 'cause that was a long time ago, probably twenty years ago. I met Keith Henson at his present home in San Jose.

Cryonics: How did cryonics find its way into the book?

Regis: I really got into cryonics when I was talking to Bob Truax at his home and he was going on about the Snake River Canyon shot... I don't remember what the context was, but he blurted out—more or less exactly like I

have it in the book, in fact—that "One day, when I have enough money, I'd like to have my head frozen." That was really my entry into cryonics. When I took myself over to Trans Time and met Art Quaife and some of the other guys there, Art Quaife told me about the dog Miles. I went to Miles' house and met Miles and his... father, Paul Segall, and that was my introduction to cryonics. It all blossomed from there.

Cryonics: And this was how long ago?

Regis: This was in 1988. In fact, I interviewed Bob Truax on my birthday, January 7, 1988, which was the same day that Michael Darwin was arrested and taken in for questioning. And I also interviewed Bob Truax the next day, 'cause the interview was so long it took two days. We were talking

about this, and I said that I saw the paper that morning and this guy was taken into custody for cutting some lady's head off. And I thought at the time that this was so unimaginably *weird*, I just had to go and find out about it and cover it.

Cryonics: Is that what led you to Saul Kent?

Regis: That's right. Uh-huh.

Cryonics: Okay. Well that about wraps it up. Will we see you at the Far Edge Party?

Regis: (*Laughs*) Probably not. I don't like bean dip.

Communicating With Suspension Patients

Mike Darwin

Everyday I communicate with people. I call them up, I see them in person, I talk with them over lunch and dinner. I watch television. A big part of my life is *communication*, getting and giving information. Indeed, in a very real sense, communication is what life is.

When we die we stop communicating. It's one big reason why we don't want to die and why others, if they enjoy communicating with us, don't want us to die. You just miss out on too much that way.

What gives joy and meaning to communication among people? What do people talk about? What do we like to hear about and tell others about?

I've thought a fair amount about these issues during my adult life, partially because I've watched

the effect that death has on communication in others. I cannot tell you how many times in my seven years as an in-hospital dialysis technician (running artificial kidney machines) I saw people weeping at the sudden death of a loved one, grief stricken not only from the immediate loss, but from the realization that they are cut off from communication; that they will never be able to say that they were sorry, or appreciative, or any of the things they *would* have said if only they'd known that death was about to separate them from their loved ones forever.

When I call home to talk with my parents, we do not usually discuss the latest technological advance or the state of global affairs. We talk about "little things"—how

their life is going, how my life is going, what is happening with friends, relatives and mutual acquaintances. When I talk with my friends or my lover, I find that *most* of the time my conversation is similarly focused on the little bits of news that provide texture and meaning to life. We humans are story creatures, creatures that thrive on and live by *relationships* and gossip. Yes, we do want to know what happened and what is happening in the "big picture" of history, but we are at least as intensely concerned with what is happening in the hundreds of "little pictures" that make up the world we spend almost all of our time living in. We do not (most of us, anyway) spend the lion's share of our time enmeshed in the mechanics of global affairs.

Rather, we spend it concerned with what's happening with our home life, our families and our friends.

Who did Millie marry? What ever happened to Bob Smith? Will Liz Taylor recover? Trivial events on the scale of history? Maybe. But we are not beings of historical stature. Not yet, anyway.

In the not too distant past I sat with an Alcor member who was dying. The days were long and the member's condition deteriorated slowly. We had time to talk while we waited for the "end" of his present life and the start of my "official" duties. During the course of my conversation I learned much about this man that I did not know before. Among the things I learned was that he had a daughter who was estranged from him. One day she had gone off, more or less for no reason, and severed all ties. She did not even know he was dying. And because he was concerned she might interfere with his cryonics arrangements, and because he was proud, he did not tell her he was dying. Yet it pained him greatly to leave her behind, to not say his good-bys; to know that in all probability he would never see her again. What a strange reversal. *She* will be the one staying behind if cryonics works.

And what of the daughter, cut off as she is from any expression of regret at her behavior (if she feels any)? Cut off from ever being able to say "I love you, I'll miss you. You were a wonderful father..." These are the tragedies of daily life and they are every bit as real and as dramatic to those involved as is a new war or a new medical breakthrough. We live and die by tragedies this size.

I have sat with cryonicists on four or five occasions in my life and watched their hearts stop. By current criteria I have watched them die. All of them have been very brave. All of them have touched me deeply with their courage and their resolve. In several cases I have gotten to know them intimately; dying is the most intensely emotional and lonely experience a person can

have. It is not possible to be near it without to some extent being sucked into it yourself.

And that makes you *think*. At least it makes me think. What will it be like for me? What will it be like when and if I were to open *my* eyes after the lapse of 100 or 150 years? How would I feel? What would I want to know?

I am pretty sure I know the answer to those questions: I will be afraid and I will be anxious for news of my loved ones, of the world I left behind. Yes, of course I'll want to know about the big picture, about the march of history in my absence, and so on. But most of all I'll want to know about my friends, my family, my loved ones. About the whole tangled weave of relationships I left behind. Whatever happened to Cyndi and Jerry and Cliff and Mom and Dad? How did they meet their ends or their new beginnings? That is the news I will be the most hungry for, because I can't get it from back issues of *Time* or *Scientific American*.

I watched Dick Jones "die." I helped place him into suspension. He was a friend, someone I cared a great deal about, someone I genuinely liked and respected. He was also a man intensely interested in *relationships* and in *people*. Indeed, he made his living from chronicling and understanding just those things. What else is a sitcom or a Carol Burnette show skit but an intensely detailed examination of *relationships*, albeit skewed and exaggerated to evoke laughter?

As he lay dying, and the web of greed and intrigue which was to enfold him began to take shape, I reflected on how surprised he would be by it all. "Dick would *never* believe any of this," I kept saying to myself. Hell, even I couldn't believe it, and I was *living* through it.

I felt tremendous anger that Dick would never know what had happened to him, how those he trusted had betrayed him. It was *important* to me that he know of this. In part for the amusement it would give him after the horror wore off, and in part for reasons I

still don't fully understand, but strongly feel. Perhaps knowing will help him to earn a living. He often said that *Mama's Family* was based to no small extent on his own mother and his own family life. Perhaps when he is revived he can produce a black comedy after the fashion of David Lynch and call it *Twin Sneaks*, the story of a conniving sister and a disloyal business partner who seek to deprive the protagonist of his money *and* his life...

And if I have anything to say about it, he will know those details. *Death* cuts us off from communication forever. Cryonic Suspension need not. Cryonic suspension offers those of us "left behind" a unique opportunity: the opportunity to *go on communicating*. Oddly enough, it is an opportunity few of those of us remaining behind have chosen to exercise.

One of the questions most frequently asked by journalists who visit the Alcor facility is, "Do people ever come here to visit their loved ones who are in suspension?" The answer is, "only rarely." I am not really surprised by that. But what I am surprised by is that "survivors" do not attempt to communicate with loved ones in suspension either. Not even cryonicist survivors.

Time moves swiftly. For some of us who are cryonicists, the presumption is probably "Oh, I'll be there to tell them all about myself, after all, I'll be suspended some day myself." And that may be true. But 20, 30, 40 or even 50 years of distance in time may separate the two of you. That is a great break in continuity. And then there are those of us who will not be going along, either intentionally or unintentionally. We cannot know who will be left behind forever by the vagaries of chance; accident or sudden catastrophic illness can claim any of us at any time.

Cryonics presents us with a unique and powerful opportunity. The opportunity to continue to communicate across the barrier of what is today mistakenly called

called death, across the barrier of decades or even centuries. Unlike others who lose loved ones to death, *we* have the opportunity to send messages, albeit along a one-way track.

It's my job to worry about the people in cryonic suspension at Alcor. It's what I'm paid to do and what I was made to do. Part of that worry extends to their psychological well-being upon resuscitation. One of the most frequent and penetrating criticisms of *Cryonics* magazine and of cryonics in general is that we do not deal with the future, except in the most literal, technological sense. Clearly, there have been efforts to try and address this outside of Alcor, such as the Reanimation Foundation on the financial level and Lifepact on the help and recovery level. A great deal of attention has been paid to taking your memories with you, to making videotapes and keeping diaries and "backing-up" who you were. And this is probably a good thing to do, but not, I think, a very essential thing. For me, if "I" make it through suspension in need of information about who I was, then "I" probably haven't made the trip at all.

These efforts are important and yet I think they miss the center of most people's anxieties about cryonics. It's not just having money or having our scrapbooks and pictures preserved from the past. Those things are important, at least to some people (maybe even to most). But even more important I think is addressing the break in continuity that cryonic suspension represents. Unfortunately, almost nothing has been said about finding out *what happened* where it really counts, with relationships, with friends, acquaintances and loved ones.

Each of us who has loved ones in suspension has a responsibility to care for them. And that doesn't mean just pouring liquid nitrogen on them or seeing to it that Alcor remains strong. It means *caring* for them on every level. It means writing to them, making a videotape, taking pictures—it means *com-*

municating.

Caring for patients in a hospital means more than just the mechanical exercises of technical procedures and bed baths and turning people every 4 hours. It means providing for the person's *total* care, attending to his/her psychological and emotional needs as well.

Because we get so little feedback from patients in suspension, it is easy to forget that they have psychological needs. While these needs cannot be met in real time, they nevertheless exist. If these needs are not addressed, they accumulate into a "debt" like an oxygen debt in a tissue starved of bloodflow. That debt will be "paid" on re-awakening somehow, in joy and the powerful certainty of love crossing the barriers of time and space, or in the grief of uncertainty, of never knowing...

I hope that when my turn comes there is at least a person or two who will be "left behind" who will care enough to sit down once a year, or if I'm *very* lucky, once a month, and tell me about what has happened to the significant people and relationships in my life. What an amazing record to peruse upon awakening that would be.

I intend to try to do that for Dick, although in many ways I'm one of the least suited to do so. I did not share in his entertainment life, I

did not socialize with the circle of friends he did. The *best* people to do that for Dick were those who, in the end, turned against him: his business partner, his sister, a number of his close "friends." There will very likely be no letters or videotapes from them waiting for Dick if he opens his eyes a century from now.

And that's a real tragedy. But there are others of us out there who can do better. We have loved ones waiting for us in liquid nitrogen. We can pull out the camcorder once a year and take them on a tour of the old neighborhood, tell them about old friends, and share our lives with them. We can write them letters, send them post cards. We can keep in touch. We can still say "I'm sorry," or "I love you," or "I miss you." We are not irrevocably cut off. There is still at least the *possibility of communication.*

That is a wonderful thing. A wonderful possibility which, so far, has remained virtually unexploited. I want to see that change.

For those of you with loved ones in suspension, I have a message: Make that videotape, write that letter. You'll find it a surprisingly enriching and satisfying thing to do. And not just because you'll be communicating with the future, but because you'll also be communicating with yourself.

The Practical Aspects:

At least two organizations offer archival storage and assistance in preparing materials to provide support for suspension patients upon revival: Alcor and Lifepact. We understand that Lifepact has recently changed direction slightly and is now trying to work within the existing suspension organizations to achieve its ends. Perhaps Alcor Suspension Members who are also Lifepact members would be interested in establishing a "message bureau" for Alcor suspension patients?

In any event, persons wishing to send messages to suspension patients may do so via Alcor's archiving program, or may contact Mike Darwin at Alcor for information on what may be added to the correspondence section of the patient's suspension records file.

Advertisements And Personals

The Alcor Life Extension Foundation and Cryonics reserve the right to accept, reject, or edit ads at our own discretion and assume no responsibility for their content or the consequences of answering these advertisements. The rate is \$10.00 per line per month (our lines are approximately 90 columns wide). Tip-in rates per sheet are \$90 (already printed and folded); or \$180 (printed one side) or \$270 (printed both sides), from camera-ready copy. Tip-in advertisements must be clearly identified as such.

THE PLANNERS PROFESSIONAL SERVICES, INC., Insurance Broker, Registered Investment Advisor. For quick proposals (many companies available) contact Bill Elson; 1012 Grand; West Des Moines, IA 50265. Phone (515) 224-0149. FAX (515) 224-0481. Associated with Charlie Hartman.

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, DEC 2 meeting is the Annual Turkey Roast, at the home of:

Saul Kent and Jo Ann Martin
16280 Whispering Spur, Riverside, CA

Directions: Take the Riverside Freeway (Hwy 91) east to Riverside and get off going south (right) on Van Buren Blvd. Whispering Spur is south of the freeway four miles, and 1.0 miles beyond Mockingbird Canyon Rd., on the left. 16280 is the second house on the right, at the end of the white fence.

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

Russell Cheney
5618 Ruby Place, Torrance, CA

Directions: Take the Harbor Freeway (Hwy 110) south past the San Diego Freeway (US 405) and get off on Sepulveda Blvd. going west (right). Take Sepulveda through Torrance and turn right on Palos Verdes Blvd. Turn left on Carson St. and follow it around to Ruby Place and turn right. Ruby Street is just beyond Ruby Place, and is not too far.

* * *

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, 18 NOVEMBER
Acapulco/Los Arcos
722 N. Pacific Ave., Glendale, Tel: (818) 246-8175

DIRECTIONS: Take the 134 to Glendale, exit at Pacific Ave. and go north about one block.

* * *

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

Cryonics

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, NOV 11 meeting will be held at the home of:

Roger Gregory and Naomi Reynolds
2040 Columbia St., Palo Alto, CA
Tel: (415) 493-7582

DIRECTIONS: Take the 280 north to Page Mill Road, and take Page Mill east toward Stanford. Go down to the bottom of the hill to Hoover St. (5th light). Turn left on Hoover to California St. and make another left. Go two blocks to Columbia and turn right. The house is in the second block, on the left.

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.

* * *

There two Alcor discussion groups in the Greater New York area. Details may be obtained by calling either Gerard Arthus, 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:

November 17, December 16, January 19, February 16

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

Meeting dates:

December 2, January 5, February 2

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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.

Other Events Of Interest

• There will be a fund-raising dinner for the Thomas Donaldson Legal Fund on December 1, 1990 in Wrightwood, CA, the day before the Alcor Turkey Roast. Contact Arel Lucas at (408) 978-7616 for reservations or information.

• The annual Alcor Turkey Roast will be on December 2, 1990 at Saul Kent and Jo Ann Martin's in Riverside, CA. Potluck. Contact Marce Johnson at (714) 962-7898 or Maureen Genteman at (213) 398-3464.

ALCOR LIFE EXTENSION FOUNDATION
12327 Doherty Street
Riverside, CA 92503

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