



## Cryonics is . . .

Cryonic suspension is the application of low-temperature preservation technology to today's terminal patients. The goal of cryonic suspension and the technology of cryonics is the transport of today's terminal patients to a time in the future when cell/tissue repair technology is available, and restoration to full function and health is possible--a time when freezing damage is a fully reversible injury and cures exist for virtually all of today's diseases, including aging. As human knowledge and medical technology continue to expand in scope, people who would incorrectly be considered dead by today's medicine will commonly be restored to life and health. This coming control over living systems should allow us to fabricate new organisms and sub-cell-sized devices for repair and resuscitation of patients waiting in cryonic suspension.

## Alcor is . . .

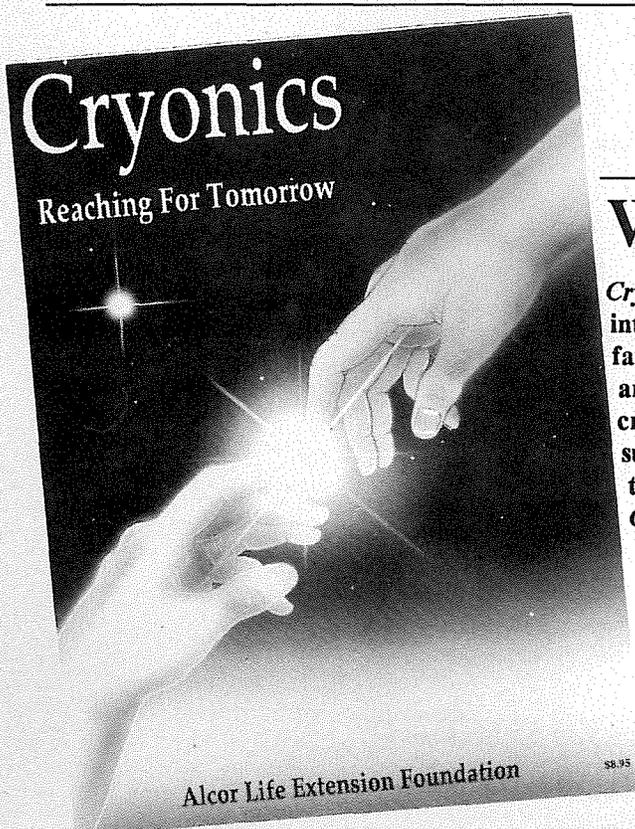
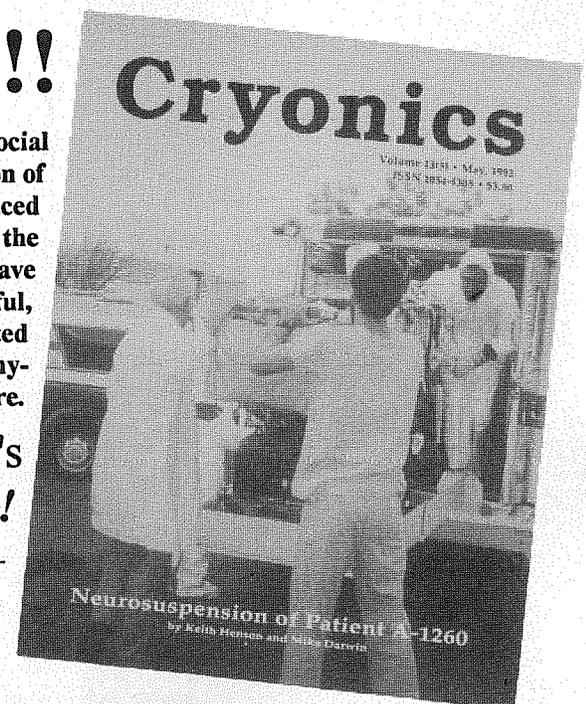
The Alcor Life Extension Foundation is a non-profit tax-exempt scientific and educational organization. Alcor currently has 27 members in cryonic suspension, hundreds of Suspension Members--people who have arrangements to be suspended--and hundreds more in the process of becoming Suspension Members. Our Emergency Response capability includes equipment and trained technicians in New York, Canada, Indiana, North California, and England, and a cool-down and perfusion facility in Florida.

The Alcor facility, located in Southern California, includes a full-time staff with employees present 24 hours a day. The facility also has a fully equipped and operational research laboratory, an ambulance for local response, an operating room, and a patient storage facility consisting of several stainless steel, state-of-the-art storage vessels.

# Subscribe to *Cryonics*!!!

*Cryonics* magazine explores and promotes the practical, scientific, and social aspects of ultra-low temperature preservation of humans. As the publication of the Alcor Life Extension Foundation--the world's largest and most advanced cryonics organization--*Cryonics* takes a realistic, real-world approach to the challenge of maintaining in a biologically unchanging state patients who have reached the limitations of modern medicine. *Cryonics* contains thoughtful, provocative discussions of cryonic suspensions performed by Alcor, related research, nanotechnology and molecular engineering, book reviews, the physical format of memory and personality, the nature of identity, and more.

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*Cryonics: Reaching For Tomorrow* is truly the world's only "textbook" introduction to cryonics. Over one hundred pages long, *C.R.F.T.* is a fantastic and unique examination of the social, practical, and scientific arguments that support the continuing refinement of today's imperfect cryonic suspension techniques, with an eye toward eventual perfected suspended animation. *C.R.F.T.* is also a comprehensive introduction to the Alcor Foundation. This book is free with your \$15 subscription to *Cryonics* magazine, or can be purchased separately for 7.95.

To subscribe to *Cryonics* magazine and receive a free copy of *Cryonics: Reaching For Tomorrow*, or to order *C.R.F.T.* alone for \$7.95, call 1-800-367-2228, or write to the Alcor Foundation at 12327 Doherty Street/ Riverside, CA 92503.

# Cryonics

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Issue to press: October 16, 1993.

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Cover: Alcor's new home.

## Rate Increase For New Neuro Members

As announced in the last issue, the price for neurosuspension with Alcor will increase from \$41,000 to \$50,000 as of January 1, 1994. As usual, this will *not* affect any existing members, and it will not apply to anyone who pays the Application Fee of \$100 prior to midnight on December 31, 1993 (some restrictions apply; call Alcor Membership Administrator Derek Ryan. Our practice of "grandfathering" members at the rate that applied when they signed up will continue for the foreseeable future, and, if possible, forever.

The Whole Body Suspension price will remain at \$120,000. And again, there is *no* change in suspension price for existing members, or for those who apply for membership prior to the end of this year.

## Bimonthly Business Meetings

Among the many cost-cutting measures planned for the coming year is a reduced schedule of meetings for the Board of Directors. Beginning in January, the Directors will be meeting bimonthly instead of monthly, for a total of six meetings over the course of the year (January, March, May, July, September, and November).

This will reduce expenses in a variety of manners, including reducing travel expenses for staff and directors, lowering phone expenses for conferencing calling during the meetings, and effectively adding one or two more working days for some of the staff, especially Steve Bridge and Ralph Whelan.

Expect to see a 1994 budget article in the next issue, detailing the many other steps we're taking to improve our cash flow situation for the coming year.

## Member Newsletter on the way, With Complementary *Cryonics* Quarterly

Over and over during the past few months we at Alcor have been frustrated by the lag time between preparation of *Cryonics* magazine and receipt of the issue by the members. This is the inevitable result of an ever-increasing press run, especially given that bulk mailing is absolutely essential to keep costs down. A few months ago, we seriously considered starting a newsletter for members — produced in-house here at Alcor and mailed out First Class — that would serve as a more timely news vehicle for member-related news, and would allow the newsstand issues of *Cryonics* to focus more

on marketing new members. With the extremely political events of the past few months often monopolizing the pages of *Cryonics* (and severely curtailing newsstand sales), we've felt even stronger about the need for a newsletter separate from *Cryonics*.

The primary reason we've never made a move to such separate publications is, as usual, *cost*. *Cryonics* is expensive to produce, both in materials and in manpower, and we couldn't see our way to taking on *another* publication. However, recently I received a suggestion that seems ideal for accomplishing our desired end: We can make *Cryonics* magazine a quarterly publication, continuing to send it to all members and to the newsstands, and prepare a special *members-only* newsletter eight times per year, scheduled such that all members will continue to receive an Alcor publication exactly once-a-month. Thus, *Cryonics* would be released in January, April, July, and October, with two membership newsletters being mailed out between each issue of *Cryonics*.

A preliminary cost analysis of such a publication plan seems to indicate that it will save Alcor in the neighborhood of \$10,000 to \$12,000 per year. This is a phenomenal savings, considering that it will also allow us produce a longer and more carefully prepared issue of *Cryonics* for the newsstands, and will enable us to provide our members with a *timely* newsletter that will reach your mailbox within a week of its preparation.

At the moment, we're planning to begin this new publication schedule at the turn of the year, with the first quarterly issue of *Cryonics* appearing in January, and the first membership newsletters following in February and March. As always, we welcome your feedback and suggestions on how to make this a successful transition.

## Chiller Chapter Appears at Last!

In this issue you will find the Preface and first chapter of Sterling Blake's *Chiller*, the highly-readable cryonics/mystery/sf/mainstream novel reviewed by Steve Harris in the September issue. Our apologies to Mr. Blake, who cheerfully provided the text in hopes of seeing it appear along with (or soon after) the review two issues ago. Unfortunately, various current events had to take precedence, and it was delayed.

To compound the problem, your harried Editor got his wires crossed and *argued* with Mr. Blake (who called to inquire about its absence), assuring him that it *must* have appeared by now, meanwhile failing to find it

in the back issues!

Here it is at last. You may want to go buy the book before you start reading it, though, so you don't have to delay a single chilling moment.

## Turkey Time Approacheth

Yes, it's that time of year again. What time, you ask? Time to talk turkey, of course. Once a year, everyone who is anyone gets together for a day of fun, food, and stimulating conversation at Alcor's annual Turkey Roast. As always, it will be held on the first Sunday in December, again this year at 10106 Sunbrook Drive in Beverly Hills. If you like meeting fascinating people (the likes of which you'll find no where else in the sentient universe) if you like to think, if you like to talk, if you like to play musical instruments or sing, if you like to laugh, or if you just like to eat a lot of food that you and others will bring, then this year's Turkey Roast is for you.

To get there: Take the 405 freeway to the Santa Monica Blvd. offramp, and go east on Santa Monica Blvd. to Beverly Dr., in Beverly Hills. Go left (north) on Beverly to Benedict Canyon Dr./Canon Dr. at Will Rogers Mem. Park. Bear left onto Benedict Canyon Dr., with the park on your right, across Sunset Blvd., with Beverly Hills Hotel on your right. Go up Benedict Canyon Dr. to Angelo Dr. Go left up the hill on Angelo past Hillgrove Dr. to Sunbrook Dr. Turn right onto Sunbrook and go about 100 yards to the top of the street. 10106 is on the right, just short of the top. Sunbrook Dr. is a cul-de-sac, so most visitors will probably have to park on Angelo near the entrance to Sunbrook.

If you're don't show up this year, how will you ever live it down a billion years from now at The Far Edge Party? (You won't. And you'll get very tired of hearing all million copies of Keith Henson mentioning it every time he/they see(s) you.) Be there!

## Washington DC To Hold Its First *Cryonics* Conference

Alcor Suspension Member Mark Mugler and other East Coast Alcor members and cryonics enthusiasts are planning "Cryonics: Meeting the Challenge," the first DC conference on cryonics. We weren't able to collect many details by press time, except that the event will be taking place on December 5. For more details write to: Mark Mugler, Pres. Alcor DC, 990 N. Powhatan, Arlington, VA 22205.

## Letters to the Editor

Dear Editor:

I would like to find out if Alcor is planning to offer -130C storage for whole body patients in the next few years — for people like myself who are willing to pay for this kind of storage. I realize it will cost more but I have funding above the minimum and would like to use some of it in this way.

Sincerely,  
David Kurzdorfer

*One of the problems with patient storage at -196C is that various types of tissue expand at different rates when they freeze. This phenomenon creates separation between different layers of tissue visible as actual cracks in the frozen tissue. While we believe that a technology capable of cell repair would be able to correct cracking damage, the search has been on for many years to find a way to prevent this. Why send more problems to the future than necessary? One theory has been that storage at approximately -130C would provide safe, long-term storage and stop the temperature descent before cracking occurs. Since there is no substance as safe or as inexpensive as liquid nitrogen which has a boiling point of -130C, no practical way to implement or even test this theory had been found. However, beginning last spring, several cryonicists (especially Robert Ettinger, Brian Wowk, and Steve Harris) came up with some possible ways that this might be done. Several cryonicists are doing preliminary tests on these methods now, and Alcor will do so as well once we've moved to Arizona. If methods are developed which will increase patient safety or viability, Alcor will inform its members about them and will use them if at all possible.*

— Steve Bridge

To the Editor:

I wish to add a bit to Keith Henson's column in the September issue of *Cryonics*. In it Keith quotes Paul Birch both on the problems of moving a planet and the possibility of using solar sails to move a star or planet. Paul Birch has produced several ideas of interest to anyone interested in speculation about future engineering. His article in *Analog* was just a taste of them, and far from their first

appearance.

Readers who may want to get a deeper understanding of these ideas may wish to consult the *Journal of the British Interplanetary Society* (*JBIS* for short) where Birch has published most of his work in far more detail than Henson explains it. The central idea behind Birch's constructions is what he calls a "dynamic compression member," which consists of a large number of bodies traveling back and forth between two points. If one of these points is a platform stationary with respect to the Earth, for instance, it could be supported at a fixed location (relative to the Earth) by the upward momentum given by impact of these bodies. That is, a "dynamic compression member" supports the platform against the compressive force of the Earth's gravity, which tries to force it down.

This idea has many applications, most of which Paul Birch has explored in various articles in *JBIS*. For instance, "dynamic compression members" could be used to support the SupraJupiter Birch described in *Analog*. Birch has also presented plans, using his idea of "dynamic compression members," to move planets or stars. In the case of moving Venus, his method might complete the movement in less than 100 years. Along the way, Birch also looks at alternative ways of accomplishing goals such as moving planets. When the calculations are done, it turns out that large mirrors to move a planet or star cannot match his methods, either in the acceleration given the planet or star, or in the efficient use of matter. It is true, of course, that such a method will move the star, but only on a scale of millions of years. Even if we have millions of years of lifespan ahead of us, faster methods would give us several million more years to enjoy the *successful results* of our planetary (or stellar) engineering.

*JBIS* appears to be very little known by most Americans, even those of a speculative bent. At the same time it provides the best outlet for serious speculative engineering I know of. By "serious" I refer here to ideas sufficiently well developed that their author(s) can not just show that they do not violate physical law, but also estimate just what their idea can someday achieve, even if it may currently lie beyond our current engineering grasp. Detailed calculations to show these points

are given with the article. It is *JBIS*, for instance, which published a large number of pathbreaking papers on methods for interstellar transport and exploration.

It deserves to be far better known in the U.S. than it is. I describe it here, even though it only bears indirectly on immortality, so that any reader whose interest was pricked by Keith's column will know the source of the True Oil from which it came. To subscribe, you first join the British Interplanetary Society, 27/29 South Lambeth Road, London, SW8 1SZ, England.

Best wishes, and long long life,  
Thomas Donaldson

Dear *Cryonics*,

I have finally received my April issue of *Cryonics* and even if it is a bit late I would like to comment on the suspension of "Mr. Daly."

Let me begin by clarifying my personal background.

Both me and my husband have signed our suspension contracts, but *not* with Alcor. We chose Cryonics Institute in Michigan. I am still interested in the activities of other cryonics organizations, as there is far more that unites us than divides us. With less than a thousand persons worldwide seriously interested in cryonics, we cannot afford to fight between ourselves. Yet I understand that my opinion will count for less than an Alcor suspension member's, as my position is that of a very interested outsider.

In another way I am not enough of an outsider. In the last four years I have watched my husband slowly deteriorate toward death, and this has occasionally dragged me into stress induced depression. My episodes have lasted less than a week each and have responded to drug and counseling treatment. But a week is a very long time when you are dangling over the pit, and I am full of admiration for Mr. Daly for having survived with his pain for a third of a century.

It is impossible for me to consider Mr. Daly's case dispassionately, but maybe my personal experiences can help counteract the "sane" opinions. I have found that those who have never felt mental illness from the inside tend to have a strange attitude toward it. An imbalance of insulin that causes your body to malfunction

tion is OK. A similar imbalance of a brain chemical that causes your mind to partially malfunction is frightening and shameful. And it is somehow your own fault.

I believe that clinical depression is a medical condition for which there often is no cure *at the present time*. In Mr. Daly's case, future medicine, reached through cryonics, is his only chance to a full and normal life. He had struggled as long as he could in this life, but instead of just taking his own life he did something else. His suicide should be seen as a positive reaching out for life rather than seeking death. I respect Mr. Daly's courage and I applaud Ralph Whelan for taking the high moral ground and supporting his suicide/cryonics/life attempt.

It is exactly the sort of thing that Alcor is known for. They stand by their people — even if it can be risky.

And this suspension leaves Alcor wide open for attack.

Even if your actions were legal, many people will find it wrong for ethical reasons. In the final analysis Alcor could have saved Mr. Daly's life — this time around. To make it worse he "wasn't quite all there in his head." Some people will not be able to see beyond the fact that Alcor helped a weak and unstable individual to die.

Another, larger group of people will find the implication scary. They are right. This case shows very clearly the difference that cryonics makes toward your attitude to death. In the same way that a religious fanatic can make you nervous, and you certainly would not want them to have any power, so the general public may feel wary about cryonics once they realize what we really stand for. We believe we can survive our own "death" so we don't see it as the final deterrent. We are a potential threat.

These people may never be prospective recruits to our ranks, but their opinions are important. They make up the majority of our democratic society and if they turn against us we may find that the legal and political climate also turns against us.

There will be those, now and in the future, who simply want to discredit cryonics. Some will have personal reasons for their hate, others will find it a convenient issue to use for political gain. Mr. Daly's suspension has given them ammunition to attack us.

These are my comments, but they are not a judgment on Alcor's action. The issue is far too complex for a yes/no

verdict.

A final thought. Alcor has a habit of making the "right" moral choices — even if they are risky choices. I found this the second strongest argument for selecting Alcor as my suspension organization. It was also my strongest argument for *not* selecting Alcor.

I don't know what is right or wrong in this case. I hope you do.

Marta Sandberg  
Australia

Dear Alcor Member:

"Alcor and You," the information booklet which was sent to you recently, contained an error. In the list of people who can be contacted by local Alcor members looking for further information, the New York section was left blank.

I was the person who produced the information booklet, so I take the blame for this error. It came about because at the last minute, the name and address of the contact person for New York had to be changed. I typed in the new data and saw it on the screen. I then printed the text and sent the pages for reproduction. I'm not sure how or why the text which I saw on the screen didn't end up in print. The desktop publishing program which I use is not totally reliable when making deletions and substitutions; and of course, I am not totally reliable, either.

The person to contact for more information about the New York chapter of Alcor is:

Kevin Brown  
19-353 Dell Place  
Stanhope, NJ 07874  
Phone: 201-347-1695

Please write in Kevin's name, address, and phone number in the blank space on your contact sheet. Thank you.

Yours sincerely,  
Charles Platt

Dear Editor:

I attended several Alcor meetings where the subject of the move to Arizona was discussed. At those meetings several Alcor members asked some very direct questions regarding the move to the Acoma building. Some of the responses by certain members of the board, mainly Steve Bridge, President of Alcor, and

Dave Pizer, the Treasurer are as follows:

1. Alcor would not purchase the Acoma building or any other building until all the monies were received, not just pledged, but received by Alcor.

2. Alcor would not move to the Acoma building or any other building in Arizona until all clearances from the Health Department of Arizona, and all officials who would govern the move, and Alcor's residence in Arizona, had given the necessary approvals.

3. Dave Pizer said that a Limited Liability Company, not Alcor would purchase the building, not Alcor. This company would be made up of the investors in the building, and a managing partner.

Dave Pizer was asked directly if he would be a managing partner of the Limited Liability Company. He responded with the word no. He was also asked if his friend, Sterling Johnson (Alcor's real estate agent in this venture), would be one of the partners of the LLC, and Dave responded with a no.

I have been asking some very clear questions in regard to this move even up to a few days before this writing. The following is my understanding of the direct questions, and direct answers I received from Steve Bridge. They are as follows:

All the monies for the Acoma building are not received, they are pledged. The majority of the money is not received, but is pledged. Two of the four remaining pledges are not certain. These pledges as I understand it are for prepaid suspensions. I know from my conversations from Steve Bridge, that he is aware of the by-law that says members cannot prepay their suspensions for investment in real estate, and I believe Alcor is taking these prepaid suspensions in trust (until the member dies which would be according to the by-law), however, if the money is in trust until the patient dies, the money cannot be used until then, so my question is — where did the money for the Acoma building come from? The building is already purchased and the first mortgage payment made.

As of a few days ago Alcor still did not have approval from the Health Department of Arizona to move the patients to Arizona, because the patients had to be shipped in sealed containers, and this is not possible.

I thought that this was a major problem. Steve Bridge says that it isn't. If the Health Department does not change their mind on this issue, Steve said that they will go to the Attorney General and get a ruling.

What will Alcor do if the Attorney General rules against Alcor? How much will this all cost?

My understanding is that Dave Pizer is one of the Managing Partners of the Limited Liability Company which means that he has to have at least one of \$10,000.00 share in the building (I believe he has more), and Steve Bridge is the other Managing Partner.

Unless things change Steve Bridge is supposed to receive a monthly payment for involvement, and Sterling Johnson, Dave Pizer's friend is the Property Manager.

Did I miss the meeting where you changed your mind on what you said previously, Dave?

I do not know the law on this but due to the fact that Alcor members were assured by Alcor that Alcor would not move until all the monies were in place, and all the permission from the State of Arizona received, and the fact that Dave Pizer and Steve Bridge have an interest in the Limited Liability Company, I would think that they should not have participated in the vote to buy the building period, let alone without all the conditions met.

In closing, since the majority of the money to buy the building is not received, but merely pledged, and the Alcor Board keeps assuring members that Alcor did not buy the building, but the Limited Liability Company, did — Who is the Limited Liability Company?

Maureen Genteman

*Maureen asks several questions of fact which I will try to answer. But her letter also appears to assume that when the Directors or I (as President and CEO)*

*make a decision in advance, it can never be changed, even if circumstances change. No project as complex as this move could ever take place if the board cannot adapt to changing conditions. Also, no project is ever perfect, and compromises always have to be made to accomplish anything.*

*In this case, as the date came closer to where the LLC would have to buy the building or let it go, several imperfections were found. One of those was that a few Alcor members or potential members had not decided whether or not to invest in the LLC. Alcor's Directors decided that the move was so important that they would commit up to \$110,000 of the Patient Care Fund and pretty much whatever was necessary above that from the Endowment Fund to purchase shares in the LLC. If these waiting members decided to invest after that, they could purchase Alcor's shares right back.*

*On the question about the potential problem with the Arizona Department of Health Services: Most of this is clarified in Ralph Whelan's article on the move elsewhere in this issue. Here I will simply point out that we thought all of the approvals had been received before the LLC closed on the building. The problem letter on this issue was received several days after the closing.*

*Maureen has some of her terms mixed up on the management of the LLC. This is not surprising, since a Limited Liability Company is a new legal creature, and the Board and Staff also keep mixing up these terms. Stephen Bridge and David Pizer are the Managers of the Company. There are no "partners." The investors are "Members" of the LLC. Alcor is a Member of the LLC, along with several Alcor Suspension*

*Members. Dave Pizer is a Member, but did not decide to be so until the last week. When he made that decision, he took an \$18,000 loss to obtain \$20,000 in cash to invest. Dave did say that he didn't want to be a Manager of the LLC; but our attorney forced him into it because we needed a businessman in Phoenix to make the contacts and decisions until Alcor moves in. I will not be a "Member-Owner" unless I manage the LLC for at least one year. I will be receiving \$100 a month as an LLC Manager. Dave Pizer has refused any payment as Manager, and has contributed hundreds of hours of his own time to assist us with the purchase and move.*

*Sterling Johnson is not the Property Manager. He was the Realtor who sold the property to the LLC, and he is helping the LLC find renters. Dave and I will function as the Property Managers.*

*Finally, on the issue of prepaid suspensions: Apparently I did not explain this clearly in my conversations with Maureen. Alcor's bylaws do prohibit a prepaid suspension from being invested in property. We are not proposing to accept prepaid suspensions for such a purpose. One or two individuals in the sign-up process are considering investing \$100,000 or more in the LLC. They would then place their investment "in Trust" to Alcor. Alcor would not own their investments. They would continue to do so. The investment would only be transferred to Alcor if that member is placed in suspension. If the building is sold before the member goes into suspension, the individual would still own his investment.*

— Steve Bridge

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## For the Record

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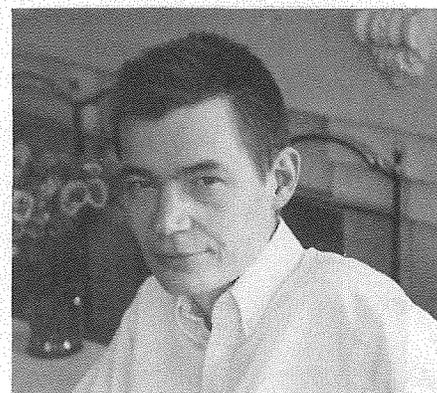
### Glimpses of a Lost Immortalist

Michael Perry

The immortalist movement, above all else, values *people* in a special way. We

think a human life is worth taking extraordinary measures to conserve, when others

would give up. Persons are important. This feeling comes across especially clearly,



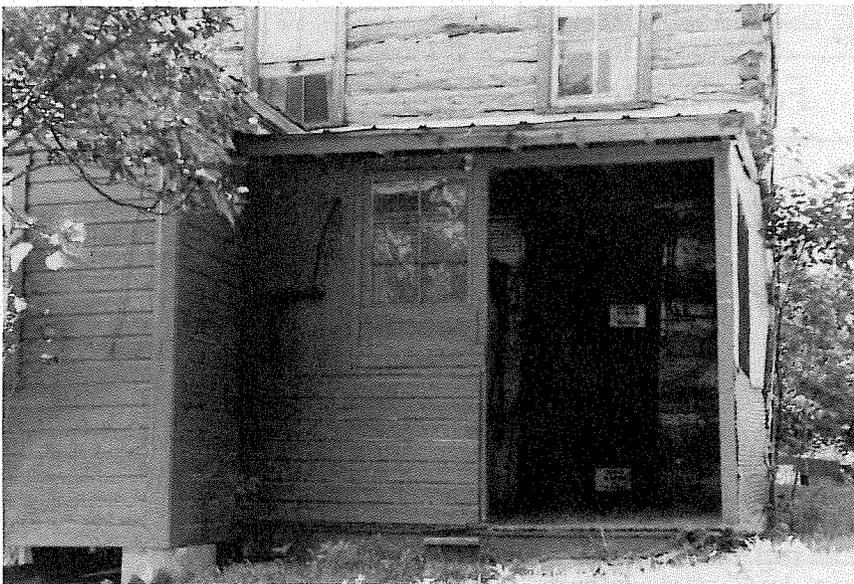


L to R: Charles Collet (a young visitor from France), Mildred Cooper, Ev Cooper, 1969.

and painfully, in the case of someone who was active in the immortalist movement, and who later was lost without the preservative procedure (freezing) that we hope will eventually lead to healthy resuscitation. For such people, other evidence, (writings, photographs, etc.) becomes especially important as the only way we can know something about them. Such a person, and doubtless the most famous of the lost immortalists, is Evan Cooper, the man who started the first organization promoting the cryonics idea, the Life Extension Society or LES, in December 1963. Cooper's surviving works include a book in rough draft, privately published,

some 60 issues of a newsletter, some half-completed projects such as the LES research and storage facility on a farm site near Hagerstown, Maryland, and — it turns out — a moderate amount of correspondence which is mostly unpublished.

There is Cooper of the book, the armchair immortalist philosopher and reluctant revolutionary, with his nervous opening line: "I wish to warn you, in a very direct and personal manner, of what is to follow..." A few years later Cooper is the hard-working immortalist pressman, spreading the memes of the infant movement to hundreds of devotees through his newsletter, *Freeze-Wait-Reanimate*, and

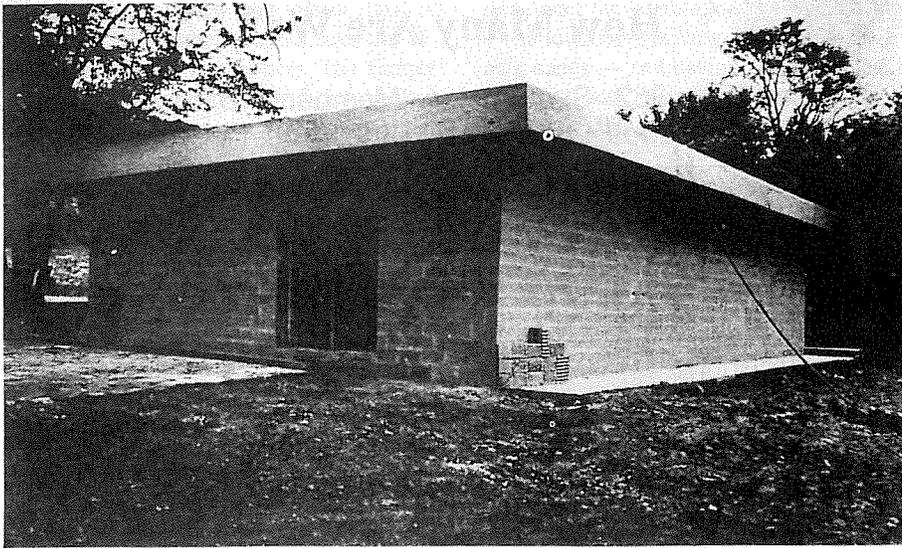


The farmhouse on the LES property, Sept. 1968.

staging annual FWR conferences. Cooper the builder emerges a little later, contracting, hiring, digging and scraping with his own hands, winter and summer and rain or shine, trying heroically to shape his tiny rural empire into a suitable launch pad for an immortal voyage. The work proved too much, as many readers will know, and LES never froze anybody or did much in the way of research, after freezing a dog (the first cryonic suspension) in 1965.<sup>1</sup> In later years Cooper took to extended Atlantic sailing, an enviable pastime — except for that final voyage in '82 — when he didn't come back.

The surviving evidence, though probably more extensive than for most of the departed, is still pitifully inadequate. We want the *person* with us — that's why we freeze people at death! Failing that, we have to grasp at straws, those scattered remnants, always insufficient, that tell us a little, at least. Often there are major mysteries; the real person is not so easy to infer, even in rough outline, from the more public performances. So it is with Cooper — the man was enigmatic, one of those who valued privacy. He was rarely photographed. He destroyed his private papers, leaving major gaps in the record. He lived without a fixed address for the last years of his life. The list goes on ...

In such a case, it is of more than usual significance when materials come to light that provide the kind of details one would not expect in an author's books or newsletters. In Cooper's case we are fortunate that many of his letters have been preserved. It is on this unpublished correspondence that most of this article is based. Most of the surviving letters were in fact written to a young cryonics enthusiast, Jerry Cullins, and form a remarkable record of pen-palship. Jerry, a cryonicist to this day, meticulously saved these letters and years later transferred them to the Alcor archives. He has generously given permission to use this material and we owe him a special thanks. Here, as so often in this column, I cannot do full justice to these writings, but will share some of the highlights, along with a few other sources, the emphasis being on delineating something of Cooper that doesn't come across in previously published sources (including this column).<sup>2</sup> What was this person like? Hardworking, fun-loving, great sense of humor — all these descriptions apply, and a darker side, a species of one-man showmanship that ultimately proved lethal. *Cooper had no colleagues* — friends, yes, sympathizers, devotees by the hundreds, a



Cryonics Reports 7/68

**The Les Laboratory that Cooper built.**

wife also, but no peer group to help him plan and build, to fight just as tenaciously as he was trying to, with as much will to succeed. Cryonics is by nature a collective enterprise — a one man show doesn't cut it. I'll have more to say on this later.

For now, let's let Cooper speak for himself. One thing you'll gather from these extracts — all addressed to Jerry Cullins unless otherwise noted — is that they also provide a glimpse of Jerry himself (and a few others from time to time). Unfortunately Jerry's letters, including lots of hand-drawn cryonics-related cartoons, for the most part (to my knowledge) have not survived (though Jerry himself luckily has!). Dates are given, where possible, prior to each quotation.

Oct. 3, 1967: "Enjoyed the humor ... That's more of what we need in this movement and not so many bitter words between various people."

*Not so many bitter words* indeed! Odd how this theme is haunting us today — *will we ever learn?* Another issue in LES, with a parallel today, was a campaign to raise funds for the purchase of a site for a storage and research facility. Jerry had proposed a raffle.

Oct. 5, 1967: "The raffle is an intriguing idea. I wonder if we would get in hot water over it with our tax-exemption? Maybe not. I'll have to ask those legal beagles (beagles) if it would be okay. But, also, I'm very doubtful more than a handful (25 to 50) would go for it. These people we have in LES are fantastically individualistic and it is hard to get any num-

ber of them to do anything in unison."

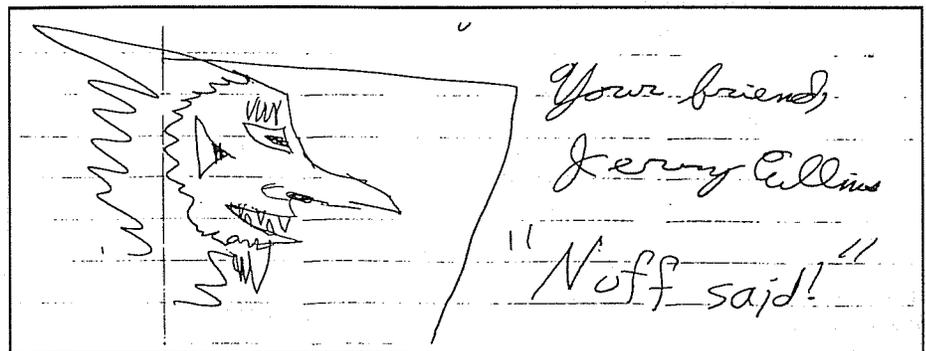
Around this time FWR had a print run of 1000, to give a rough idea of the total membership of LES (exact figures not being available).<sup>3</sup> Unlike Alcor, LES did not require a suspension contract to qualify for "membership;" members were encouraged, however, to have arrangements, though these were primitive by our standards.

Just prior to the above quotes, on Sep. 20, Ettinger had sent a letter sharply criticizing Cooper's performance in LES, including doubts Cooper had about Robert Nelson. (At the time Nelson had done human freezings while LES had not.) This caused Cooper to cancel his annual FWR conference, scheduled for Oct. 28. It was rescheduled in June the following year. Meanwhile the drive for land continued; land was purchased, and Cooper set to work to create the facility that would fulfill the promise of LES. Unfortunately, it was not to be. The work dragged on interminably. With almost superhuman persistence a building shell went up and the

structure, interior partly finished, was shown to conference attendees. This was to be the last important accomplishment of LES. From the summer of '68 things went steadily downhill, and the organization effectively ceased to function after 1969, though intermittent building work continued a little longer. The following captures some of the flavor of things in the summer of '68 when the work was in full swing, Cooper and his wife, Mildred both being involved. The "Cool Ghoul" is a cartoon character created by Jerry Cullins.

Aug. 20 1968 [postmark]: "I imagine you will disown me? [for tardiness in writing, evidently] — We have been on a ten day vacation AT the LES place working! — Well, we looked at a few birds also, and took in one movie one hot dull evening. The big accomplishment, if one can call it that is getting the roof pretty near water-proof. — AND at a low cost. I think I told you about the FANTASTIC prices quoted by the contractors? So, I got the materials and got the basic part of it done myself. There is lots of work left to do but at least the rain no longer comes THRU the roof like it used to.

"... Oh the house is a FRIGHT! — Something the Cool Ghoul would come out of in winter. They say it was 19°F below up there in that general area last winter. ... The house is old, old, old. It has rooms, roof, log walls, hogbacked floors, basement, second story, attic, kitchen, livingroom (if you can call it that) and bedrooms and porch ... an icebox, electric stove, woodbox, beds, chairs, table ... well we existed in the darn thing for ten days anyway and were only a little worse for wear. ... It is about 100 yards from the LES building. I'll get pictures of the strange looking monstrosity someday and send them to you or maybe even put one in the newsletter for we might be able to get an executive director or a research person for LES to use the old place free of charge



Sketch and signature from a rare surviving letter from Jerry Cullins to Ev Cooper, Dec. 1968.

in exchange for their services to LES. — What do you think of that idea? Surely there must be someone interested in peace, quiet, isolation, birds, snakes, insects (millions of them), research lab nearby when finished, etc. etc..? Got any ideas on how to get an exec director? ...”

The effort to obtain a volunteer executive director prompted an appeal in FWR that was repeated in numerous issues. Among the requirements in the job description was to “kill the poisonous snakes and protect the beneficial ones.”<sup>4</sup> This concern over snakes sparked more consternation than intended, Jerry wondering what technique would be best for dispatching the dangerous reptiles. Cooper answered, tongue-in-cheek, Jan. 15, '69: “The way to kill pizon snakes is pick one up by the tail and swing it like a lasso, hitting the next snake head to head.” Five days later, with the issue still not laid to rest, Cooper responded:

“SNAKES: I really doubt there are any pizon snakes! I kind [of] put that in for humor. They are *known* up there, but our neighbor saw two in 30 yrs! Not much problem. Them you could sneak up on and scare ... to death? Or dunk 'em in liquid nitrogen?”

This appears to have satisfied Jerry, but the issue of snakes would not go away.

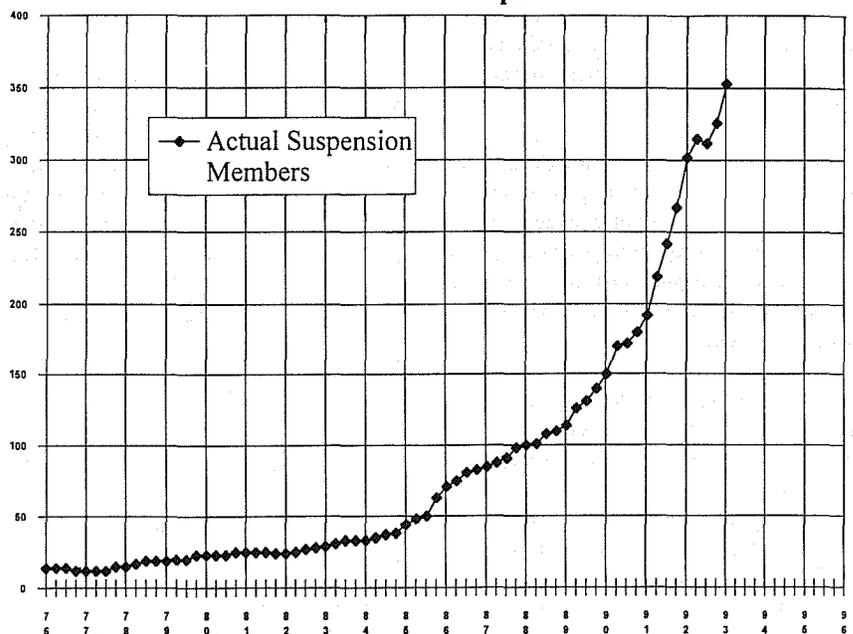
Apr. 4, 1969 [postmark]: “I wanted to tell you about last Sunday and the snakes. Somehow those comments I made offhand in the newsletter about snakes interested or scared more people more than anything else. You'd think the way people ask about it we had a snake farm up there. Anyway, last Sunday, Al [Lefebvre?] and his father were out near one end of the barn tearing down a lean-to that had really fallen down. They figured that at least it would make the barn better looking ... So along comes a farmer, a heck of a nice guy, who fishes in the creek, and he stops to say a kind word just to pass the time of day and be sociable. So he compliments them on their work and is trying to be helpful ... add[ing] that they sure are smart to be tearing that thing down so early in the season before all the snakes [start] coming out! Al's father's mouth drops half a foot, he almost loses his pipe and he does drop his hammer. 'Snakes?!, you mean there are a lot of snakes around this barn?' ... 'Oh yes,' says the farmer, 'you are probably standing right over some now.' — Of course the

## How Many Are We?

Alcor has 362 Suspension Members, 516 Associate Members (includes 99 people in the process of becoming Suspension Members), and 27 members in suspension. These numbers are broken down by country below.

Country	Members	Applicants	Subscribers
Andorra	0	0	1
Argentina	0	1	1
Australia	13	1	4
Austria	1	0	1
Brazil	0	0	1
Canada	11	5	47
Costa Rica	0	0	1
Estonia	0	0	1
Finland	0	0	2
France	0	0	2
Germany	2	0	2
Holland	0	0	2
Ireland	0	1	1
Italy	0	2	1
Japan	2	0	2
Lichtenstein	0	0	1
Lithuania	0	0	2
New Zealand	0	0	1
Russia	0	0	3
Spain	6	0	2
Sri Lanka	0	0	1
Sweden	0	0	1
Switzerland	0	0	1
U.K.	13	3	8
U.S.A.	314	86	327
Ukraine	0	0	1

Total Alcor Suspension Members  
Linear Graph



farmer doesn't know the effect this is having on Al's father (But Al sees the effect as he knows him better). The farmer thinks nothing about a few black snakes which kill the mice around any barn. ... it is a funny thing how everyone gets all het up about those silly snakes."

There is more still about the snakes — but this is enough for now. Despite all Cooper's effort, and the help of numerous volunteers, it wasn't enough to save LES. Years later, after his disappearance, Cooper's former wife Mildred commented:

"...Ev had a formidable store of knowledge and was extremely well-read and had the ability to remember and to analyze and synthesize ideas. He was the nearest thing to a genius that I have ever known — but yes, he was simple in many ways. He believed the best of the world although about government he was somewhat paranoiac, I think. He had much physical courage but when it came to meeting someone head on in a practical matter he would shy away ... I thought he was fearful of a confrontation.

"I guess he was not obsessed with the idea of freezing. Perhaps if he had been he couldn't have left for the sea. But when I

remember the terrible load he was carrying — practically building the Lab with his own hands — and having the walls cave in twice — with mounds of mud to remove each time and all the correspondence and newsletter work — it was much too much for one man. Plus the fact that our marriage was coming apart."<sup>5</sup>

Is there a lesson to be learned from this? We see a man who possessed many of the qualities — courage, perseverance, intelligence, ebullience, and so on — that might have led to success, though in the end he failed, and worse, lost heart. Cryonics, so demanding and unforgiving, is no ordinary venture. Certainly the mistakes made by Cooper and others have taught us much and made the movement — a quarter-century later — much stronger than in its earliest years. Still the parallels with that earlier time continue. Today some, who had seemed solidly committed, have lost heart and dropped their arrangements. And we are still plagued by that old bugaboo of disunity. Cryonicists, with their radical proposal to eliminate death, are rugged individualists, and this does not conduce to a close-knit community. The more vocal and volatile elements, more-

over, will rock the ship more than others, and may risk capsizing it. In thinking this over it strikes me that much of the problems would diminish if people would put priorities where they ought to be. We must put cryonics above all confrontations. If cryonics isn't perfect, it's a lot better than burial or cremation. Arrangements are better than no arrangements. One can still struggle for improvements in techniques, or work toward creation of a new organization if one desires — or stay put and strengthen an existing group.

In any case, it would seem that death clearly favors the isolated. Those with the best chance of defeating death will be those who can bury their differences, swallow the zeal for power, focus on the main goal of survival — and work long and hard together.

## References

1. *Cryonics* Jul/Aug 1993, 7.
2. For example, *Cryonics* Aug 1991, 8; Sep 1991, 24.
3. *Freeze-Wait-Reanimate*, Oct 1967, 4.
4. *Freeze-Wait-Reanimate*, Aug 1968, 2.
5. Mildred Cooper, letter to Mike Darwin, Jun. 2, 1983.

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## Notes from the President

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### Budget Considerations

Stephen Bridge

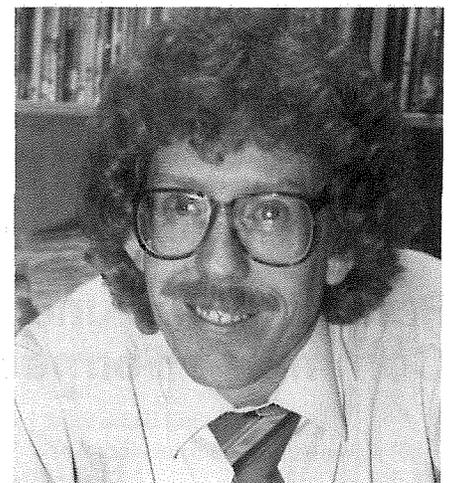
Most start-up companies run at deficits. While Alcor has been in business for 21 years, any business which only performs its primary activity 3-5 times a year has to be considered a "start-up." Alcor has been running on a substantial deficit for several years. We have never come within 50% of covering our expenses with membership dues (emergency responsibility fees). However, until this year we had enough donation income (in the past

few years much was from the Dick Jones Estate) to cover that deficit. The theory was that these expenditures were required to handle and propel Alcor's growth and that this growth would eventually overcome the deficit.

Currently, from figures given to me by our bookkeeper, Joe Hovey, it looks like our *operating* deficit (*not* Patient Care) is about \$8,000 per month. Coming up with this number is complicated by the

many unusual expenditures we had this year, some of which were not truly "operating" costs.

We are still catching up on legal expenses from past years, although our new legal expenses have been comparatively low. Some amount of extra expense has been incurred in determining the extent of our building code problem at the Riverside facility. We have paid several thousand dollars in remodeling expense and in



hiring an architect already.

The fourth major problem was in suspensions. In 1992, the operating budget gained about \$23,000 from suspension funding left over after expenses and after the Patient Care Fund had been paid. So far in 1993, the operating fund is MINUS about \$20,000 for expenses it had to make up on the suspension done in April. The insurance company (Met Life) has refused to pay on the policy, claiming the patient had not disclosed that he had cancer and AIDS when he took out the policy — less than two years ago. We still have some options on this and may yet get some money from Met Life, but I'm not counting on it.

We have had only one other suspension this year, a financial break even on the suicide in February. In 1992, we had five suspensions before the end of July.

One problem with our budget this year was that in late 1992, when we looked at the 1991 financial statements, we misunderstood what percentage of 1991 donations was from members and what was from the Dick Jones estate and other sources. So we budgeted our 1993 income to include about \$40,000 too much in donations.

One "almost sure thing" income source fell through. We really expected to net \$50,000 or more from our motion for legal fees against the California Department of Health Services. For technical reasons (as explained in an earlier issue), we did not get a cent.

Also, our membership growth suddenly slowed down dramatically, to nearly zero growth in the past six months. No doubt the arguments between various Alcor members contributed to this; but we

also may have hit a temporary plateau, perhaps based on a poor US economy. The poor economy has definitely affected our ability to gain contributions, and it has made fund-raising for the Scottsdale building much harder. Based on my conversations with 70-80 Alcor members over the past month, no more than a handful are better off financially this year than in 1992.

This year's budget was based on what we saw as the average between the worst possible situation and the best possible. Nothing about this year has been average, however, and I cannot predict when we will see "average" again.

Our budget deficit might still be acceptable if we could see that it was steadily shrinking and that membership growth would clearly wipe it out in a reasonable time period. This doesn't seem to be the case.

As we have had these shortages, as major unplanned expenses came about, or as bills mounted and had to be paid, the Board has borrowed money from the only available borrowing source: ourselves, via the Endowment Fund. As of August 31, the Operating Fund had borrowed approximately \$102,000 from the Endowment Fund (about \$20,000 of that amount was left-over from the end of 1992). The Research Fund (which covers suspensions) had borrowed more to cover part of the unpaid suspension and a promissory note we owed on Cryovita equipment we had to buy last year. The Building Fund has also borrowed \$30,000 for the deposit on the Acoma Building and the payment to the attorney to form the LLC. I expect this amount to be paid back to the Endowment

Fund from donations to the Building Fund.

I think we will have to continue as we are until we get moved to Scottsdale. Several Directors have stated that the next big project for the Board then becomes to reduce expenditures and raise income. Some Directors think that we may actually do better in donations and other income areas once we get settled. We have learned some valuable things about our members from the Building Fund drive. But we probably have to accept a lower budget for 1994. If we cannot find ways to improve our income before the end of the year, via suspensions, growth, and donations, we will have to make some large cuts. This will have to include either staff or salaries for staff, and will almost certainly include major cuts in publications, public relations, and in services to the members. Suspension services will be cut last.

Finding "fat" in the budget is not as easy as one might think. We are spending much less already than we should be if we want to make progress. Any cuts are likely to result in decreased exposure for Alcor and in decreased membership. It is expensive to add new members, although that expense is necessary to get people involved for the long run. Cuts in expenditures may also result in decreased ability to react quickly to a member's medical emergency.

These are some pretty difficult choices and perhaps some of those choices should have been made in years past. But here we are at the end of 1993 with the choices in our faces. You may well get an Alcor which loses little money and accomplishes just as little. Part of this is up to us. Part of this is up to you members.

## Patient Care Fund Investment Committee Formed

*Linda Chamberlain*

At the August meeting of the Alcor Board, a new, and temporary, Patient Care Fund Investment Committee was formed. The committee is made up of Michael Riskin, Chairman, Courtney Smith, and myself. If the committee is productive, the

Board may choose to give both the committee and its members greater longevity.

Michael Riskin has a Ph.D in psychology, a BA. in business, and is a CPA (Certified Public Accountant) as well as a licensed psychotherapist. He is self-em-



ployed as a management and financial consultant specializing in personal productivity training, management, staff, communication, and client/customer relations.

Courtney Smith is president and CEO of a brokerage firm in Chicago, author of

five books on investing, and editor of *World Investment Strategic Edge*, an investment newsletter.

For those who do not know me, I am one of the co-founders of Alcor. For twelve years, as a licensed real estate broker, I owned and operated my own property management business (together with my partner, Fred Chamberlain III). As my mother is in suspension, I bring to the committee, along with my business experience, the special perspective of a family member.

All three of us on the committee hope that our combined experience in the financial world, big business and small business, will bring financial, management, and business experience into focus on the special issues addressed by the Patient Care Fund.

This temporary committee has three primary tasks appointed to it by the Board of Directors. First, to gather data and report to the Board about the current investments held by the Patient Care Fund and the current yields. This report was made at the September 12, 1993 meeting.

The second task is to review the current policy set forth for the Patient Care Fund and make suggestions to the Board about possible improvements that could be made in those policies. The third task is to

review the actual investments currently held and recommend changes required (if necessary) to bring the investments more in line with current policy and investment objectives.

If the committee succeeds, it will supply the Board with the information they require in order to make the best possible decisions about how to carry out their fiduciary duties to the members of Alcor in regards to the Patient Care Fund, its growth and safety.

In order for the investment committee to recommend a course of action designed to optimize attainment of the investment goals and objectives of the Board of Directors, it is first necessary that the committee understand those goals. We developed a questionnaire (printed below) to be filled out by each of new directors as a first step toward reevaluation of previously established policies for the Patient Care Fund.

The outcome may be a strong affirmation of the previously set goals. It is also possible that an altered definition of the goals may result. In either case, the current investment committee and the current Board of Directors will both have a far greater understanding of what these goals are to be.

The investment committee will com-

pile these inputs and make recommendations to the Board about changes in the current policy which might be appropriate. Once agreement is reached on these issues, it will then be possible for the committee to recommend an appropriate balance for the Patient Care Fund portfolio(s) designed for maximum gain possible within the constraints of risk and safety considerations.

Those of us on the committee hope members and other readers will look carefully at the issues covered in the following questionnaire. Many who have looked at these questions have remarked that they gained a far greater appreciation for the complicated nature of the task of the Patient Care Fund after trying to formulate consistent answers to these policy-making issues.

Members are invited to photocopy the questionnaire and send it to the investment committee via Alcor. Both the committee and the Board are interested in your inputs as we try to find answers to these important and far-reaching questions. Follow-up articles will update members on the results of the questionnaire project and changes (if deemed necessary) made in either the policy or the investments in the Patient Care Fund.

## Patient Care Fund Investment Goals Questionnaire

[The apparent redundancies are intended to help eliminate misunderstandings.]

1. *What do you consider to be valid objectives for the Patient Care Fund (PCF)?* (For this question, please choose as many options as you like).

- Long term storage of suspended patients [only].
- Reanimation of Alcor members, when possible, in the future [also].
- Re-entry (adjustment and re-education) of reanimated patients [also].
- Other: \_\_\_\_\_

2. *What investment time frame should Alcor use to guide investment decisions for the PCF?* (Choose one best answer).

- 1 — 10 years
- 10 — 20 years
- 20 — 100 years
- More than 100 years

3. *How much does the PCF have to invest at this time?*

- Little, so preservation of capital is very important.
- A reasonable amount, but more patient care services would be nice. Alcor could take moderate risks in order to achieve the moderate returns needed.
- A reasonable amount, but growth of the PCF is badly needed in order to offer the patient care services Alcor would like to provide.
- Alcor must be willing to take larger risks for maximum return potential.

4. *Is there likely to be any reason for Alcor to withdraw funds from the investment portfolio in the future?*

- Funds will be withdrawn continuously; they will also be added continuously.
- Funds will never be withdrawn except for emergencies affecting the long term safety of the patients, or a reanimation scenario.

Funds will be added continuously and removed seldom.

5. *Are there any special circumstances, such as emergencies affecting patient safety, that would require Alcor to immediately liquidate a major portion of the PCF over the next 10-20 years?*

- Full PCF could be liquidated.
- Major liquidation, but not complete fund.
- Some small liquidations.
- No liquidations; only withdrawals for expenses.

6. *How important is current income in the near future?*

- Critical; the PCF has a current and ongoing need to cover expenses.
- Needed to a large degree, but growth is also needed.
- Needed to only a small extent, future growth is far more important.
- Not important at all.

7. Which of these statements best describes your current attitude toward the Patient Care fund?

- Alcor cannot afford any significant loss of capital regardless of potential return.
- If Alcor can get high yields from bonds, it's NOT worth suffering through the ups and downs of the equity market.
- I believe in the power of compounding income and the potential gains from equities. Alcor should maintain a balanced portfolio.
- Higher risk investors will get higher returns. I want Alcor to benefit from higher returns in spite of short term risks.

8. How do you feel about the following statement: "Alcor's investments are for the long range, and volatility is not a problem"?

- I totally disagree.
- Willing to tolerate some variability of return, but rarely any loss of capital.
- Willing to endure a reasonable amount of annual fluctuation in total annual return.
- Agree completely.

9. How do you feel about the following statement: "The PCF investments would be better served by having some percentage allocated to safety and another portion to growth"?

- I totally disagree.
- Willing to talk about this approach, but uncertain.
- I agree completely.

10. What objective defined below best defines the primary investment philosophy for the PCF? (Take into consideration current income, current expenses, additional services and equipment needed, and whether or not growth of the current fund outweighs income needs)?

- \_\_\_\_\_% in CAPITAL PRESERVATION: emphasis on maximum principal stability where future growth of income and principal are of minor importance.
- \_\_\_\_\_% in CURRENT INCOME: emphasis on providing a high and stable level of income; future growth of income and principal are secondary objectives.
- \_\_\_\_\_% in LONG-TERM GROWTH: emphasis on future capital

appreciation; year-to-year principal stability is not important.

- BALANCE: about equal emphasis on each of these areas.

11. Rate Alcor's risk tolerance. Emotionally, as well as using judgment, how willing should Alcor be to tolerate losses of capital?

- Low risk.
- Average risk.
- High risk.

12. Which of these statements best describes your current attitude toward the PCF (as a whole, undivided fund)?

- Alcor cannot afford any significant loss of capital regardless of potential return. We're okay as long as we stay ahead of inflation.
- If Alcor can get high yields from bonds, it's NOT worth suffering through the ups and downs of the equity market. A high enough yield would be \_\_\_\_\_ percent per year.
- I believe in the power of compounding income and the potential gains from equities. Alcor should maintain a combination of both income and growth oriented investments.
- Higher risk investors will get higher returns. I want Alcor to benefit from higher returns even if major risk is involved.

13. If the PCF were split into two portfolios, one for safety of assets and the other for growth, which of the following would represent the best investment goal for the safety portion of the fund?

- Alcor cannot afford any significant loss of capital regardless of potential return. We're okay as long as we stay ahead of inflation.
- If Alcor can get high yields from bonds, it's NOT worth suffering through the ups and downs of the equity market. A high enough yield would be \_\_\_\_\_ percent per year.
- I believe in the power of compounding income and the potential gains from equities. Alcor should maintain a combination of both income and growth oriented investments.
- Higher risk investors will get higher returns. I want Alcor to benefit from higher returns even if major risk is involved.
- I would like to see the PCF earn at least

\_\_\_\_\_ % return (after inflation) on this portion of the funds.

14. If the PCF were split into two portfolios, one for safety of assets and the other for growth, which of the following would represent the best investment goal for the growth portion of the PCF?

- Alcor cannot afford any significant loss of capital regardless of potential return. We're okay as long as we stay ahead of inflation.
- If Alcor can get high yields from bonds, it's NOT worth suffering through the ups and downs of the equity market. A high enough yield would be \_\_\_\_\_ percent per year.
- I believe in the power of compounding income and the potential gains from equities. Alcor should maintain a combination of both income and growth oriented investments.
- Higher risk investors will get higher returns. I want Alcor to benefit from higher returns even if major risk is involved.
- I would like to see the PCF earn at least \_\_\_\_\_ % return (after inflation) on this portion of the funds.

15. What do you consider to be valid purposes for spending Patient Care Fund Money? (For this question, please choose as many options as you like).

- Legal bills related to patient care.
- Rent/mortgage debt on a building to house patients.
- Equipment involved in storage of patients.
- Salaries of personnel involved in storage of patients.
- Liquid nitrogen and other expendables needed for storage.
- Dewars and other depreciable equipment.
- Others (write in): \_\_\_\_\_

16. How do you feel about moving the Patient Care Fund out of direct control of the board of Directors and into one or more respected commercial trust companies?

- This would be unwise. The PCF should remain under direct supervision of the

Board of Directors. The safety of these funds is the number one responsibility of the organization.

[ ] As long as the Board retains control over the trust companies, this could add both safety and business competence to the manner in which the Board controls these funds.

[ ] These funds should be turned over to respected outside commercial trust companies who would be in complete control of the funds. This separation from the Board of Directors would help eliminate conflicts of interest and lead to greater stability and safety.

17. *The PCF (Capital Preservation Portfolio) should only be invested in (circle your choices):*

Treasury Bills, Government Securi-

ties, Bank CD's, Savings Account, Money Market Funds, Corp. Bond Funds, Individual Common Stocks, Real Estate, Commodities, Precious Metals.

18. *The PCF (Growth Portfolio) should only be invested in (circle your choices):*

Treasury Bills, Government Securities, Bank CD's, Savings Account, Money Market Funds, Corp. Bond Funds, Individual Common Stocks, Real Estate, Commodities, Precious Metals.

19. *The PCF (Income Portfolio) should only be invested in (circle your choices):*

Treasury Bills, Government Securities, Bank CD's, Savings Account, Money Market Funds, Corp. Bond Funds, Individual Common Stocks, Real Estate,

Commodities, Precious Metals.

20. *How do you feel about the following statement: The PCF policy should not lock in specific types of investments, but should only set guidelines. Markets do change and no given type of investment (stocks, real estate, etc.) will always be best over the long run. The Board of Directors should have guidelines and objectives, but should also have the flexibility to change the types of investment vehicles used as long as investment objectives and goals are being reached.*

[ ] I agree completely.

[ ] I am not certain.

[ ] I disagree and think the above pattern (17-19) should be adopted and only changed by a 2/3 vote of the Board of Directors.

## The Cryonicists Are Coming!

### An Update on Alcor's Impending Move to Scottsdale, AZ

Ralph Whelan

On September 23, *Cryonics Property, LLC* (a Limited Liability Company) began close-of-escrow proceedings on the "Acoma Drive Building" in Scottsdale, Arizona. With the purchase finally "official," renovations and other preparations are moving into high gear. We've stated casually for months that we hope to be relocated by the end of 1993, and now the pressure's on. The major areas of concern are financial, technical, and legal (though we do have the usual batch of a million-and-one lesser challenges to overcome).

#### Finances

By the time you read this, the offering of investment interests will be closed. Because the total of outside investments is still significantly below target, Alcor has a much larger ownership position than we would like. (No figure available as of press time, as several members are still considering sizable investments, and probably will not decide for a few days.) However, Al-

cor's Board of Directors has unanimously agreed to purchase the amount of interests necessary to "make up the difference" between the \$300,000 target and whatever amount is actually achieved. This means that if any Alcor Suspension Member's financial situation changes, they may have the opportunity to buy some of Alcor's "excess" shares and thereby reduce Alcor's ownership position.

There is *no* closing date on the acceptance of donations to the Alcor Building Fund, which has been set up to fund the many costs of moving and remodeling. We set as a target amount \$100,000 in this category, and we're very pleased to report slightly over \$70,000 received so far. There are still pledges to the Building Fund that we have not yet received, but we'll need at least another \$20,000 to meet all of the costs that we anticipate in connection with this move. The end of the year is now approaching, and we encourage members to take an active stance in assisting with this move by making a

tax-deductible donation to the Alcor Building Fund or Operating Fund.

As for our financial prospects once we've successfully relocated, probably the most significant concern is that of finding tenants for the portion of the building that is presently vacant. So far, the news in this category is all *good*. The existing tenants seem completely unfazed about the cryonics, and several companies are looking at the empty space. We're fairly confident that the building will be maximally leased by the end of October. Companies have been coming to *us* to compete for the space; we're not having trouble getting people to look at it.

Renovation of Alcor's portion of the building is about to begin, and for now (since we've not yet reached the \$100,000 Building Fund target amount) our approach will be, above all, economy-minded. (See Floor Plan.) The more significant (and thus more expensive) aspects of the renovation plan shown to members earlier are being reduced or delayed until

# SOULS on ICE

## Frozen 'patients' coming to town, with future life in view

By Mark J. Scarp  
Scottsdale Progress Tribune

It's all right to ask Stephen Bridge what he's got in his home refrigerator.

"My refrigerator's pretty ordinary," he said Tuesday. "Anything really cold we keep here at the office."

Really cold is 320 degrees below zero, a frigid temperature maintained inside huge stainless-steel containers that hold Bridge's

"patients."

Bridge and fellow staffers of the Alcor Life Extension Foundation plan to move their operation and 24 frozen human heads and bodies to the Scottsdale Airpark area within a month.

The unusual process of cryonics, or freezing organisms until cures for what killed them can be found, was used on a human being for the first time in 1972.

Alcor maintains the body of the first human to be so frozen, Dr.

James Bedford, and the bodies or heads of 23 others at its Riverside, Calif., headquarters.

Overregulation and fear of Southern California earthquakes that could rupture the tanks influenced the move to central Arizona, one of the nation's most earthquake-safe places, Bridge said.

The Valley is also large enough for easy access to the materials and services Alcor needs to operate, Bridge said.

"We'd like to get in there. In our

visits to Scottsdale we were very impressed with the city government, merchants, businessmen, Realtors; they all seemed very friendly and direct," he said.

"I was really impressed. I'm from the Midwest, from Indiana, and Phoenix and Scottsdale seemed a lot more like home."

Alcor hopes to close a sale on a building in the Airpark area within two to three weeks, said Bridge, adding that plans to finish the deal

Please see **Frozen / A4**

our financial situation improves. Fortunately, the administrative (i.e., office space) portion of the building is already professionally prepared and, frankly, beautiful. With little additional expenditure on the remaining portion, our new facility will far surpass our present one in usable space, convenience, and aesthetics.

Our thanks to Dave Pizer for his volunteer efforts as temporary on-site representative in arranging re-painting of the building, landscape clean-up, and other maintenance details.

### Tech Stuff

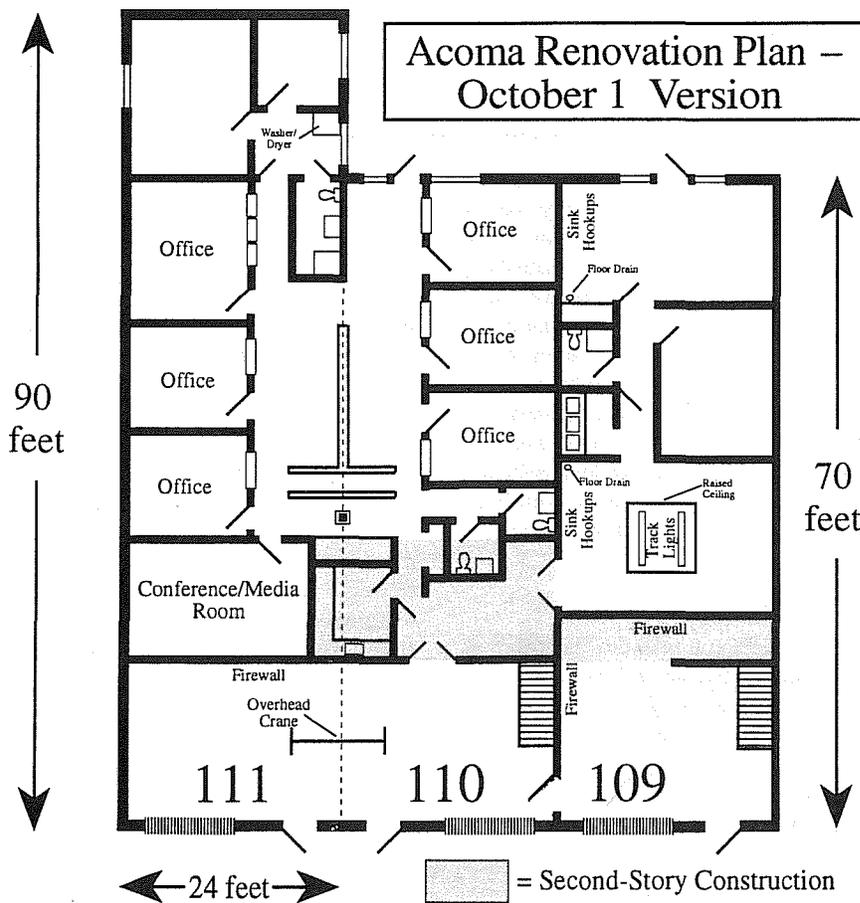
Clearly the most risky, the most interesting, and the most *unprecedented* aspect of this move will be the transfer of our 27 patients to their new home. This issue has weighed heavily on the minds of the more technically oriented among us ever since we began outgrowing our present facility several years ago, and especially since it began to seem likely that our next move would take us *out of California*.

One of the main reasons the Phoenix area has received so much consideration since the start of our building search efforts last year is its proximity to Riverside. Still, 350 highway miles can present a lot of opportunities for mishap or disaster, and while our "spare no expense" attitude toward the safest possible trip for the patients will attempt to anticipate every possible scenario, it's hard to feel relaxed about *anything* that involves Alcor Patients and the Open Road. (The only *less* relaxing thoughts that I have with any frequency involve the San Andreas Fault.)

I've been communicating with several professional moving companies for several months now. We've still not made a final

decision about who to employ, but the service provider with whom I feel most comfortable has over two decades of experience moving large, expensive, and *fragile* loads, including missiles and NASA satellites. Of the many we've considered, the most likely scenario for the engineering details is roughly as follows: "Double-drop" trailers (internal clearance of 12+ feet) will be employed, and the

Bigfoot dewars will be moved two-per-truck, well separated from each other but centered between the sides of the vehicle. *Many* loading straps will connect the various "secure points" along the bottom, top, and sides of the dewars directly to various secure points on the framing of the trailer. If deemed necessary, a hardwood or steel framework will reinforce the stability of the straps, though a significant



concern in such an arrangement would be the potential of puncturing of the dewar wall in a comparatively minor collision.

Depending on the exact dynamics and dimensions of the trucks used, there will be between two and four tractor-trailers used for the movement of the patients. Since the administrative portion of Alcor's operation will require at least four tractor-trailers as well, each patient-bearing tractor-trailer will be accompanied by a supplies-bearing tractor-trailer, so that if the tractor of a patient-bearing load becomes damaged or inoperative, the tractor from the supplies-bearing load can abandon (temporarily) its load and take over hauling the patient-bearing trailer.

A dry-run involving the movement of a Bigfoot dewar completely filled with liquid nitrogen but bearing no patients will be performed within the next few weeks. This dry run will be comprehensive, and will involve loading the heavy dewar as many times as is necessary to insure the safety of the techniques used, transporting the dewar all the way to Scottsdale, and unloading at the Acoma Building. Any inefficiencies or undue risks in the planned procedures should become apparent at that time.

The exact date of the movement of the patients themselves will not be publicized (or even divulged to *members*) except for those who have a need to know. We *don't* want publicity on this particular event, as any complicating factors (such as media personnel) represent additional risk. I have already received calls from, among others, CBS, indicating an interest in live coverage of the moving of our patients. I

have begun referring to this as the "Frozen Heads On Wheels" phenomenon, and I expect it to be unsurpassed as a cryonics-related press-worthy event at least until we launch our first patients into orbit. ("Frozen Heads In Space.")

## Legal Hurdles

As usual, the various government functionaries whose spheres of influence shade our operation are ever-discovering new and unique problems to cause for us. Our latest last-minute concern springs from a minor concern of a few weeks ago regarding a regulation prohibiting bodies from being stored longer than 15 days in Arizona, except in hermetically-sealed (airtight) containers. Obviously, this regulation was not drafted with cryonics in mind, since the continuous boiloff and subsequent expansion of liquid nitrogen makes sealing the containers inadvisable and in fact impossible over the long term. (As it warms and changes state, the nitrogen very much wants to expand, and it *will* eventually get its way.)

Since this regulation was part of the *funeral* laws, Alcor's representatives and those of the Arizona Department of Health Services (in meetings held several weeks ago) agreed that our patients, by virtue of being Anatomical Donations, would come under different regulations. (Note: this is not a law, but instead an "administrative regulation.") However, a more recent letter from the ADHS states that they are concerned about Alcor's whole body patients in connection with this regulation. (Apparently, they find neuropatients easier to

view as anatomical donations than whole body patients, which to them must seem sorely in need of funerals.)

We now have three separate attorneys working on straightening this out, and overall we doubt that this will be a deterrent for long. There are other regulations dealing with anatomical donations which can as readily be applied to us as, for instance, the sperm banks, hospitals, and universities which currently benefit from them. We're compiling legal and scientific evidence showing clearly that public health concerns (which motivated the sealed container regulation) are unwarranted when dealing with -196C storage.

## Onward!

Financial, technical, and legal concerns aside for the moment, we'd like to thank the many members who've provided support and encouragement throughout the acquisition of the Acoma Building, and who continue to assist us in this major milestone in the growth and evolution of Alcor. We're well aware that political issues have lately rocked this lifeboat that we all depend on for security and, perhaps someday, our lives. Thanks to the strong leadership of a new Board of Directors that is absolutely unified in its determination to see Alcor safely and quickly relocated away from the many inadequacies and threats of its present location, we're now ready to embark on a new beginning in our new home. The challenges and difficulties of the past months will not stop us; they have only served to better prepare us for the bigger challenges that surely lie ahead.

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# Cryonics Recruitment: Addressing the Second Cohort

R.C.W. Ettinger

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*This article, submitted by Mr. Ettinger, was adapted by him from a longer one that appeared in the June, 1993 Immortalist. — Ed.*

I suggest a possible way for cryonics organizations to cooperate in improved recruitment and public relations. It seems to me this approach offers several ad-

vantages never heretofore realized.

"The Second Cohort" is our second-easiest group of potential recruits, namely, those who have no major emotional or philosophical hang-ups, but who simply do not agree that people frozen by present methods have any appreciable chance of revival. This group includes large numbers of scientific and technical people. (The "first cohort" consists of those who have

been in sympathy all along, and just need a little push, reminder and encouragement. These are far fewer, but still many times outnumber our current membership.)

The *Science Court* is an old idea, and one which the Immortalist Society and Cryonics Institute tried formally just once, a few years ago, with very poor attendance. If properly handled, however, especially by a consortium of cryonics

organizations, I still think it could be very effective.

The "science court" is essentially just a debate, or series of debates, in person or in print, to test the merit of a technical or scientific idea or proposal — in this case, the technical merit of cryonics, the probability of revival of a patient suspended by present methods. But there are some key differences between this kind of debate and — for example — a political debate.

First, the formal aim is not to win an argument, but to clarify it — to focus clearly on where the differences of opinion lie and to eliminate any misunderstandings. (The debate is sometimes called a "fact forum.")

Second, the "debate" continues — if necessary over a considerable time span and with repeated meetings, and perhaps different participants — until all rebuttals and revised arguments have been presented, until questions of fact have been settled so far as possible, and everyone has made his best possible case.

Third, we eliminate so far as possible all matters of personality, ideology, politics, etc., and focus exclusively on technical feasibility. In this case, for example, the sociological desirability of cryonics is an out-of-bounds topic; we look only at the technical probability of eventual revival.

## Baiting the Trap

We know that anti-cryonicists cannot win a fair fight, and never fight fairly. All they ever do is make brief public put-downs, and never hold still for cross-examination. Our Second Cohort people seldom get a chance to see a clear picture. What can we do to change this; how can we lure opponents into court?

1. We use money and publicity. We offer to pay their expenses and an honorarium, and we make a loud challenge. Some of these people like the limelight, and are vain enough to think they can hold their own.

2. We don't necessarily need dyed-in-the-wool, foaming-at-the-mouth antagonists. A "debate" or discussion can be many-sided. Some of the non-cryonics participants — if necessary, all of them — could be Second Cohort people, leaning away from us but not philosophical enemies. Every conversion could be important.

3. If necessary, we could throw down the gauntlet and then, if there are no takers, proceed anyway. If we can't get any prominent participants, we could at least attract attention and sympathy by offering prizes or scholarships. We could invite faculty and students from colleges and offer cash prizes for the best essays on

either side of the argument.

3(a). A variation might be just to have a college contest (or series of them, to use different geographical regions and learn from experience; faculty and students eligible, prize for best essay(s) — "best" in terms of quality, regardless of conclusion, neutral judges. Those who want to enter would be given large packets of information including books. Three drafts (two revisions) required, giving the cryonics coordinators two opportunities to comment on the first two drafts. Perhaps a physical meeting to announce the decision(s), discuss the results, and present the prize(s).

4. We threaten invited opponents with the penalties of default — that we will relentlessly publicize their craven refusal to meet us face to face. Typically, they prefer to ignore us, feeling that any attention may help us; but if we can make their risk appear greater if they duck the issue, maybe some would accept. This tactic would require careful choice of ideal targets.

*Cooperation* between organizations could be important here, to share expenses and to contribute effective and variegated representatives. If we can work out a modus, I am willing to recommend that Cryonics Institute contribute \$10,000 plus travel expenses.

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## Chiller

Sterling Blake

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### PROLOGUE

The bomb exploded three yards away.

Alex's father had often quoted an obscure philosopher's saying, *God is in the details*. Alex had gathered that meant some abstruse point. Maybe that if you looked hard enough, God's fingerprints showed up somehow.

The bomb taught him another meaning.

He was standing just around a corner of a steel kiosk, one of those little booths that sells chintzy last-minute gifts and cheap candy and utterly unmemorable memorabilia. Only this was Tokyo's

Narita airport and nothing was inexpensive. He had been annoyed to find that he had to cash his last travelers' check to pay the airport tax, a stiff two thousand Yen goodbye kiss from the land of the rising sun. It was the last of his summer money. He decided that he might as well spend the leftover bills on a miniature samurai sword that he supposed worked either as a letter opener or as an assault weapon for midgets.

He had handed the tired-looking Japanese woman the bills. She had been busy arranging some plum blossoms for sale and turned to him, distracted, crow's-foot lines carved deeply in her face. She

held a blossom in one hand.

Later, trying to recall the moment, he seemed to see his hand moving with languid, slow-motion grace toward the woman's worn, outstretched palm. In memory, something had alerted his subconscious, lending the events a sliding grace. The woman touched the bills, her hooded eyes dulled by fatigue, and then a wall of pressure struck her. Her face seemed to smear and dissolve an instant before he had the sensation of somebody hitting him in the head with a baseball bat wrapped in goosedown. No sound, just massive impact. Then he was weightless, buoyant, the world beyond a blur of

soundless velocities.

No smack of landing. No sudden jar. But then he was lying in utter silence on a granite floor as cool as an angel's kiss, staring up at the high, ribbed ceiling far, far away.

He had turned his head. Legs flicked across the milky foreground of this curiously flat, dimensionless scene. The disembodied legs seemed in a tremendous hurry for no apparent cause. Certainly he felt no great urgency himself. He turned his head again, finding it a great effort, the vertebrae going *rak-rak-rak* like a rusty crank-driven machine.

How had he gotten tired so fast? Steel sheeting lay curled next to him, its jagged edges glinting in the enamel-gray fluorescent light. The woman's kiosk, still helpfully if redundantly sporting a large yellow KIOSK sign, was now a shredded box lying on its side.

The Japanese built to last and the rolled steel kiosk walls had lasted just long enough to blunt the explosion. He sat up, little chilly slivers running through his legs, ice in August. Bodies lay like rag dolls all around him.

It was odd, he thought, how wounded people looked like heaps of clothing, as if calamity was a confused fashion statement. They were tousled lumps — slick raincoat, wool suit, a polished brown shoe turned at the wrong angle — but somehow no longer people any more, just collections of their wrappings which had failed to protect them from the shrapnel weather here.

Pain started to seep into his elbows. His shirt was torn and bloody. Abstractly he noted the cuts and bruises where steel had peppered him. Metal was cold, so the icy threads he felt up and down his legs were steel. Logical.

The ethereal fog around him began to retreat, letting in movement, damp air, faces wide-eyed, pale, their O mouths beginning to shape screams. Daytime television with the sound off, he thought numbly. Everything happened beyond the glass wall of silence.

He got to his knees. A gliding, soundless world.

He stood up shakily. Rubbery legs. The woman was there with him in the silence. He found her a few feet closer to the shattered kiosk. She had been cut nearly in two by the blast. Blue-black guts trailed from her like fat sausages. Gray bones poked through her skin where the shock wave had crushed her ribs.

Yet her face was blank when he rolled

her head up, her eyes open and still dull and tired and wanting to go home. In her hand she clutched a single plum blossom. Her body was already a cooling island in a spreading red-brown lake. He noted that her seeping blood smelled like freshly sheared brass, startling, pungent.

He had stepped back, his shoes sticky with congealing blood, when he saw dumbly that he could do nothing for her. Her body was limp and relaxed but her pale, knotted fingers would not release the fragile, perfectly formed plum blossom.

*Don't let go of that blossom.*

There was a moment that came to everyone and changed them forever. No one ever forgot it.

Usually the moment came in the quickening years of adolescence. For him it had been that frozen instant in Japan when he retreated from the spreading stain. The darkening rust-red pool seemed to grow a brown crust, hardening before his eyes into the soil which would soon yawn moistly open to accept her body, to enclose the corpse in a grip that would never end. The earth would suck her down into it, make her a part of it, dissolve her with its licking tongues.

The hungry earth. Mold, rot, rust. Gray deep ponds reeking of rotten eggs. Decomposition. Dust.

Among all the people in the milling airport he had been alone with a terrible fact he had now discovered — that the earth devoured everything. That it swallowed all life, finally, just as before his eyes a sticky emissary of the dank soil now oozed out of the torn woman and licked across the granite slab floor, searching for him, for anyone, for the fodder which could feed this organic mud-hunger but never satisfy it.

Yet the woman's rigid hand with its yellowing nails held vainly to the blossom. Somehow in his confusion he thought that if she held it there might be some hope of hauling her back, even though the spreading brown pool had already claimed her.

*Hold on,* he had thought. *Hold on.*

Her body had taken some of the blast that would have ripped into him, shredded him, taken everything from him in one compressive instant. The kiosk and the tired woman had absorbed the worst of it. The fact that he was using up his last Yen and that he stood at just a certain angle — that was a meaningless detail.

*God is in the details.*

An odd saying for his practical father,

a white-haired man who didn't believe in God. But the details of their momentary geometry had made him live, to stride the green fields, happy above the underlying slag layers steeped millennia-deep in bones and rot, while the small, worn woman died.

She had given him time to heed the sign, the warning.

His hearing took a day to come back. He read about the terrorist attack in the International Herald Tribune, propped up in a Tokyo hospital. By that time the frozen, eerie moments had already begun to seem unreal.

As he lay on starched sheets for days afterward he had plenty of time to think. He knew little Japanese so his mood was unbroken by casual chat. He had spent the summer as an American Field Service guest with a Japanese family and they came to visit him, of course. That did not lessen his solitude. When they left after visiting hours there were still the long nights to get through. He had spent them staring at the white-tiled ceiling, thinking of the ribbed steel heights of the Narita vaulting, of the moment when he had seen what he now thought of as The Black One spreading out from the woman, searching for him.

It was coming to get him. To get the clever and the stupid, the glossy rich and the starving poor. Everyone knew it. That simple truth lay behind every event of every day, yet no one mentioned it. The Black One was the best-kept non-secret of all time.

## PART I: REBIRTHDAY

*London, April 1773*

To Jacques Dubourg.

Your observations on the causes of death, and the experiments which you propose for recalling to life those who appear to be killed by lightning, demonstrate equally your sagacity and your humanity. It appears that the doctrine of life and death in general is yet but little understood...

I wish it were possible...to invent a method of embalming drowned persons, in such a manner that they might be recalled to life at any period, however distant; for having a very ardent desire to see and observe the state of America a hundred years hence, I should prefer to an ordinary death, being immersed with a few friends in a cask of Madeira, until that time, then to be

recalled to life by the solar warmth of my dear country! But...in all probability, we live in a century too little advanced, and too near the infancy of science, to see such an art brought in our time to its perfection...

I am, etc.,  
B. Franklin.

## CHAPTER 1: ALEX

*Hold on, he thought. That's all we can do, for now.*

Alex Cowell took a deep breath, sucking in the dry chaparral scent of the arroyo around him. A red squirrel scolded him from atop a gum tree. A palm further up the slope clashed its fronds in the warm, shifting breeze.

He had gone for a walk to clear his head. Usually it worked, sharpened him anew. But today he had slid into the past and snagged on that moment in Tokyo. It had haunted him for years. He saw now that he would never be rid of it. That slicing, brutal instant had led inevitably across more than a decade, to this quiet, yet exciting moment.

He shook his head and turned back toward the boxy white two-story building. A warm wind came gusting down from the ridge, curling his black hair and plucking at his shirt sleeves with dry caresses, as though hurrying him along.

He had come back here among the gangly pepper and eucalyptus trees hundreds of times before, taking a break from work, tossing worn tennis balls for Sparkle. The big, gangly Irish Setter had fetched with glee, bounding into the mesquite and manzanita, ignoring the barbs that caught her coat and lashed her muzzle. She had never lost her enthusiasm for the bouncing yellow prey, had seemed convinced since she was a puppy that they were a rare, delicious game animal. Her look of quiet pride and accomplishment as she bounded back to him, tennis ball compressed in powerful jaws, had always struck him as both noble and comic. Out here, racing through the underbrush, her simple joy had picked up his lagging spirits many times, jollied him out of passing depressions. He had missed that simple rite this last month.

He went back inside the building, threading his way through the chugging pumps near the rear door. He washed up carefully and pulled on his Angels baseball cap; maybe not medically orthodox, but a comfortable way to keep his hair out of the

surgical zone. Quietly he slipped into the operating room. Susan Hagerty nodded abstractly, busy adjusting the complex liquid crystal displays on the artificial kidney machine. The moment Alex stepped into the room he shed the memories of Tokyo, of Sparkle as a pup, and saw her as she was now.

An old dog lying on her side. A tad comfortably overweight. But her russet coat was still sleek, her long muzzle giving a comic look of professorial intelligence. Her abdomen and chest had been shaved for her operation and that area was swathed in white bandages. Her lungs labored under the artificial stimulus of a respirator.

*You'll fetch those tennis balls again, Sparkle. Just hold on.* Then he slipped into his professional persona.

He automatically checked the kidney procedure the old fashioned way, by judging the color of the cylinder which carried out the heart of the job: exchanging Sparkle's blood with the dialyzing fluid. The thick tube was a deep, rich red — good. Still, he set to work running a careful check on a humming ultracentrifuge.

A Dixieland number came on their six-disc CD player, rattling drum riffs through the austere operating room. Jelly Roll Morton from 1927, the spotty old plastic recordings digitized and precision-tuned so that the full-bodied bass and piercing trumpet sliced through the decades, sounding more pounding, alive and vibrant than ever, the past recaptured. The bouncy beat put a touch of zest into their labors. Susan would have preferred a Mozart symphony and Alex favored sixties classic rock, maybe Jefferson Airplane's *Surrealistic Pillow*, so they had compromised on a hefty stack of Bix Biederbeck, King Oliver, Preservation Hall, the sassy Barrelhouse Boogie Band and Louis Armstrong.

Doctor Susan Hagerty hovered over Sparkle. She was a solidly built woman, good-looking in a homespun way, with a level-headed, calm expression which Alex found particularly reassuring now. She was the first woman he had ever had a true, professional relationship with, the joys of involving labor without any sexual nuances. That aspect was particularly welcome; he was still recovering from his divorce and needed to see women in a different light.

Susan ran on the beach regularly and had a quiet physical energy about her, the focused gaze of a woman who had made her way in life through concentration. As

he watched she changed one of the IV bottles that trickled fluids into Sparkle and said crisply, "No sign of pulmonary edema."

"Great. Let's hope..." His voice trailed away. The unexpected plaintive note in it embarrassed him.

Hope seemed of little use here. His old friend seemed to be a small, fragile splash of color encircled by banks of shiny medical equipment. Hope was a soft, vague thing compared with the hard metallic grays and greens of the O.R.

Pulmonary edema was, as usual for medical terminology, a long term for a simple problem. Sparkle's lungs could accumulate fluids as Susan gradually brought her body temperature higher. Too much and she would drown.

"I had some danger signals in the latest blood chem readings, though," Susan said in a flat, almost matter-of-fact voice.

Alex looked at the digital readouts on the bank of screens and knobs opposite Susan. The welter of information was confusing and he was still trying to unravel the numbers when Susan said, "Traces of damage in the pancreas. Blood glucose was jumping around. Electrolytes were acting funny, too."

"So you —"

"Straightened out the electrolytes right away. Glucose is coming back, too. The pancreas has me worried." Susan worked steadily as she talked, calm and steady after many hours here. It had been a long, tough operation, and it wasn't over. They had started the day before, bringing Sparkle's stiff body in from the freezer where she had lain for days.

It had begun weeks earlier, when Sparkle began dragging her hind legs. The cause turned up when Susan, who worked on research at Immortality Incorporated, had done a routine angiogram, injecting contrast dyes and taking x-rays. Sparkle had a blood vessel tumor pressing on her spinal cord. It was a mass of small vessels buried deep, a fibrous tracery that pinched nerves and brought lancing pains. Not cancerous but growing, it had spread all along her before Alex had noticed that she wasn't eating very much, didn't go outside any more, even to play ball, and slept more and more.

Susan had shaken her head in despair when she looked over the x-rays. She had worked with dogs as experimental animals and knew the dimensions of their problems. An operation to remove all the fine filaments would have been too much of a strain on the animal. A veterinarian they

called in to consult had shaken his head and offered with a sad, kindly smile to put Sparkle down immediately.

It had hit Alex hard. No more would his big friend come bounding up to him after a tough day at work, slathering him with tongue-kisses, woofing greetings and complaints, eagerly snatching up a ragged ball for fetching, yelping out her transparent joy. No more.

So Alex had decided to try a long shot. As a technician at Immortality Incorporated he had access to methods and equipment denied to most people. And he knew Susan Hagerty, whose research in low-temperature preservation at  $1^2$  was slowly bearing fruit.

He had to spare Sparkle the slow agony of the tumor. She was more than a pet, somehow. She had gotten him through his strident divorce, through his mother's dying, through innumerable evenings of wine-deepened depression, sitting alone and dateless in his apartment. But he could not accept her 'merciful' murder.

They had cooled Sparkle down to twenty degrees below freezing, carefully adjusting her internal chemistry, injecting non-cellular blood substitutes that acted like anti-freeze. Her firm old head had trembled at first as Alex held her and murmured softly, almost like singing a lullaby, stroking her belly the way she always liked, avoiding the shaved and swathed patch where the cannulas connected into her. She had peered up at him with luminous deep amber eyes which held an eternity of loving patience, utterly trusting that this spreading chill in her was going to be all right somehow. With her last remaining energies she had licked his hand. She had gone without a whimper.

Auto mechanics could fix cars easily because they didn't have to work on them while the engine was still running. The delicacy of surgery came from the fact that the patient had to remain alive while hands and instruments thrust deep into them. Surgery was itself a major, life-threatening trauma.

Matters were far simpler if the patient had already died.

Sparkle had gone on a voyage no other being had ever attempted. Held in stiff, chilled stasis, she suffered none of the slow erosion that living beings endured. Susan and Alex had used new drugs Susan was developing, 'trans-glycerols' that allowed a body to avoid freezing even though it was colder than the freezing point of water. This gave Susan time to

study the results of Sparkle's surgery. She had used the days to carefully trace the path of the tumor threads, dark strings like coiled snakes that had wriggled deep within her. It had been long labor, consulting the inner maps of x-rays, of PET and CT scans, and of tissue samples. Susan had rooted out every fibrous remnant, taking biopsy specimens, cutting away with a laser scalpel, stitching up the widespread damage. She was an adequate surgeon and had worked on dogs and cats. The luxury of time at low temperatures, free of the need to keep the patient's body functioning, let her take meticulous care.

Ironically, it was only through killing Sparkle that she had any scrap of hope. She was now free of the insidious growths that had riddled her. Heart stilled, brain waves stopped, her purple eyelids lying so flattened it seemed that she had lost her corneas, Sparkle had glided through days of changeless time, dead by all the standards of medical science.

They had prepared her rewarming by injecting membrane stabilizers, to hold cell structure together. Then they had brought her up from the icy domain that claimed her by using carefully controlled radio frequency rewarming. The glycerols that gave anti-freeze protection to her cells were hard to coax back out. Susan had developed new, simpler procedures and taught them to Alex. He knew biochemistry but better, he knew how to listen, which usually is more valuable than bookish lore. Hand-eye coordination proved to be especially important in the bleached-light intricacies of the operating theatre.

"Dura mater seems fine," Susan said. "No big surprise, though. It's just the sort of tissue the cryoprotectants should work best on."

Alex nodded, adjusting the ventilator settings. The dura mater was a tough membrane covering Sparkle's brain. Before Susan had developed her new methods, they had seen previous frozen animals develop fatal damage there as they cooled down. Ice expanded between cells, caving them in. This was a more insidious problem than "freezer burn," which was simply the loss of water from tissue in ordinary refrigerators. The major enemy of cooling as a method of saving patients came with rewarming, when cell walls could not re-expand naturally because they had been damaged. Susan's research had perhaps offset that. Perhaps.

Alex found himself petting Sparkle,

stroking her fine pelt, hands seeking some sign of life from her familiar body. The coat was tangled and matted and her shanks were chilly beneath her gray warming blanket. The respirator kept forcing the worn old body to go through its mechanical motions, but Alex wanted to feel some tremor of that mysterious other, the essence which changed a laboring mechanism to a living spirit, a mind capable of knowing joy.

Susan leaned over, fatigue lining her oval face. She had given more this day than he had, yet her hands remained steady, her voice calm and free of the skittering tension he felt as she said, "She's in there somewhere, Alex."

"I hope."

"The memories that made her all that you loved — they're preserved."

Down in the cells of Sparkle's brain, hard-wired by chemical processes science was only beginning to fathom, she was waiting for him. The ravages of warmth and pressing time had not gotten to her yet. Or so their theories went.

He sighed. "Yeah. I know."

"And it's looking good." Susan tapped the liquid crystal display of Sparkle's internal temperature: 27.7 Centigrade.

Alex worked in Centigrade constantly, but somehow for matters close to the throb of living things his mind reverted to the scale he had learned as a boy, just as he dutifully swallowed drugs for a cold but took his true, deep solace in chicken soup. "Let's see — that's 82 degrees Fahrenheit. She's almost there!"

"Try her brain waves."

He checked the electrodes attached to Sparkle's head, then scanned the screen. Soft hash, green lines jittering against a black field. No clear result, but the complexity of the traces alone tightened his throat. The last time he had looked there had been nothing, an ominous flatline.

*This is all a research project, remember. An experiment. Chances are slim. Susan laid out the odds, I knew that going in.*

He caught his breath. The green hash, which showed activity levels in portions of Sparkle's brain, now showed complex waves. They spiked up out of the spaghetti jumble, vanished, then returned.

"Hey. Alpha rhythm, good and strong." Waves snaked steadily across the 'scope face.

*While I was outside, day-dreaming, he thought, the old girl was fighting her way*

*up from the cold. Coming back to me.*

He massaged Sparkle vigorously, as if life could ooze like a fluid from him into her. *C'mon, girl. Up from the dark depths...* Her flesh was torpid and sluggish. Beneath his kneading fingers his old pet felt like chilly meat in a supermarket. But he knew that in medicine appearances could lie. That was especially true here, in a surgical procedure never tried before.

*C'mon... Just give us a flutter of life, anything, the most feeble stirring. We'll hold a party for you, throw a barrel full of fresh bright yellow tennis balls, take you rabbit hunting up the arroyo. A rebirthday party, Sparkle.* His hands began to ache from the massaging. Did Sparkle's muscles seem a fraction more supple?

Susan said compassionately, "Don't expect a lot. This is the first time, Alex."

"I know, I know, but —"

"Totally new technology, and I'm doing it all by the seat of my pants. Don't expect —"

"She moved." He said it in a flat, factual voice, as though excitement might scare the tremor away.

Susan smiled sympathetically. "You're sure? The respirator sometimes induces an autonomic response in the rest of the body, and —"

"There! There it is again." He bit his lip. Eagerly he massaged Sparkle's legs with fingers that were beginning to ache. Her legs had twitched the way she did when she dreamed, chasing tasty rabbits over green summer fields.

Susan's eyes darted over the complicated displays that crowded around the operating table. They stood for long moments watching the shifting liquid-crystal numbers and graphs. Sparkle's brain waves showed fresh ripples, growing complexity.

"Blood chemistry is coming around. Her pH looks better," Susan said. "The perfusate is completely exchanged out."

"She's trembling."

"You're sure?"

"Look." Alex let go of Sparkle's legs. They began to jerk visibly.

"My lord," Susan whispered.

"See? She's —"

"That could be a simple discharging of —" Susan stopped, gazing at rippling digital indicators. Her look of rigorous scientific skepticism fell away like a mask slipping from a warmer, more vulnerable face. Susan was a handsome woman with chestnut hair and a square face that gave the impression of solidity. Even now this

came through, despite the red bags under her eyes and a network of fine lines that webbed out from the corners of her mouth. Lipstick and powder and eye shadow might have hidden much of this, but not the leaden notes in her voice. Yet these, too, were banished in the next moment. "Heartbeat. Look."

A monitor now showed a steady pulse.

Alex glanced at the brain wave spectrum. It was alive with shifting structure.

"Let's get her breathing on her own," Susan said.

Alex's eyes widened. "You're sure?"

"Come on. I'll show you."

It took a while to attach a plastic bag in place of the heart-lung machine. Alex rhythmically forced air in and out of Sparkle, following Susan's directions in concert with her own quick, expert work. He stopped regularly to see if Sparkle would start breathing on her own.

"Think it's safe?" Alex felt a lump in his throat. The dangers of taking her off the machine suddenly loomed before him. But then, he reminded himself, he wasn't the surgeon. Here his lofty Ph.D. in biochemistry qualified him to be a simple medical assistant, little more than a handy man with the equipment. The doctorate had been fun to earn, but even before he finished it he knew he didn't want to do research in conventional areas. This was his calling. He liked working with his callused hands, fixing balky machines, doing the grunt labor around Immortality Incorporated, where something needed patching up all the time. He enjoyed understanding circuits, putting up dry-wall, framing in wooden supports for the suspension vessels, anything that transformed lines on paper into something solid that worked. And at this moment he was heartily glad that he did not have to make the decisions here.

Susan watched the displays closely, then nodded. "So far."

"Whoosh, this is hard work."

"You're tensing up, that's all," Susan eyes above her surgical mask gave him a wink. "Don't force it."

"Right. Right." Alex eased off, watching Susan for guidance at every step of the procedure. She carefully adjusted a dozen other settings. The body had to be restarted smoothly, letting the heart and lungs strike up their own rhythms. For long minutes he watched the regular rise and fall of Sparkle's chest, driven by his hands, and it was only when Susan touched his arm

softly, much later, that he realized that his hands were no longer breathing for Sparkle. He let them drop to his side, aching. The gentle rush of air through her now seemed subtly different, almost like a repeated sighing, effortless, a natural flowing.

"She's back." Alex felt stunned, dumb.

"Back from the other side," Susan smiled, and Alex saw how pale and wan she was. He glanced at the clock and automatically made an entry in their operation log. Every detail of the procedure had to be exact, recorded.

Susan puffed out her cheeks, popped her eyes and let out a great "Whoosh!" Then she sagged, leaning against the operating table. He realized that she had been on her feet, taking no more than five minutes away to gulp down some tacos, for ten hours.

"She'll need rest, therapy, constant monitoring," Susan had relaxed physically but was still plainly holding her emotions encased in a professional reserve.

"Sure, sure..." He stared down in wonder at Sparkle. Her chest rose and fell smoothly, and he knew in the silent, sliding moment that he was watching a quiet, profound miracle.

"Back from freezing," Susan said. "A whole, intact, higher mammal. Never been done before. Never."

Alex swallowed hard. "Never. God-damn."

"All the dreams, the stunts, the half-baked ideas..."

"And here it is."

"Got anything to drink?" Susan grinned and as if on a signal, the tension broke. They embraced each other, whirling away from the operating table in a lurching dance, whooping and laughing and crying. The rebirthday party had begun.

# Getting to 8M Glycerol and Other Perfusion Problems

Hugh Hixon

Last year we got an opinion from one of our expert consultants that, rather than limiting ourselves to a final glycerol concentration of 4.5M, we should take the cryoprotectant concentration as high as possible. The previous limit of 4.5M (about 41%, weight/volume) we imposed on ourselves many years ago because we knew that 50% glycerol solution was used to dissolve cell walls for a preparation of muscle protein. Subsequent research by our consultant indicates that this does not appear to be the problem we thought it was, and that the more water was replaced by cryoprotectant, the better.

Accordingly, when I gave the instructions for mixing of perfusate for the April suspension, I set the system up for the maximum final cryoprotectant combination convenient under the circumstances (time, filtration difficulty, cost, etc.). The key consideration was, given that we used two of our standard 20 liter perfusate component prepackages, how to split that 40 liters between initial circulating volume and concentrate volume. I settled on 5 liters to circulation and 35 liters to concentrate.

We contacted our consultant during the suspension to reverify that we could do this and he confirmed his recommendation, but got a little conservative when he understood we were really going try to go as high as possible. His final recommendation was to stop at 8M (9.3M is his figure for complete vitrification); and that was about where we ran out of concentrate.

When we stopped the cryoprotective ramp generator, the arterial (input) concentration was 8.23M and the venous (output) concentration was 7.83M. Circulating for another 45 minutes produced the final glycerol concentration of 7.85M in both the arterial and venous sides of the perfusion loop.

Since part of the protocol for maximizing the concentration was to minimize that part of the circulating volume in the mixing reservoir, Perfusionist Ralph Whelan had to keep constant watch on the

mixing reservoir to avoid pumping air or bubbles (he didn't let any through, but he still gets a little terse when he speaks to me about it). I have since constructed several very small mixing reservoirs to deal better in the future with this aspect of the problem.

The minimization of the circulating volume also exacerbated a problem which we have seen before: the slow reduction of the circulating volume, observed as an abnormal decrease in the level of perfusate in the mixing reservoir. Up to this time we had speculated that this loss of volume was due to leakage from the patient and off the table. I am now sure that this is only part of the explanation.

Jerry Leaf's two-loop perfusion circuit contains a cryoprotective ramp generator with two mechanically equivalent tubing pumps ganged together. However, it seems that they are not hydraulically equivalent. I have manufacturer's literature for tubing pumps that makes it quite clear that the pumping efficiency is dependent on the viscosity of the liquid. Viscous liquids are pumped less efficiently, and as the speed of the pump is increased during perfusion, the efficiency may drop quite dramatically. The Leaf ramp generator attempts to add cryoprotective concentrate at the same rate at which it removes an equal amount of the perfusate that is being returned from the patient. Hence, any difference in efficiency between the ganged pumps will quickly become apparent in the circulating volume of the perfusion circuit. Since the cryoprotective concentrate is always more viscous than the circulating perfusate, the inevitable result is loss of volume in the circuit; the removal pump is always working more efficiently than the less viscous circulating perfusate.

Other considerations, such as osmotic extraction of water from the patient by the hyperosmotic perfusate, may increase the amount of perfusate in the mixing reservoir, but the mechanism given above always applies to the total circulating

volume. Leakage from the patient onto the table will, of course, also decrease the total circulating volume.

Correction of this problem during a suspension remains as it has always been: the perfusionist clamps the inlet line to the removal pump side of the ramp generator to increase the circulating volume, accepting a temporary decrease in the rate of the cryoprotective ramp.

But it's nice to finally have an explanation for a problem that has baffled us for years.

Finally, I have added tubing to our standard perfusion tubing pack to attempt to eliminate an irritating little problem that we have had for years.

When the burr-hole is made in the patient's skull to observe the size of the brain and estimate brain ischemia, a side effect is that perfusate leaks out the hole, either from exudation by the brain or from bleeding from the dura (the thin, tough membrane between the brain and the skull). The rate of this leakage is often a substantial proportion of the flow rate of perfusate through the patient.

The fix for coping with this loss has been a "bucket brigade," with one of the perfusion team members holding a container under the burrhole to catch the leakage, and then dumping it into the chest cavity of the patient, to be returned to the perfusion circuit through the cardiomy sucker that deals with the leakage from the surgery there.

This has been a silly inefficiency in the use of team members' time, and a point with high potential for a break in sterile technique. It has a simple solution: add a second sucker line in parallel with the cardiomy sucker to return the burrhole leakage to the circuit through the cardiomy reservoir.

Thanks to Regina Pancake for taking time off from imagining *Star Trek* and *Deep Space Nine* props to mold extra two-tube tubing holders for the sucker pump on the heart-lung machine.

## Understanding the Present: Science and the Soul of Modern Man

by Bryan Appleyard, Doubleday, 1992

Reviewed by Thomas Donaldson

In Britain, where this book first appeared, it seems to have caused a small fuss. It is a capsule (i.e. condensed) history of science, told from an *antiscience* viewpoint. However, although he discusses the environmentalists and other antiscience ideas, in the end Appleyard doesn't accept their solution to the "problem" caused by science, because he thinks that the problem runs far deeper than they understand. His viewpoint, therefore, is one not easily characterized in terms of the political or quasipolitical positions common today (1993). It is for just this reason that readers of *Cryonics* will find him worth reading even if they cannot agree with him.

The "problem" of science, as near as I understand it in his terms, is that ever since Galileo science has progressively deprived the Universe, including human beings, of meaning, and stripped human beings of their souls. Some readers, at this point, may be tempted to shrug and say simply that he was foolish to look for *meaning* in science in the first place, just as foolish as someone who expects a discourse on Maxwell's equations from their cat. To which I personally would say both yes and no: yes because I agree that no one should expect meaning from science, and no because the fact that Appleyard sought it there rather than elsewhere tells us something we should know.

To Appleyard, "meaning" includes both purpose and significance. Ordinarily in thinking of science we separate all such questions from the facts discovered; "meaning," we say, comes from within ourselves, and to look for it outside us is to engage in futilities. Unfortunately, the situation isn't so simple. In the first place, even now there are prominent scientists such as Hawking who dream of a complete theory of everything, a theory which will explain (scientifically, that is) the Universe and everything in it. A bit of thought

should tell us that such a theory cannot exist: for every theory first needs interpretation, then on the basis of this interpretation, experiments. And we can never know that the interpretation was complete and the experiments decisive. Theories are games (serious ones, yes) that we play with words and symbols; the Universe (or Cosmos, or whatever) is not such a game at all.

It's reasonable to suspect that Hawking doesn't mean anything of this sort, but instead something almost religious. The word "explanation" itself has many meanings. In one, we explain when we show that an event follows from preconditions according to a theory; in another, we explain by telling what was the purpose of that event. And we must admit that some scientists, especially those who try to popularize their work or that of others, do slide into that second sense without drawing notice to it.

More than that, science has progressively destroyed notions about matters of fact upon which religions and philosophies have founded themselves. That destruction led to Galileo's imprisonment as one of its first consequences. Were the Churchmen who imprisoned Galileo *merely* acting out of ignorance? At first many readers may say that they were; but when you do so you make an assumption that we can all easily separate questions of value (or purpose) from questions of fact. Yet when we become specific we find it's *impossible* not to base our values on matters of fact. How else can we assess ourselves?

As cryonicists we should remain acutely aware of this: suppose that someone proved (though proofs can always be uncertain) that our current storage methods destroyed *all* of our patients' memories? A few of us might go on from there, trying to search out other methods which would *not* destroy our patients; but many members would leave. Such relationships between

facts and meaning can point the other way, too: to the many who are not cryonicists, immortality may seem terrifying. For if we live forever we can expect to find our own deepest values someday dissected for questioning, and found faulty. (Succinctly: the higher we go, the deeper we will find the abyss around us).

Fundamentally the scientific attitude of separating purpose and values from facts, looking only for the facts, stands out as a moral value itself. Since facts themselves are slippery things, we must accept that everything we believe remains permanently provisional and absolutes *cannot* exist: not merely *do* not, but cannot, even though our language ("truth," "fact") remains tied to an older view of absolutes. And just as Appleyard says, many whole societies through history have not held that value. It's part of that scientific morality that we shrug off whatever damage a new fact (purely as a *fact*) may do to others or to ourselves; that morality allows no other choice. Certainly we can say that such new facts, however distressing, ultimately will even take their victims farther than they might have otherwise gone; but that too is a matter of faith rather than proof.

Clearly Appleyard does not hold that value. I do, and I hope that other cryonicists also do; and I recognize that ultimately Appleyard and I have no common grounds on which to argue. At best we can understand both the heights and depths of our faiths. At the end of his book, considering the alternative versions of antiscience (that we should all go back to peasantry, that we should value the environment more than human beings, that we should all lose our individual souls as parts of some Unified Society) he finds them *all* wanting, and comes to an existentialist conclusion: he says, I am here, this is me, and there is no more to *say*. To which I also must agree.

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# Shadows of Forgotten Ancestors, A Search For Who We Are

by Carl Sagan and Ann Druyan, 1992

Reviewed by Linda Chamberlain

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What is consciousness? Will it really be "me" after applying cryonics or uploading technologies?

Why can't cryonicists focus on their mutual goals? Why do they fight over their differences?

You might find these two sets of questions too diverse to see any commonality between them. Reading *Shadows of Forgotten Ancestors, A Search For Who We Are* makes a dramatic connection very clear.

Setting context, Sagan and Druyan begin with the formation of the solar system and the birthing of our planets. They then transport the reader back through geologic time to visit single-celled ancestors still floating in the organic goo of the primordial oceans of earth. The reader then experiences, if only vicariously, the struggle of the torturous evolutionary steps that finally lead to the modern, post-ape organism we have become. Along the way we learn the language of life in which every word is composed of only three letters. An eloquent language in which the entire alphabet is no more than four letters long. This is the language of DNA, in which the instructions for survival, behavior, and yes, consciousness, are written.

Sagan and Druyan, of course, did not write this book for cryonicists. The answers to the questions above evolve from the general objective of the book: to find out who we are, where we came from, and perhaps to discover insights into what our potential may be for the future. But as they guide the reader through the steps of evolution that led to *Homo Sapiens*, the inexorable forces that forged us become as clear and inescapable as the answers to those questions.

Charles Darwin's revolutionary insights required more than just observations of plant and animal life. That had already been done. Darwin integrated his natural-

ist's observations with an understanding of the geologic forces shaping our planet as well as with unusual fossil records and their unexpected locations. In Darwin's time it was still unpopular to talk about drifting and up-thrusting of continents. This did not validate the Creationist view that the world was created exactly as we walked on it that first perfect day.

Darwin found fossilized shells of sea creatures high in the Andes, thousands of feet above the oceans. Despite the discomfort others felt over these discoveries, he used this evidence creatively and courageously. Either the oceans were sinking, or the mountains were being thrust up. This and other geological evidence suggested that planetary sculpting on this scale would take millions of years, not just a few thousand, as proclaimed by the Creationists. Such a time scale would make the evolution of plants and animals possible, too!

Sagan and Druyan explore our biological evolution in much the same way that Charles Darwin approached that same subject. Their journey takes us from "moving continental plates carrying the cargoes of life" to a spectator view of the "reckless oxygen pollution of the ancient atmosphere, generated by the green plants," which had been the first major extinction of life on our planet, but which now "seems to have had another accidental and this time salutary consequence: It made the land habitable. Who would have figured?"

Evolution assured consciousness. Evolution is about surviving to reproduce. Evolution does not care about individuals; it only cares about species (or more specifically, populations of species experiencing particular circumstances). Selfishness favors survival, but selfishness comes in two flavors: short term and long term. The instructions in the DNA can handle the short term. The fawn that

freezes when it sees a predator is more likely to survive and pass on its genes than is the fawn that runs. But long term survival takes more than DNA. It takes brains.

Where does short term, immediate survival (direct instructions coded in the DNA) end? Where do we begin to see long term mechanisms? When and how do organisms develop the kind of stuff that leads to character traits like parental sacrifice? Or to selfishness and altruism? Or to personality traits such as bravery and cowardice?

Sagan and Druyan let the reader begin the quest in relative comfort, by gingerly investigating such creatures as the tick. This lowly insect leads a rather lack-luster existence. The female, full of the gift of sperm her lover has given her, sets out in search of a nest. She carries the sperm inside her but will not let her eggs be fertilized until she can gorge herself on a blood feast with which to feed her darling young.

Ms. Tick does not have to stew over how a proper tick lady carries out her motherly duties. Her DNA tells her all she needs to know. In fact, the very word "know" imparts a false impression that she is aware, maybe even conscious, of what she is doing. This is not the case. Her instructions are to climb. She finds a bush, a blade of grass, anything that points up, and she climbs. When she has gone as far as she can go, her instructions are to wait until she detects a certain chemical (the scent of a passing animal). Now, she drops from her perch. If she is lucky, she lands on the blood lunch for her darlings. If her luck has abandoned her, she must climb again and wait again.

Even when she lands on the back of an animal, she is not moved with tears of joy. She is merely following the instructions in her DNA. If you place a tick on a warm, water-filled balloon, she will gorge herself with warm water, allow her eggs to

be fertilized, and never know a moment of remorse about the fact that her darlings will all starve.

The tick is just one of the many examples Sagan and Druyan show us to help us find the roots of our own consciousness. But, as the authors are fond of saying, humans are not ticks. A journey in search of our roots that had until now been very much like a warm, lazy afternoon raft trip now suddenly stares at the approach of raging intellectual rapids. The trip can be bumpy and uncomfortable for some rafters.

But *Shadows of Forgotten Ancestors* does not jump directly from insects to mammals. The animal studies described gradually, step by step, bring us to the work done with human's closest relatives, the apes. The authors walk us through a jungle of behaviors that are fascinating, terrifying, enlightening, joy provoking, heart stabbing, and eye opening. The subjects range from crowding behavior and war, competition and rewards, submission

and hierarchies, corporate behavior, the rise in testosterone levels of the Betas when the Alpha is removed from a troupe, and chimp's "stolen kisses." As the authors put it, "the roots of tyranny and freedom trace back to long before recorded history, and are etched in our genes."

The river of our journey finally slows and our smashed raft of understanding drifts quietly once more. A basic tenet of biology holds that underneath all function is structure. This book helps readers understand how our DNA (the structure) underlies the functions which keep us alive. These include mating desires and displays, caring for our young, educating ourselves, protective behaviors, jealousy, hierarchy, and politics, to make a short list.

Sagan and Druyan have skillfully woven evolutionary biology into an adventure that equips readers well as they examine "some of the multitude of proffered definitions of ourselves, explanations of who we are." They survey historical attempts to set *Homo Sapiens* apart from

"the brutes." Aristotle felt that "man was a political animal" (but chimps and bonobos have elaborate political systems, many of which are well described). St. Thomas Aquinas held that man alone is the master of his actions (another myth dispelled). John Dewey thought humans must be the only animals with memory. Myth after myth is examined, and myth after myth falls.

Biology, like psychology, has historically been more of a philosophy than a science. This has contributed heavily to the current failure of attempts to define consciousness scientifically. Even today, most discussions on this subject deal more with philosophy than with science.

Sagan and Druyan give us an adventuresome read. But more importantly, they help readers step outside the philosophical prism in order to better see who and what we are and how we got here — to understand the structural foundation of consciousness.

## Business Meeting Report *by Ralph Whelan*

The September meeting of the Alcor Board of Directors began at 1:03 pm at the Alcor facility in Riverside, California..

Steve Bridge nominated for re-election all existing directors, as well as Fred Chamberlain III, Steve Harris, Michael Riskin, and Brian Wowk. There were no other prospective candidates. The voting was by secret ballot, but with the results available for inspection by all immediately after the announcement of the new Board. The result of the voting was that new Alcor Board of Directors consists of Steve Bridge, Fred Chamberlain III, Keith Henson, Hugh Hixon, Carlos Mondragón, David Pizer, Michael Riskin, Mark Voelker, and Ralph Whelan.

**Resolved:** *The Board of Directors approves without change the July 11, July 14, August 2, August 8, and August 30 meeting minutes. (Unanimous)*

The October 3 meeting will be at the home at Bill and Maggie Seidel in Culver City. With this meeting, we return to the first Sunday of each month for meeting dates.

Steve Bridge reported the following:

1. Details involved in the possible purchase of the Acoma Drive building in Scottsdale, Arizona have taken up the most

time this month. A limited liability company (LLC) named *Cryonics Property, LLC* has been formed, and a Private Offering Memorandum has been sent to about

65 Alcor members who requested it. Steve Bridge and Dave Pizer are listed as the managers of the LLC (although the investors may later choose to select someone

Directors Candidates	Bridge	Henson	Hixon	Lopp	Mondragón	Peters	Pizer	Voelker	Whelan	TOTAL
Bridge	X	X	X	X	X			X	X	7
Chamberlain	X	X	X		X		X	X	X	7
Harris	X			X		X				3
Henson		X	X		X		X	X	X	6
Hixon	X	X	X		X		X	X	X	7
Lopp	X			X						2
Mondragón		X	X		X		X	X	X	6
Peters				X						1
Pizer	X	X	X		X		X	X	X	7
Riskin	X	X	X	X	X		X	X	X	8
Voelker	X	X	X		X		X	X	X	7
Whelan	X	X	X		X		X	X	X	7
Wowk				X		X				2

else) and, together with other Alcor Directors, have been calling and writing Alcor member around the country to ask for their investments or donations. It is too early at this time to report what the results of this effort will be; but we should know what the LLC will do about the building before the end of September.

2. Steve Bridge, Dave Pizer, and Mark Voelker have spent many hours talking about cryonics and Alcor with representatives of Arizona, Maricopa County, and Scottsdale government agencies. A report on this is in the October issue of *Cryonics*. (Copies of the article are available for people attending the September meeting.)

3. *Alcor and You*, a handbook for Alcor Suspension Members, was mailed out to all members the first week in September. Our Indianapolis members, Robert and Margaret Schwarz, Angalee Shepherd, and Brian Shock, paid for the printing and mailing and did most of the work. The writing was done by Charles Platt. There is a tear-out sheet in the handbook for members to update their addresses, telephone numbers, and confidentiality status. Please send that sheet to Alcor as soon as possible.

4. Alcor's shortage in operating funds continues. It is clear by now that our budget projections were overly generous; but we have also had some unexpected shortfalls. We had budgeted \$45,000 as operating surplus from suspensions. However, we have only done two suspensions this year. We came out even on the first; but the second one (a neurosuspension in April) has been a near total loss. Metropolitan Life, the patient's insurer, has refused to pay Alcor any insurance proceeds, because the patient had not informed the agent that he had AIDS and cancer when he took out the policy. We feel that the insurer has also made some errors and we are continuing negotiations.

Some help will come this month from several thousand dollars of refunded personal property taxes paid over the past three years. The State Board of Equalization rules that Alcor does qualify for a charitable exemption of these taxes. And we hope to have some further distributions from the Richard C. Jones Trust. But we are looking at ways to cut our expenses, and if the situation does not improve soon, we may have to cut back on some services to our members. Already, we have stopped using prepaid business envelopes in our mailings. You'll have to use your own stamps.

5. Alcor has hired a new attorney, Kathryn Ballsun, to look into our desire to place the Patient Care Fund into a trust or other protected legal instrument. Ms. Ballsun is a trust attorney with several years of experience with cryonicists and with non-profit organizations. I hope we can finally solve this problem now.

Tanya Jones, Suspension Services Manager, reported the following:

1. This month, implementation of the inventory control system was begun. Given the magnitude of this project, no specific completion date is available; however, through the unfailing persistence of Scott Herman, most of the operating room disposables were inventoried. These represent a large fraction of the disposables to inventory for the cryoprotective perfusion facet of the suspension procedures and to a large extent, a significant portion of all items to be tracked by this new system.

2. Eventually, this system may also be used to incorporate the capital equipment inventory into a manageable database. As mentioned previously, and now verified through actual implementation of the system, once complete, this project will enable itemized invoicing of each suspension. This, in turn, will enable the implementation of cost containment strategies for the purpose of directly controlling the cost of cryonic suspensions offered by Alcor. This system will also be invaluable during any move that Alcor may make. With Scott's programming abilities and design flexibility in the software, the contents of each and every box of equipment shipped from Alcor to another location may be comprehensively inventoried and assigned a single barcode, thus significantly reducing the time necessary to coordinate shipments and validate any discrepancies.

3. An additional project which saw progress was the updating of the Emergency Response Manuals. In the past, I've found these manuals to be incomplete and awkward to use during the frenetic transports. The revised version will contain significantly more information for the transport technicians, and this information will be presented in a more organized fashion, with the intent of making it easier for the team members to find relevant information more accessible during a transport.

4. I'm attempting to complete this revision in time to send the updated

manuals to those who will be attending the next Transport Certification Course, which will be held from 18-22 October, 1993. To facilitate more participation in this course, once again, Dave Pizer has offered complimentary lodging at his Wrightwood Motel for those wishing to attend. Thanks, Dave! (*Update: Due to move, course cancelled.* — Ed.)

5. Fred and Linda Chamberlain have recently agreed to donate a CD-ROM drive to Alcor. With a CD-ROM player, software will be accessible which is unwieldy without this means of data storage including medical software on anatomy and physiology, disease diagnosis, and even the Mayo Clinic's health book! Fred and Linda have also agreed to purchase this software to further the medical knowledge of myself and other suspension team members. While knowledge is no substitute for experience in the medical field, it does go a long way toward being able to ask the right questions! Thanks, Fred and Linda!

Derek Ryan, Membership Administrator, reported the following:

1. Alcor gained a total of two members in August, 1993, for a month-end total of 368. Four members completed the sign-up process to become full suspension members, and two suspension members canceled their suspension arrangements. Four people entered the sign-up process in August.

2. Mark Plus and I continue to make steady progress in assessing membership paperwork and funding arrangements. My current goal of finishing all assessments by the end of the year still seems realistic.

3. On another note, California has recently issued a new version of its Durable Power of Attorney For Health Care. It varies from the old version in some very important ways (e.g., the new form no longer expires automatically after seven years). Alcor member and attorney H. Jackson Zinn is helping me review the new form so that we can customize it for Alcor California members' needs.

Steve Bridge submitted the following text as a potential manner of limiting and eventually eliminating employees as Directors:

Whereas many Alcor Suspension Members, including Directors and Director candidates, have stated that there is a potential for conflict of interest in Alcor employees also being Alcor Directors, and  
Whereas Alcor is growing large

enough that the pool of potential Directors can also be expected to grow, and

Whereas, Alcor currently has three employees (President Stephen Bridge, Ralph Whelan, and Hugh Hixon) on its Board of Directors,

Therefore, be it resolved that:

1. No other individual Alcor employees, current or future, other than the President or Chief Executive Officer (CEO), shall be eligible for the Board of Directors during the time they are employed by Alcor.

2. If at any time Hugh Hixon or Ralph Whelan resigns or is removed from the Board of Directors, no Alcor employee may be elected to take his place.

3. Any Alcor Director who wishes to become an Alcor employee other than President or CEO must resign his or her position on the Board of Directors before beginning employment. This rule also applies to Ralph Whelan or Hugh Hixon in a case where he has ceased to be an Alcor employee but has remained a Director.

4. At the 1994 Board elections, no more than one (1) staff member, other than the President or Chief Executive Officer, will be elected to the Board of Directors. If both Hugh Hixon and Ralph Whelan are still staff members and both choose to run for re-election, the one receiving the fewer votes will not become a Director. If they receive the same number of votes and neither will yield his position, a run-off vote will be held among the seven other original Directors.

5. Beginning with the 1995 elections,

NO Alcor staff members other than the President or CEO will be eligible to be Directors.

6. Exceptions to this policy shall require a unanimous vote of the Board of Directors. Hugh Hixon and Ralph Whelan are ineligible to vote on any such exceptions.

Keith Henson moved that we table this motion until we are in Arizona. Hugh Hixon and Ralph Whelan were ineligible to vote on this issue, so there was effectively a seven-person Board for the purposes of determining majority. Keith's motion to table passed with five in favor, two opposed, and two abstentions.

Steve read the following proposal for addressing the potential of alternate suspension teams for Alcor members:

Whereas, many Suspension Members have requested that the Alcor Board of Directors allow them to choose a suspension team other than the standard Alcor team, and

Whereas, BioPreservation, Inc. has announced the potential readiness of such an alternate suspension team in the near future, and

Whereas, the Alcor Board of Directors wishes to consider both the safety of its current and future patients and the needs of its Suspension Members,

Therefore, be it resolved that the Alcor Board of Directors agrees to hold discussions between itself and BioPreservation, Inc. to see whether such an arrangement is practical and desirable.

All such discussions will be carried

on in private session by the Directors of Alcor and by the officers of BioPreservation, with other invited individuals as may be necessary. Discussions may be held by some subset of the Directors and BioPreservation officers, but the full Board must approve any agreements made.

Since no cooperative discussions will be possible until the disagreement over statements made by Fred and Linda Chamberlain concerning the actions of Michael Darwin, President of BioPreservation, is resolved, the first step in this process will be a private session to evaluate those statements.

This session will take place on Saturday, October 2, at a place and time to be determined with the consent of all parties. This session will include the Chamberlains, Mr. Darwin, and other knowledgeable individuals as may be invited by President Bridge, in consultation with parties involved.

All Alcor Directors are strongly encouraged to attend and donations will be solicited for travel expenses by Directors who cannot afford to attend otherwise.

*Resolved: That the above proposal is agreed upon and ratified by the Board, with the proviso that Michael Riskin will supply the BioPreservation team principals with a list of the areas that the Board is concerned with and would like to see addressed by them.*

The meeting was adjourned at 4:55 pm.

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## Advertisements & Personals

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*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 \$8.00 per line per month (lines are considered to be 66 columns wide — actual layout may vary). Tip-in rates per sheet are \$200 (printed one side) or \$240 (printed both sides), from camera-ready copy. Tip-in ads must be clearly identified as such.*

MARY NAPLES, CLU and BOB GILMORE — CRYONICS INSURANCE SPECIALISTS. New York Life Insurance Company; 4600 Bohannon Drive, Suite 100; Menlo Park, CA 94025. (800) 645-3338.

*Venturist Monthly News* promotes immortalist philosophy. For free sample write: The Venturists, 1547 W. Dunlap, Phoenix, AZ 85021.

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Do you want to keep up with science and technology bearing on cryonics? **PERIASTRON** is a science newsletter written by and for cryonicists, only \$2.50 per issue. **PERIASTRON**, PO 2365, Sunnyvale CA 94087.

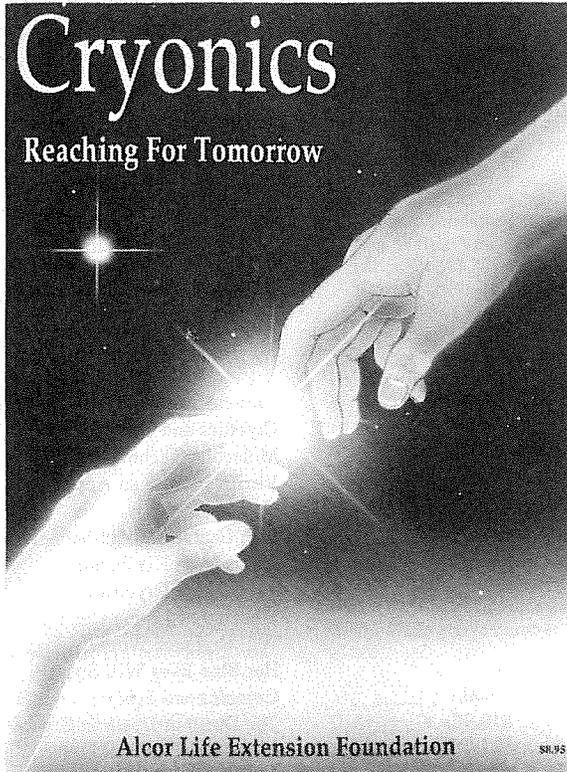
LIFE EXTENSION FOUNDATION OF HOLLYWOOD, FLORIDA provides members with "inside" information about high-tech anti-aging therapies. For free information call 1-800-841-LIFE.

## Cryonics Is . . .

Low-temperature preservation of terminal patients when medicine is unable to heal them. This treatment is called *cryonic suspension*. The goal of cryonic suspension is the transport of today's terminal patients to a time in the future when cell/tissue repair technology is available, and restoration to youth and health is possible — a time when freezing damage is a fully reversible injury and cures exist for virtually all of today's diseases, including aging.

It is our belief that if human knowledge and medical technology continues to expand in capability, people with conditions that would cause them to (incorrectly) be considered dead by today's medicine will be routinely restored to life and health. This coming control over living systems should allow us to fabricate new organisms and sub-cell-sized devices for repair and resuscitation of patients who will have been waiting in cryonic suspension.

There is already substantial scientific evidence available that current suspension techniques are preserving memory and personality — and that the repair and resuscitation technologies we envision will be developed within the next 50 to 150 years.



Non-members may call toll-free (800) 367-2228 or write (see reverse for address) and receive the book, *Cryonics - Reaching for Tomorrow* for free (regular retail price: \$8.95, member price: \$5.00.)

## Alcor Is . . .

The Alcor Life Extension Foundation: a non-profit tax-exempt scientific and educational organization. Alcor currently has 25 members in cryonic suspension, hundreds of Suspension Members — people who have arrangements to be suspended — and hundreds more in the process of becoming Suspension Members. Our Emergency Response capability includes equipment and trained technicians in New York, Canada, Indiana, and Northern California, with a cool-down and perfusion facility in Florida and the United Kingdom.

The Alcor facility, located in Southern California, includes a full-time staff with employees present 24 hours a day. The facility also has a fully equipped and operational research laboratory, an ambulance for local response, an operating room and the world's largest and most technically advanced cryogenic patient storage facility.

All Alcor Directors and Officers are required to be full suspension members.

Call toll-free (800) 367-2228 or write (see reverse for address) for the free book, *Cryonics: Reaching for Tomorrow*.

### Table of Charges and Dues

Sign-Up Package: \$100 (certain limitations apply; call 1-800-367-2228 for details)

Whole Body Suspension Minimum: \$120,000

Neurosuspension Minimum: \$41,000

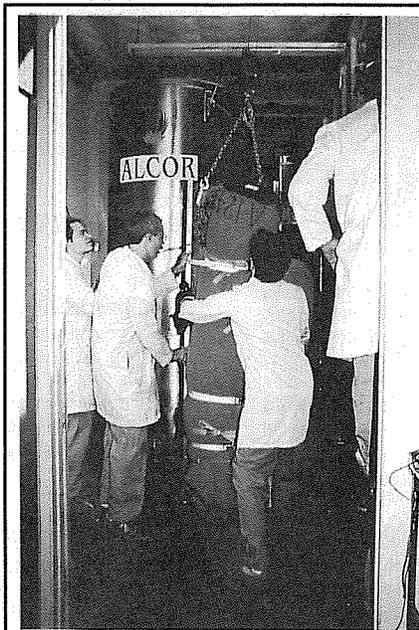
Outside U.S. Surcharge: \$10,000

Annual Adult Dues: \$288.00

Additional Adult Family Member Annual Dues: \$144.00

Additional Family Member Child's Dues (under 15 years of age): \$72.00

Adult Student Annual Dues (must be full time student): \$144.00



You can tour the Alcor facility in Riverside, California under the expert guidance of the Alcor staff. The facility is open to small groups (15 people or less) who wish to learn how terminal patients are placed into suspension and how they are cared for at -320°F.

The Alcor tour also features a discussion of the scientific evidence that patients in cryonic suspension have a realistic chance of being restored to life, health, and youthful vigor as well as a fascinating exploration of the advances likely to come in the 21st century and beyond. The tour provides an invaluable opportunity for you to have your questions about cryonics and the prospect of an extended human lifespan answered.

The Alcor tour is free of charge. If you'd like to make arrangements, call (800) 367-2228.

Yes, I want to make cryonic suspension arrangements with Alcor. Please send me \_\_\_ Sign-Up Package(s).

Name \_\_\_\_\_ Age \_\_\_\_\_

Sign-up fee: \$100 per person.

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

Payment enclosed (check or money order).  Bill me.

I understand that an Alcor Sign-Up Coordinator will contact me at the above number.

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## Cryonics Magazine

### Subscriptions:

- United States: \$35.00/year  
 Canada and Mexico: \$40.00/year  
 Outside North America: \$45.00/year

### Cryonics back issues:

U.S., Canada and Mexico: \$2.50 each. Issues: \_\_\_\_\_  
 Outside North America: \$3.50 each. Issues: \_\_\_\_\_

## Membership

- Alcor Suspension Membership Packet \$100.00

## Books

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Man Into Superman	\$14.00	_____
Great Mambo Chicken & the Transhuman Condition	\$18.95	_____
The 120-Year Diet	\$5.95	_____
The Tomorrow Makers	\$18.95	_____
Immortality, Scientifically, Now	\$11.95	_____

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Why Cryonics Can Work	\$0.25	_____

## Articles and Reprints

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Alcor: The Origin of Our Name	Free	_____
Technical Case Report: Neurosuspension of Alcor Patient	\$3.00	_____
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 Overseas orders require an additional 10% (of total) for shipping.  
**ALCOR, 12327 Doherty Street, Riverside, CA 92503**

# Meetings & Announcements

## Meeting Schedules

Alcor business meetings are usually held on the first Sunday of the month (July, Aug., & Sept.: 2nd Sunday). 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, NOVEMBER 7** meeting will be at the home of:  
Virginia Jacobs  
29224 Indian Valley Road  
Rolling Hills Estates, CA

**Directions:** Take the Harbor Freeway (US 110) south to Pacific Coast Highway (State 1) and get off going west. Go along Pacific Coast past the Torrance Municipal Airport to Hawthorne Blvd. Turn left (south) on Hawthorne and go up into the hills past the Peninsula Shopping Center (Silver Spur Rd.). Hawthorne takes a long curve around to the left. Indian Valley Road is a little over two miles beyond the Center, on the left. 29224 is about 0.2 mi up Indian Valley Rd., opposite Firtridge Rd.

The **SUN, DECEMBER 5** meeting is the Annual Turkey Roast at:  
10106 Sunbrook Dr.  
Beverly Hills, CA

**Directions:** Take the 405 to the Santa Monica Blvd. offramp and go east on Santa Monica Blvd. to Beverly Dr., in Beverly Hills. Go left (north) on Beverly to Benedict Canyon Dr./Canon Dr. at Will Rogers Mem. Park. Bear left onto Benedict Canyon Dr., with the park on your right, across Sunset Blvd., with The Beverly Hills Hotel on the right. Go up Benedict Canyon Dr. to Angelo Dr. Go left up the hill on Angelo past Hillgrove Dr. to Sunbrook Dr. Turn right onto Sunbrook and go about 100 yards to the top of the street. 10106 is on the right, just short of the top.

**ALCOR NORTHERN CALIFORNIA MEETINGS:** Potluck suppers to meet and socialize are held the second Sunday of the month beginning at 6:00 PM. All members and guests are welcome to attend. For those interested, there is a business meeting before the potluck at 4:00. Once every three months there will be a party or gathering at a local eatery and no business meeting. See details below. If you would like to organize a party, or have a suggestion about a place to eat contact the chapter secretary, Lola McCrary, 408-238-1318. We are also hoping to have speakers on various topics in the near future.

The **NOVEMBER** meeting will be held November 14 at the home of Rachael Steiner and Forrest Bennett. Dave Ross will present his talk on "Seven Paths to Immortality."

The **DECEMBER** meeting will be held December 12 at Dave Kreiger's.

The Southern California chapter of Alcor meets every other month in an informal setting in one of our member's homes. Our primary goals are to provide support and preparedness training for Alcor members. We are making arrangements with the Red Cross in Santa Monica, CA for any interested Alcor members to take Disaster Training. We will offer various other emergency training through the Red Cross in the future. Please call Maureen Genteman at (310) 450-0394 for further information.

**Las Vegas Area:** *Alcor Laughlin* meets the third Sunday of the month at 1:00 PM at the Riverside Casino in Laughlin, Nevada. FREE rooms at the Riverside Casino on Sunday night are available to people who call at least one week in advance. Take 95 south from Las Vegas, through Henderson, where it forks between 95 and 93. Bear right at the fork and stay on 95 past Searchlight until you reach the intersection with 163, a little before the border with California. Go left on 163 and stay on it until you see signs for Laughlin. You can't miss the Riverside Casino in Laughlin, Nevada. The time and place of these meetings sometimes changes, so before you come, please call Eric Klien at (702) 897-4176.

Alcor Midwest is in full swing. It produces a monthly newsletter and holds monthly meetings. It has a state-of-the-art stabilization kit and responds to six states: MI, IL, OH, MO, IN, and WI. For meeting information or to receive

the Alcor Midwest Newsletter, contact Brian Shock at (317) 769-4252, or; 670 South State Road 421 North; Zionsville, IN 46077.

**Boston:** There is a cryonics discussion group in the Boston area meeting on the second Sunday each month. Further information may be obtained by contacting Walter Vannini at (603) 889-7380 (home) or (617) 647-2291 (work). E-mail at 71043.3514@CompuServe.com.

The *Alcor New York Group* meets on the third Sunday of each month at 2:00 PM. Ordinarily, the meeting is 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. If you're in CT, NJ, or NY, call Kevin Brown, at (201) 347-1695.

Meeting dates: **Nov 21, Dec 19, Jan 16, Feb 20.**

New York's members are working aggressively to build a solid emergency response capability. The Alcor New York stabilization training sessions are on the second Sunday of every month, at 2:30 PM, at the home of Curtis Henderson. The address is: 9 Holmes Court; Sayville, L.I. For details call Kevin at the above number.

**District of Columbia:** *Alcor DC* is a new cryonics group with members from Washington, D.C., Virginia, and Maryland. The Alcor DC Board of Directors meets once a month. Alcor DC also sponsors discussion groups, speaker's bureaus, and seminars. Call Mark Mugler at (703) 534-7277 (home), or write him at 990 N. Powhatan St.; Arlington, VA 22205 for directions or to find out upcoming activities.

Meeting dates: **Nov 14.**

There is an Alcor chapter in England, with a full suspension and laboratory facility south of London. Its members are working aggressively to build a solid emergency response, transport, and suspension capability. Meetings are held on the first Sunday of the month at the Alcor UK facility, and may include classes and tours. The meeting commences at 11:00 A.M., and ends late afternoon.

Meeting dates: **Nov 7, Dec 5, Jan 3, Feb 6.**  
The address of the facility is:  
Alcor UK, 18 Potts Marsh Estate, Westham, East Sussex  
Telephone: 0323-460257

**Directions:** From Victoria Station, catch a train for Pevensey West Ham railway station. When you arrive at Pevensey West Ham turn left as you leave the station and the road crosses the railway track. Carry on down the road for a couple of hundred yards and Alcor UK is on the trading estate on your right. Victoria Station has a regular train shuttle connection with Gatwick airport and can be reached from Heathrow airport via the amazing London Underground tube or subway system.

People coming for AUK meetings must phone ahead — or else you're on your own, the meeting may have been cancelled, moved, etc etc. For this information, call Alan Sinclair at 0323 488150. For those living in or around metropolitan London, you can contact Garret Smyth at 081-789-1045 or Garret@destiny.demon.co.uk, or Mike Price at 081-845-0203 or price@price.demon.co.uk.

## Other Events of Interest

### Washington DC To Hold Its First Cryonics Conference

Alcor Suspension Member Mark Mugler and other East Coast Alcor members and cryonics enthusiasts are planning "Cryonics: Meeting the Challenge," the first DC conference on cryonics. We weren't able to collect many details by press time, except that the event will be taking place on December 5. For more details write to: Mark Mugler, Pres. Alcor DC / 990 N. Powhatan / Arlington, VA 22205.

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