Cryonics

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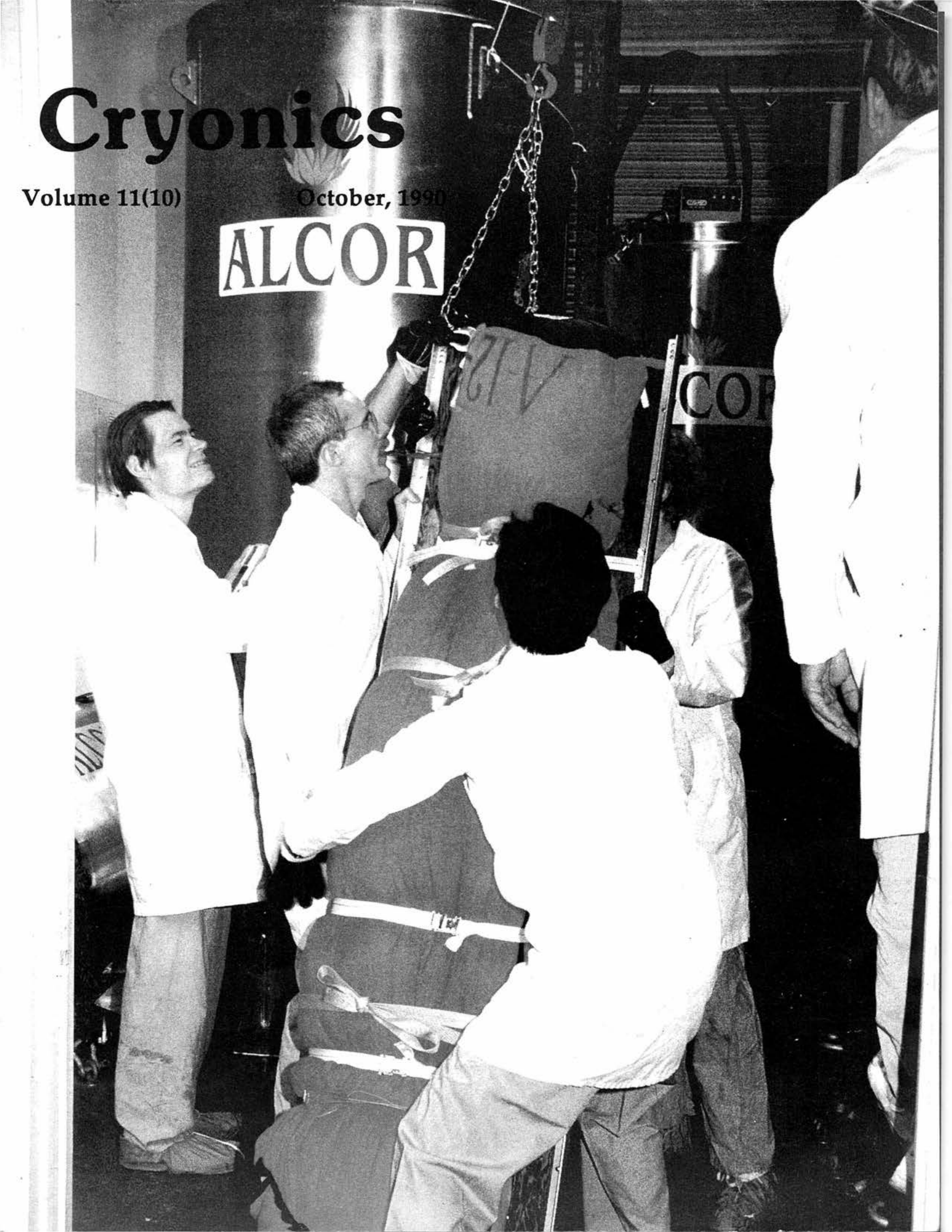

Cryonics

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Cover:
The Cryonic Suspension of A-1242.

Editorial Matters

Mike Darwin with Hugh Hixon & the Staff

Included in this month's issue of *Cryonics* is a *Status Report* special issue regarding "Occupant Death Rates by Car Series." Since life extension is a big part of the Alcor Life Extension Foundation, and since driving is a big part of most of our members' lives, we decided that this report was important enough to pass on to you *en toto.*

In addition to all the factors that the report mentions, though, I'd like to emphasize what I think may be the single most important aspect: *driving style.* (That is, the manner and extent to which one employs his/her ability.)

The statistics have shown that there are eight times more fatal accidents (per 10,000 cars registered) in Corvettes than in Volvos. While this (along with a little common sense) does indeed allow us to infer a higher safety margin for Volvo, it does not necessarily mean that if I step into my garage tomorrow morning and choose to take my Corvette rather than my Volvo to work, then I am eight times more likely to die.

In other words, while telling us a lot about the cars, the report also allows us to infer something about the *driving style* of the average Corvette (Mustang, Firebird, 300ZX) driver versus the average Volvo (Fleetwood, Taurus Wagon, Town Car) driver.

So you don't have to rush out and exchange your Ferrari for a Family Truckster, and you can drive your Lamborghini as safely as you drive your Ford Galaxy 500. . . if you have enough self control.

But the odds are that you don't.

–Ralph Whelan

Correction

In the September issue of *Cryonics* we told you that this year's Turkey Roast had no special events scheduled.... We were wrong, but we didn't know it! Turns out Arel Lucas has organized a fund-raising benefit for Thomas Donaldson which will be held in Wrightwood, California and feature Chris Ashworth as guest speaker. We didn't get notice of this event until *Cryonics* had already gone to press (although we were able to tip in the flyers announcing it). So...we want to take this opportunity to tell you once again that the benefit will be held on Saturday, December 1st at 6:00 p.m. This issue also contains a flyer with a registration coupon. Please, if you want to support Thomas in his efforts to secure the right for pre-mortem cryonic suspension for all of us, come to this dinner or send in your contribution.

Errata

In the August issue of *Cryonics* an article appeared authored by me entitled, "CI Publishes Storage Unit Efficiency Data – Sort Of." One of the statements in this article was a calculated figure for boil-off on the Cryonics Institute's RSSSV patient storage unit. An error was made in doing the calculation which was not caught during subsequent proofing of the article, in part because staff member Mike Perry, who normally checks the figures for us was away at the Asilomar conference for most of the critical weekend. This error incorrectly ascribes a calculated boil-off rate to the RSSSV of 39 liters per patient per day. Boy was I wrong! In fact I wasn't even in the ballpark! **The actual number should be 6.49 liters per day** (using the numbers I had to work with). We received a strong letter of protest from Bob Ettinger on this point, and understandably so, since the difference in comparing efficiency between the CI RSSSV and Alcor's Bigfoot is only 203% vs. the 1200% quoted in the article. My sincere apologies. –MD

The special dewar lid for controlled cooling in the Bigfoot dewar was not made for the suspension of Roy Schiavello, as reported in the September issue of *Cryonics*. Rather, this lid was fabricated for the previous suspension. For the Schiavello suspension, it was necessary for facility engineer Hugh Hixon to come up with a complete system for supporting three whole-body patients in the Bigfoot unit, on incredibly short notice (including the making of a tray to hold Roy). Hugh did this with his usual skill and efficiency. We regret the error in reporting.

Last Chance To Help Alcor Before Tax Time

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

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

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

And if ever we need your support, the time is now. The enormous burden of litigation costs associated with fighting for all our rights to cryonics (including the very right to be suspended (Alcor v. Mitchell)) has been borne by Alcor and Alcor alone. We need your help.

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

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

Do You Work For a Big Company?

Does Your Employer Offer to Match Charitable Contributions?

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

Membership Status

Alcor has 180 Suspension Members, 444 Associate Members, and 16 members in suspension.

If You've Been Procrastinating About Signing up for Cryonic Suspension Coverage With Alcor, You Now Have Another Good Reason to Take Immediate Action!

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

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

Alcor Monthly Dinners Begin Again

Dave Pizer

There have been many requests from members in the Los Angeles area that we start having monthly dinners again. These are purely social events that promote fun and fellowship.

It is with great pleasure that I announce their resumption. I have agreed to coordinate these dinners in the greater Los Angeles area and I need your help. I want to make these dinners convenient and I want them to be in enjoyable eating places. If you are interested in attending these dinners, try suggesting a restaurant that you enjoy so that we can rotate the locations and make them available to as many people as possible. If you would like to recommend a restaurant, please send me the name, address, phone number, and some particulars about the place. My address is PO Box 458; Wrightwood, CA 92397. Or call me at (619) 249-3553.

The dinners will be held on the third Sunday of each month and the locations will be announced in *Cryonics* in the "Meeting Schedules" section. The starting time will be 6:00 P.M. and will last as long as people want to stay (or until the restaurant closes).

We hope to get a large turnout at the first few dinners to get the ball rolling. The dinners are open to anyone who is interested in cryonics. You are invited to bring your friends. If you don't know anyone in cryonics but are interested in learning more and meeting others who are actively involved, you are most especially invited. This is a great way to get the personal attention and the answers to your questions that you've been looking for, as well as an opportunity to meet others who are signed up. These dinners will be "no-host" and casual.

The first social dinner will be at 6:00 P.M., Sunday, October 21, at the

Souplantation in Corona, at the Corona Hills Plaza. Directions are given in the "Meeting Schedules" section at the back of this magazine. This is very near Alcor, so that anyone who likes can have a tour of the Alcor facility at 4:00 P.M. that Sunday.

The Souplantation features an "all you can eat" format with a very versatile menu of soups, salads, desserts, breads, and even pizza. In sharp contrast to other such buffets, we have found the food quality at the Souplantation to be uniformly high. Come fully starved to derive the maximum benefit from your visit.

Is Your Cholesterol Killing You?

The media has been abuzz recently with the news that your cholesterol can kill you – and this time it isn't a high cholesterol, its a *low* one. About a year ago researchers documented that low cholesterol in conjunction with a high salt, hypertension-inducing diet leads to increased incidence of hemorrhagic stroke (the kind where a blood vessel bursts in the brain). But this more recent work suggests that the reason that low cholesterols may be a problem is that they alter *behavior* in ways that make you more likely to die.

It has long been a puzzle that while people on cholesterol-lowering regimes experience greatly reduced mortality from cardiovascular disease, they do not, on average, *live* any longer. In the past, this has been attributed to the increased risk of cancer such people often experience when they shift their fat intake from saturated (atherosclerosis causing) fats to unsaturated (cancer causing) fats.

Now, Dr. Stephen B. Weiss of the National Heart, Lung, and Blood Institute has announced the results of preliminary study that indicate that the other reason for the failure to live longer, perhaps even the major reason, is that people with lowered cholesterols are experiencing increased mortality from accidents, suicide, and homicide. The increased incidence of such so-called "unnatural" deaths has surfaced both in people who reduced serum cholesterol by diet and in those who used drugs – and in combinations of the two.

Similarly, a study conducted by Dr. Jay Kaplan of Bowman Gray School of Medicine and Dr. Stephen B. Manuck, a psychology professor at the University of Pittsburgh, reported in the *British Medical Journal* that severe aggression increased markedly in monkeys fed a low fat diet.

There is speculation that the increased mortality from violence is a result of interference with the production of a critical brain-signaling chemical (serotonin). (Another reason, not mentioned in the popular accounts of this work which we've seen published so far, is the possibility that such violence simply results from having to eat slop all the time and forego ice cream, pizza, and all the other good things to eat that make life worth living.)

All humor aside, this work bears careful watching and may be of great importance to cryonicists. In the past, we have been rather vocal advocates of serum cholesterol reduction and of shifting mortality away from the *sudden* and toward the slower causes of death, the rationale being that dying suddenly gets you autopsied, while dying slowly usually doesn't. Clearly, for cryonicists the latter is better than the former.

The Weiss and the Kaplan and Manuck studies are disturbing because they indicate that sudden death may still be a problem even if the risk of cardiovascular disease goes away. And not only sudden death, but sudden death from causes that are virtually guaranteed to get you a full-blown autopsy (sometimes cardiovascular deaths are not autopsied or the autopsy is limited; this is virtually never the case in suicides or homicides, and only very rarely so in accident cases).

List Of Cryonic Suspension Patients

R. Michael Perry

Besides being interesting, history is worth studying because of the lessons it teaches. In cryonics, the most important events, of course, are the freezings or cryonic suspensions. One would like to know basic data such as how many have been frozen, who was frozen (name, age, sex, etc.), when, by which organization, and what their status is today (still frozen?, etc.). Each individual case is interesting in its own right, and it's also worthwhile to study overall trends. Unfortunately, basic data of this sort have been hard to come by. There were a few attempts in the early days to comprehensively list those frozen thus far, but no such listing has been published for many years, as far as I know, until now.

The table that follows includes every cryonic suspension I have been able to document, with most – though not all – of the information coming from previously published sources. There are 52 cases on this list, beginning with the first freezing in April, 1966 and continuing to the most recent, a few months ago. (I thank Richard Shock who, concurrently with my own initial efforts, compiled a similar list, from which I obtained some references as well as helpful hints on what to include.) Four of the cases are doubtful enough that they could simply be the result of counting errors. If they happened at all, it seems almost certain that they were carried out privately and were short-lived. The other 48, however, are better attested, though there may be one or two duplications among those whose names are unknown. (Some names are also being kept confidential by request.) Also, keep in mind that two of the cases reported are not true cryonic suspensions (that is, #36 and #42), because though frozen, they are being stored at above dry-ice temperatures.

In looking over this list, it is striking how many of the early suspensions ended in failure (as indicated by a "t" in the STATUS column). Most of the suspensions performed over the last 15 years are still in effect, however, and all of those over the last 10 years. Moreover, since 1987 there has been a substantial increase in the number of suspensions per year. Cryonics has gotten much more reliable and has now increased substantially in popularity – heartening trends, though of course we still have a long way to go.

Research is continuing on the suspension patients, when time permits. Further information from readers is welcome.

TABLE OF CRYONIC SUSPENSION PATIENTS
Compiled by R. Michael Perry Sep. 1990
Explanatory notes follow.

CASE #	DEANIMATION DATE	NAME/IDENTIFICATION	SEX	AGE	SUSPENSION	STATUS AS OF AUG 1990	SOURCE(S)
1	22 APR 1966F	[FROM L.A. AREA]	F	60s	W/CC	t	WFFM, C1, FWR.66.MAY
2	12 JAN 1967	BEDFORD, JAMES H.	M	73	W/CSC	W/ALCOR	WFFM, FWR.67.JAN
3	27 AUG 1967	PHELPS-SWEET, MARIE (MRS. RUSS VAN NORDEN)	F	74	W/CSC	t	CR.67.SEP.1, SA.119
4	SEP 1967	NISCO, LOUIS T.	M	55	W/CC	t	FWR.68.FEB.1, LAT.(81.JUN 14?)
5	LATE 1967	[CALIF.]	F		W/CC	t	FWR.68.MAY.5, O.70.DEC.4
6	14 MAY 1968	KLINE, HELEN	F		W/CSC	t	CR.68.JUN.120
7	28 JUL 1968	MANDELL, STEVEN J.	M	24	W/CSNY	t	CR.68.SEP.162
8	~AUG 1968	[N.M. SUICIDE]	M		W/CC	t	CR.68.SEP.166
9	06 SEP 1968	STANLEY, RUSSELL	M		W/CSC	t	CR.68.OCT.190
10	20 NOV 1968	MIHOK, ANDREW F.	M	48	W/CSNY	t	CR.69.JAN.4
11	04 JAN 1969	DEBLASIO, ANN	F	43	W/CSNY	t	CR.69.FEB.2, BR.90.AUG 12
12	15 MAR 1969	HURST, PAUL M. (SR.)	M	62	W/CSNY	t	CR.69.MAR.6
13	1970	GREENBERG, HERMAN	M	~51	W/CSNY	t	O.70.DEC.4, TIC, RMP
14	20 SEP 1970	HARRIS, MILDRED E.	F		W/CSC	t	O.70.OCT.1, TIC
15	25 JAN 1972	DE LA POTERIE, GENEVIEVE	F	8	W/CSC	t	O.72.FEB.1
16	13 NOV 1972	"D.L."	F	51	W/CSC	t	O.72.NOV, O.72.DEC, O.73.JAN
17	10 DEC 1972	DASTAL, CLARA	F	60	W/CSNY	t	O.72.DEC, O.73.MAY, SB.81.JUN 06.D(3?)
18	???						(O.74.MAR)
19	FEB 1974	"M.D."	F	ELD	W/TT	W/TT	O.74.MAR
20	09 FEB 1974	"R.M."	M	65	W/TT	N/ALCOR	O.74.MAR, C.81.SEP.11T
21	???						(O.74.NOV.1)
22	???						(O.74.NOV.1)
23	???						O.74.NOV.1
24	~20 OCT 1974	"Mr. P."	M	10	W/CSC	t	O.74.NOV.1, VMN.90.AUG.3
25	16 JUL 1976	CHAMBERLAIN, FRED II (JR.)	M	79	N/ALCOR	N/ALCOR	I.76.SEP, RMP
26	~26 JUL 1976	LEDESMA, PEDRO	M	ELD	W/CSC	t	C2
27	02 0CT 1976	WILSON, PATRICIA LUNA	F	15	N/TT	N/TT	LER.307, LEM.77.MAR.18
28	1976	BABURKA, MICHAEL	M	ELD	W/PRIVATE	t	C.81.JUN.2

CASE #	DEANIMATION DATE	NAME/IDENTIFICATION	SEX	AGE	SUSPENSION	STATUS AS OF AUG 1990	SOURCE(S)
29	~SEP 1977	ETTINGER, RHEA CHALOFF	F	78	W/CI	W/CI	CI BROCHURE
30	14 JUL 1978	BERKOWITZ, SAMUEL	M	76	W/TT	t	LLM.79.SEP.30, C.83.DEC.1
31	02 NOV 1978	"K.V.M."	F	65	W/TT	N/ALCOR	LLM.79.SEP.71, C.86.APR.24
32	22 JAN 1979	"L.R."	F	76	N/TT	N/TT	TC.79.MAR, C.81.NOV.21
33	15 JAN 1980	"W.D."	M	79	W/TT	W/TT	C.85.NOV.13
34	17 JAN 1980	FOOTE, JANICE	F	36	W/TT	N/TT	SB.80.unk, C.84.SEP.16, C.85.NOV.13
35	02 FEB 1981	"H.H."	M	71	N/TT	N/ALCOR	RMP
36	25 FEB 1984	MARTINOT, MONIQUE	F	49	WF/PRIVATE	WF/PRIVATE	C.84.JUL.1, C.84.SEP.
37	12 FEB 1985	CANNON, TERESA M.	F	68	N/ALCOR	N/ALCOR	C.86.FEB.17, SWB
38	08 JUN 1987	"R.R."	M	29	N/ALCOR	N/ALCOR	C.87.AUG.14
39	EARLY NOV 1987	ETTINGER, ELAINE	F	65	W/CI	W/CI	C.87.DEC.1, I.87.DEC, SWB
40	11 DEC 1987	KENT, DORA	F	83	N/ALCOR	N/ALCOR	C.88.JAN.1, RMP
41	12 MAR 1988	JONES, VIOLET	F	87	W/TT	W/TT	C.88.APR.1, I.88.JUN, C.88.JUL.5
42	LATE MAR 1988	"MR. M."	M	85	WP/CSCN	WP	I.88.JUL, RMP
43	08 MAY 1988	BINKOWSKI, ROBERT	M	72	W/ALCOR	W/ALCOR	C.88.JUN.2
44	07 OCT 1988	"A.S."	F	78	N/ALCOR	N/ALCOR	C.88.11.15, RMP
45	12 DEC 1988	JONES, RICHARD CLAIR	M	57	W/ALCOR	W/ALCOR	C.89.JAN.2
46	21 MAR 1989	DONOVAN, EUGENE T.	M	71	N/ALCOR	N/ALCOR	C.89.APR.1, RMP
47	18 AUG 1989	"O.C."	M	78	W/TT	W/TT	ACSJ.89.JUN, RMP
48	19 AUG 1989	"C.C."	F	21	W/ALCOR	W/ALCOR	C.89.NOV.20, RMP
49	06 NOV 1989	MORSTOEL, BREDO	M	89	W/TT	W/TT	C.90.MAY.5, TB
50	09 MAY 1990	"C.P."	F	60	W/ALCOR	W/ALCOR	SWB, RMP
51	09 JUN 1990	FRIED, ARLENE F.	F	68	N/ALCOR	N/ALCOR	SWB, RMP
52	22 JUN 1990	SCHIAVELLO, ROCCO "ROY"	M	30	W/ALCOR	W/ALCOR	SWB, RMP

NOTES:For deanimation date, "F" means date of freezing. Suspension type: N = neuro (head only); W = whole body; WF = whole body, freezer storage at above dry ice temp. (> -78° C); WP = whole body, permafrost burial. t = suspension terminated, usu. by conventional burial. Suspension organizations: ALCOR = Alcor Life Extension Foundation; CC = Cryo-care; CI = Cryonics Institute; CSC = Cryonics Society of California; CSCN = Cryonics Society of Canada; TT = Trans Time. Monique Martineau (France) is maintained by her husband, Dr. Raymond Martineau. Sources: (1) Books: LER = *The Life Extension Revolution* by Saul Kent; SA = *Suspended Animation* by Robert Prehoda; WFFM = *We Froze the First Man* by Robert F. Nelson and Sandra Stanley. (2) Article: TIC = *The Iceman Cometh* by Clifton D. Bryand and William E. Snizek, *Society* Nov.-Dec.'73. (3) Periodicals: ACSJ = *American Cryonics Society Journal*; C = *Cryonics*, CR = *Cryonics Reports*, FWR = *Freeze-Wait-Reanimate*; I = *The Immortalist*; LEM = *Life Extension Magazine*; LLM = *Long Life Magazine*; O = *The Outlook*; TC = *The Cryonicist*!; VMN = *Venturist Monthly News*. (4) Newspapers: BR = *The Bergen Record*; LAT = *Los Angeles Times*; SB = *The Sacramento Bee*. (5) Persons: RMP = Mike Perry; SWB = Steve Bridge; TB = Trygve Bauge. (6) Misc.: C1 = Memo from Ted Kraver; C2 = confd. source, info. said to have come from attorney Michael Worthington.

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

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

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

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

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

Directions:

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

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

* * *

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

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

Donaldson Gets His (First) Day in Court

Carlos Mondragón

On Friday, September 14th, in Santa Barbara Superior Court, the now famous case entitled *Donaldson v. Van de Kamp** got its first hearing. (See *L.A. Times* article on opposite page.) The issue at hand was the demurrer filed by the Attorney General. A demurrer is an assertion that the case as a matter of law has no merit, and hence should not be heard. The judge had three options: a) overrule the demurrer and allow the case to be heard in his court; b) sustain the demurrer and deny Donaldson leave to amend his complaint (thus sending the case directly to the appellate court); or c) sustain the demurrer and give Donaldson leave to amend the complaint. Judge Ronald Stevens predictably decided on "c." This means that Donaldson has the opportunity to make new arguments before the same judge before going on to the appellate court.

Donaldson, represented by Christopher Ashworth of the Los Angeles law firm of Garfield, Tepper, Ashworth & Epstein, had made the argument that precedent-making cases which have given terminal patients the right to "pull the plug" applied to him as well. The Attorney General, represented by Kristofer Jorstad, argued that there is a great difference between the right to refuse medical treatment (including nutrition and hydration) and the commission of an act of "suicide," or if assisted by others "murder one." Chris Ashworth argued eloquently that the distinction is a "romantic fiction," and that there is no logical difference between "sitting on the beach until being submerged by the incoming tide and walking into the sea." Ashworth's arguments were derived from the written opinion of none other than Supreme Court Justice Antonin Scalia. Writing in the Cruzan case, Justice Scalia drew an even more appropriate analogy: "It would not make much sense to say... that one may not intentionally lock oneself into a cold storage locker, but may refrain from coming indoors when the temperature drops below freezing."

Judge Stevens allowed Mr. Ashworth an extraordinary amount of time without interruption to make his oral presentation. His questions and comments demonstrated compassion and sympathy for Donaldson's situation. But in the end, he simply didn't have what it takes to take that "giant step" from the "refusal of medical treatment" to "assisted suicide." The judge's attitude was that there ought to be a law, but he wasn't going to be the one to make it.

Some time in late September, Mr. Ashworth will decide whether to give Judge Stevens another try or to go directly to the appellate court. Either way, this hearing was only the first of many along the way to an ultimate resolution of this case.

* *Thomas Donaldson has been diagnosed with a brain tumor which may destroy his brain before he is pronounced legally dead. He filed this suit to gain the right to go into cryonic suspension prior to legal death, while his brain is still intact. Tax-deductible donations to the Thomas Donaldson Legal Fund may be sent to Alcor.*

Tumor Victim Loses Bid to Freeze Head Before Death

■ **Cryonics:** Judge says request is a 'giant step' beyond rulings allowing terminally ill patients to refuse medical treatment.

By MILES CORWIN
TIMES STAFF WRITER

SANTA BARBARA—A Superior Court judge on Friday rejected the petition of a computer consultant with an inoperable brain tumor who sued the state for the right to have his head frozen before he dies in the hope that scientists will discover a way to remove the tumor and attach the head to a healthy body.

The suit, the first of its kind in the county, could have broad implications in the issue of a terminally ill person's right to choose how and when he dies.

Thomas Donaldson, 46, is a longtime proponent of cryonics, the controversial practice of freezing people after they have died in the hope that someday they can be revived. While there is nothing illegal about that practice, Donaldson wants to take it a step further and be chemically frozen while he is alive.

If he waits until he dies a natural death, the tumor will have destroyed his brain to such an extent that "there would be no point in being revived," he said.

"Under the current, stupid criteria, my brain could be entirely destroyed before I'm declared legally dead," Donaldson said Friday. "That's why I filed the lawsuit."

But Superior Court Judge Ronald Stevens said that while the courts have allowed terminally ill patients to refuse medical treatment, it would be a "giant step" to allow cryonic technicians to freeze Donaldson before he is legally dead.

Under current law, those assisting Donaldson could be prosecuted for murder or assisting a suicide.

Assistant Atty. Gen. Kristofer Jorstad, who represented the state, said Donaldson can "put a bullet into his own heart. . . . But he can't have people associated with cryonics put that bullet into his heart. That's murder one."

Donaldson has 30 days to amend the lawsuit and resubmit the petition to the judge. If he is unsuccessful, he plans to appeal the case.

"If the case goes all the way to the Supreme Court and they turn me down, I'll just starve myself to death," he said. "Then I can be frozen before my brain goes and no one can be prosecuted."

Associated Press

Thomas Donaldson

Donaldson's attorney, Christopher Ashworth, said his client has a constitutional right—"the right of privacy"—to end his life when he chooses.

"There's no reason Thomas Donaldson should have to die screaming in his pillow," Ashworth said after the hearing. "He shouldn't have to endure the pain and degradation of waiting until the tumor slowly destroys him."

Donaldson is seeking to prevent local and state authorities from interfering with his cryonic suspension. He wants to prevent those involved with the procedure from being prosecuted. And he wants to ensure that the county coroner does not perform an autopsy, which would make him "unsuitable for effective preservation," he said.

While most scientists are skeptical of cryonics, Donaldson believes that eventually there will be technology to bring him back to life and safely remove his brain tumor. And because only his head will be preserved, he is counting on future scientists to use his cells to create another body.

The head would be surgically removed and bequeathed to the Alcor Life Extension Foundation, a nonprofit cryonic organization with a facility in a Riverside industrial park.

Under the procedure, Donaldson would be anesthetized and placed on a heart-lung machine while he is still alive. Then the cooling process would begin as technicians injected a chemical solution to replace his blood. The chemicals prevent formation of ice crystals, he said, and minimize damage caused by freezing.

After Donaldson's head is removed, it would be placed in a device that looks like a "giant stainless steel Thermos," said Alcor President Carlos Mondragon. Liquid nitrogen would keep the head at a temperature of 320 degrees Fahrenheit below zero.

"We actually take a more conservative position than most people who just want to incinerate a body or feed it to the insects," Mondragon said. "We're saying instead, we'll put you into the best holding pattern that we can currently devise, and then wait for technology to catch up."

Donaldson said he is not the sort of "flake" some people associate with cryonics. He has a doctorate in mathematics from the University of Chicago and has held high-powered computer jobs with Silicon Valley firms. But he became intrigued with cryonics during the 1970s when he learned of scientific experiments in which human organs were frozen, he said, and then functioned for a short time after being thawed.

"As I see it, this is the only alternative to death," said Donaldson, of Sunnyvale. "I know we don't have all the technology right now, but I think it's entirely possible in the future."

And to ensure that he has some company in an era when all his contemporaries will be dead, his wife has signed up for the program too.

In 1975, Donaldson made the financial arrangements for cryonic suspension by naming a cryonic firm as the beneficiary of his life insurance policy. Thirteen years later he was diagnosed as having an inoperable brain tumor.

Almost 200 people have made the financial arrangements with Alcor for cryonic suspension and 16 are frozen, Mondragon said. The minimum cost is $35,000 for the preservation of a head and $100,000 for a full-body suspension.

Unhappy Resolution To The "Richard Leibee" Situation

Carlos Mondragón

In the January, 1990 issue of *Cryonics*, Mike Darwin reported on the situation of a long-time cryonicist and Alcor suspension member fictitiously named "Richard Leibee" (to protect the member's privacy). Richard had been signed up for cryonics for over 10 years and had frequently advocated cryonics publicly. After a series of strokes, Richard's competence had become seriously compromised. A court-appointed guardian took over Richard's financial affairs when it became clear that he could no longer make prudent (or even rational) decisions.

One of the guardian's first actions was to petition the court for permission to dissolve the revocable trust which funded Richard's cryonic suspension and to cancel the suspension arrangements on Richard's behalf. Alcor's Board of Directors decided to oppose that action. Our position was that the interest from the trust, along with Richard's social security checks, provided more than enough income to care for him and still leave his cryonics arrangements intact. We did not oppose the use of the trust money for Richard's care if that became necessary in the future, and we told the court that our primary motivation was to uphold the intent of the trust, i.e., to give effect to Richard's desire for cryonic suspension, even if ultimately the funding were inadequate, since we might be willing to proceed with the suspension anyway.

Alcor's filings in this matter were prepared internally. Jerry Leaf, Mike Darwin, and I wrote affidavits, and I wrote the pleading. (Having seen enough of them recently, this wasn't hard.) Our papers were filed by a friendly local attorney who also appeared in court on our behalf. (It is required that Alcor be represented by counsel at hearings because we are a corporation.) This kept our expenses in this case under $2,000.

The issue was decided in judge's chambers with Richard, Richard's guardian, Jerry Leaf, and Alcor's attorney all present. By all accounts, Richard handled himself very well at this hearing. He adamantly expressed the desire to end his suspension arrangements. The judge ruled that while Richard was indeed *incompetent* to manage his everyday affairs, he was and is competent to make testamentary decisions. Accordingly, the trust was dissolved and so were Richard's suspension arrangements.

Though we regret the outcome of the case, we feel that Alcor did all it could under the circumstances. That Richard's trust was revocable and that he had not appointed a power of attorney for financial matters significantly reduced our options, although it is not clear that the outcome would have been better had it been otherwise.

The salient points from this case for other Alcor Suspension Members to make note of are as follows:

First, there is no foolproof way to safeguard your suspension arrangements against a failure mode like Richard's. There is hardly any way that *anyone*, let alone a magistrate trying to be fair and impartial, can decide to force an apparently calm, "rational" person into undergoing cryonic suspension even if the person has diminished capacity in other areas of his/her life.

Second, creating irrevocable trusts and carefully choosing your durable power of attorney for health care are critical. Richard did select a "medical surrogate" (in this case Alcor Vice President Jerry Leaf), but did not maintain regular contact with this person. Selecting someone who is *not* an Alcor Officer or Director to serve in this capacity is also probably a good idea.

Third, in creating an irrevocable trust, you provide Alcor with the resources with which to *fight*. In this case, we spent almost $2,000 of operating fund money to defend Richard's suspension: this expenditure was sharply criticized by some Alcor members and directors who expressed the opinion that Alcor should not become involved in defending suspension arrangements where the member has not provided money to do so.

Richard's case might have turned out differently (although this is not likely, in the opinion of all present) had funds been there to mount an all-out fight (getting complete, expert, and thorough psychiatric evaluations and continuing to pursue the case through appeals...). Each individual must decide how much such protection is worth.

Clearly though, there will be failure modes which will be very hard to defend against no matter what the available resources are. That, above all, should be the central message in this case.

Rough Justice: British Cryobiology Falls On Hard Times

Mike Darwin

Maybe there is justice after all. As we've reported in the past, several of our harshest and least fair cryobiological critics have fallen on hard times. Insect cryobiologist John Baust had his department chopped away from him under very embarrassing and painful circumstances (see *Cryonics*, **10(9)**, 4 (Sept, 1989)) and Arthur ("Reviving A Cow From Hamburger") Rowe, formerly of the New York Blood Center, lost his job amid reported accusations of inefficiency in mid-1988 and has remained unemployed ever since.

The most recent casualty in the ranks of "unfair critics" is Dr. David Pegg of the British Medical Research Council (MRC). Closure of the MRC's Cambridge cryobiology unit leaves us with mixed feelings. The reason for the closure is complex, as are our feelings about it. But first, before editorializing and philosophizing, we should tell you exactly what happened.

In 1989, a panel of "peer review" experts was put together by the MRC to carefully evaluate and review the cryobiology unit's operations and make recommendations about whether or not it should be continued or disbanded. In budget-tight Britain, there is increasing pressure to carefully examine programs and weed out those that are not producing clear-cut social or medical benefit.

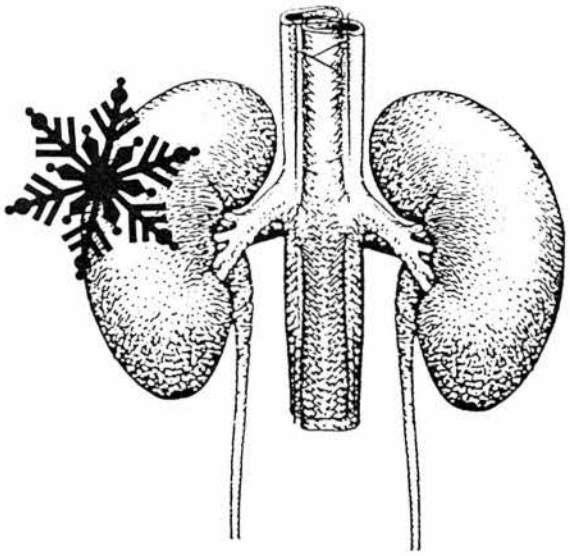
All of the referees reported favorably on the cryobiology unit's work, strongly recommending that funding be continued. Normally, that is the end of the issue; the recommendations of the panel are almost always followed.

But not in this instance. For reasons which are not completely clear, the review panel's recommendation was overridden by the MRC's "Cell Board" – one of several key committees within the MRC that make final funding decisions. Reportedly, the Cell Board decided that Pegg's group merited only a "beta" rating, and with so many "alpha" projects coming for funding, this virtually guarantees the end of the cryobiology group – a research group that represents a direct line back all the way to the days of Audrey Smith, the mother of cryobiology. (Smith's Mill Hill Group received an offer about 10 years ago to move to the MRC; David Pegg, one of Smith's most promising proteges, accepted this offer and moved his lab there.) A major reason for moving the Mill Hill group to the MRC was the presence of Roy Calne, a transplant surgeon of some repute. The idea was that the Mill Hill cryobiologists would be able to work hand-in-glove with the medical community to develop workable techniques for long-term and intermediate- to short-term organ cryopreservation. In practice, this collaboration never occurred.

Quoting from *Nature* (**346**, 685 (23 Aug, 1990)), the source of much of the material in this article, "The Cell Board judged the unit's work to fall below the 'competitive standard' in the current financial climate. That judgment, while apparently at odds with the views of specialists, reflects the Board's 'wider scientific representation', he adds. Effectively the unit's fate was sealed by a concluding remark in the subcommittee report that, despite 10 years of funding, clinically useful applications 'still seem to be around the corner.'"

The response of the scientific community to the closure of Pegg's cryobiology unit has been strong and unanimous; condemnation. Reportedly, 70 scientists from around the world have registered protests over the closure of the unit. It should be pointed out that most of the strongest critics of the MRC's decision that were mentioned in the *Nature* article are names of those inside the cryobiology community such as Peter Mazur, Felix Franks, and Pegg's surgeon friend at the MRC, Roy Calne.

Now for some philosophizing and editorializing. *Why* did this happen to David Pegg, an admittedly fine cryobiologist whose work has gone a considerable way towards elucidating our understanding of the mechanisms of freezing injury in organs (an area of tremendous relevance and importance to us as cryonicists)? The answer is simple and not at all surprising.



Pegg has always been a cryobiologist motivated not by a burning desire to successfully cryopreserve organs or develop suspended animation, but rather by a desire to *know*. Noble sentiments, you may be thinking. Well, maybe. But in a world of sick and dying people, how noble is it to give someone L250,000 a year (about $390,000 US) to work on saving their lives when he approaches solving the problem with no particular sense of urgency, using an unfocused approach and exploring all kinds of byways and side problems of interest to *him* along the way. Imagine hiring someone to fix your car and coming back two weeks later to find out that: a) your car isn't repaired, because; b) "problems relating to carburation which were heretofore unexplored surfaced during the course of servicing, requiring added investigation...." And by the way, the mechanic needs to charge you the fee again so that he can get on with the job....

This is how Pegg has conducted work: as an academician on an Easter Egg hunt, rather than as a researcher *being paid to solve a problem that people's lives depend upon*. (Actually, this is unfair to most Easter Egg hunters; they are usually children who are highly motivated to find the colored eggs.) Much of Pegg's published work isn't focused on dealing with the problems of developing workable, practical organ cryopreservation, but with exploring theoretical problems in cryobiology: often problems which have little or no relevance to achieving solid state organ preservation.

The closure of Pegg's lab isn't good news for cryonicists or for the cryobiology community. It now means that there is ONE and only ONE research facility on the face of the earth (the American Red Cross, at Bethesda, Maryland) containing competent researchers with anything even approaching a stated goal of delivering organ cryopreservation. This is a dismal and undesirable state of affairs.

On the other hand, there is in all of this a message to David Pegg and others in the cryobiology community: People want to stay alive and they want concrete, focused work aimed toward achieving that goal. If you can't deliver, don't expect them to pay your bills. Remember the Golden Rule: *He who has the gold makes the rules.*

In my few conversations with Pegg, he, as well as cryobiologists like Harold Meryman of the Red Cross, has expressed ambivalence about developing organ cryopreservation, because it "would encourage the cadaver freezers" (namely us cryonicists). If that assessment is in any way responsible for his foot-dragging and ivory tower academic's approach to the serious problems of organ cryopreservation, then I can say only: "You got what you so richly deserved."

The only problem is, *we* don't deserve it. But that's the way it is. After all, the universe isn't always fair.

Frozen Zoo Pioneer Dies

Mike Darwin

Boris N. Veprintsev, one of the outstanding biological scientists in the Soviet Union, has died. Veprintsev's passing is noted here as he was the originator, in 1975, of the idea of genome conservation via cryogenic storage of the embryos and gametes of endangered species. This idea is currently popularly known as the "frozen zoo" concept. Veprintsev was the classic seeker of truth in the most heroic sense of the word; he was imprisoned from 1951 to 1954 in a Soviet gulag because of his political and scientific position (the latter his opposition to the government-mandated madness of Lysenkoism).

Alcor Gets Medlars

Keeping up with fast-breaking developments in biomedicine isn't easy. The volume of scientific material published continues to skyrocket and the number of publications that need to be reviewed continues to grow. It is especially time-consuming and difficult to try to track down papers in a given area or on a given subject which may have real relevance to Alcor's research or suspension procedures. For instance, let's say we want to know something about recent progress in the use of calcium channel blockers in treating cerebral ischemia or blocking ischemic injury after circulation has been restored. Now, we are forced to go to the Loma Linda Medical Library and do day-long, time-consuming manual searches.

This situation is untenable. But, if things work out, it is about to end. Why? Because Alcor is about to connect with the NIH's MEDLARS computer database. MEDLARS includes access to MEDLINE, the world's largest and most complete medical database, which includes publications found under the *Index Medicus, International Nursing Index*, and *Index to Dental Literature*. MEDLINE consists of reviews/abstracts from over 3500 of these journals. Contained in MEDLINE are a host of useful databases such as AIDSLINE, BIOETHICSLINE, CANCERLIT, CHEMLINE, and CLINPROT.

Being able to access MEDLINE will save countless hours of research time, and just as importantly, allow us to do real-time database searches for information in a medical or cryonics crisis. Let's say we are confronted with an unusual situation such as a member injured by a lightning strike or an uncommon disease. What should we expect? What kind of treatment approaches are likely to be used and what is the prognosis? If deanimation occurs, how will it occur...? In minutes we can have virtually all papers in the medical literature relating to our situation available in abstract form at our fingertips. Often, much of the information we need will be contained in the abstracts themselves. If not, we can send someone to the medical library 20 minutes away in Loma Linda and pull the article.

This kind of quick tap-in to much of the medical information available anywhere in the world is incredibly powerful. We expect to profit from it greatly.

Cryonics and Orthodoxy

John Warwick Montgomery

The following essay is reprinted from CHRISTIANITY TODAY, 12, 816 (May 10, 1968), *with the permission of the author.*

In the latest *Our Man Flint* film dubiously honored as an American cultural export by voice-dubbing into French, the bad guys (in this case gals – an international political conspiracy of women) try to freeze the good guys, rendering them harmless for now but subject to potential usefulness years (or centuries) later. Observing the products of this biological cold storage, our hero remarks: "It's not exactly the classic idea of immortality."

But it is a limited kind of immortality – and far from being merely a science-fiction stunt or a gimmick to absorb footage in a B-grade film, cryonics (the technical name of the field) is a reality. Important publications dealing with the topic are appearing (the most comprehensive in English is R.C.W. Ettinger's *The Prospect of Immortality*); some nonprofit organizations have affiliated to form the Cryonics Societies of America (a national conference took place at the New York Academy of Sciences in March [1968]); some funeral homes have installed cryogenic equipment; cryonic "ambulance" units are in the offing; and already several people are in storage.

The basic principle of cryogenic interment is simplicity itself. On the basis of successful experimental freezing and reanimation of lower animals such as rotifera and organs of higher animals such as chicken hearts, cryonics advocates propose the cooling of a human body to liquid nitrogen temperature (-321F) – or later, when more sophisticated permanent installations become feasible, to liquid helium temperature (-449F) – thereby storing the person at the time of "death" or at a terminal stage of illness so as to permit his resuscitation later, when medical knowledge has learned how to cope with his disease and to restoring the damage his body has suffered.

As a consequence of increasingly extensive transplant operations today, organ culture and regeneration in the foreseeable future, and the definite possibility of rejuvenation techniques and of artificial genetic improvement through control of gene patterns (affecting both body and mind), there is every chance that physicians of the future will be in a position not only to revive the clinically dead or near-dead person of today but even to improve his life over

what it was at its highest point during his original earthly existence. From such possibilities, flights of fancy readily take off; think, for example, what a relatively modest estate would be worth three centuries from now (at compound interest) when recovered by its newly awakened owner!

Bankers can be left to worry about the juicy financial aspects of cryonic suspension, and the scientists have their work cut out for them. What about the theological question? Is cryogenic storage legitimate, and if legitimate is it in fact desirable for the Christian?

Some "orthodox" objections to cryonics can be hypothesized – and readily answered:

1. "Cryogenic interment is not even mentioned, much less advocated, in the Bible." But though everything the Bible teaches or touches is veraciously revelatory, one cannot conclude that the Bible contains all truth! The Bible is not a cosmic *Encyclopaedia Britannica*; cryonics would be objectionable only if it *violated* biblical teaching.

2. "Cryonics is against the will of God; if he had meant us to live longer he would have given us the natural power to do so." But the same argument could be applied to the airplane: "If the Lord had wanted us to fly, he would have put wings on our backs."

3. "Cryonics would presumptively alter man's basic character through gene manipulation and surgical rejuvenation." But in biblical revelation man is defined in his relationship to God, not in terms of his physical or mental characteristics; thus Dr. Blaiberg, with Clive Haupt's heart, is no less a person, responsible before God, than he was before his "alteration."

4. "Cryonics is anthropocentric – glorifying mortal man as a Faust rather than the eternal God, 'who only hath immortality.'" Although this argument has superficial cogency – and is aided and abetted by admittedly non-Christian cryonics writers in the religious domain (e.g., R.C.W. Ettinger, in *The Christian Century*, Oct. 4, 1967) – the fact is that cryonics, like all other technical scientific accomplishments from automobiles to atomic power, can be used *either* to man's glory (and thus his destruction) or to God's glory.

5. "We should want to get to heaven fast, not remain on a sinful earth." But note carefully the Apostle's words (they should become the *sedes doctrinae* for orthodox Christian cryonics): "I have a desire to depart, and to be with Christ, which is far better; nevertheless to abide in the flesh is more needful for you." (Phil. 1:23,24). Here Paul opts for earth, not because it is better than heaven (far from it!) but because the preaching of the Gospel is so desperately needed here. This, needless to say, is justification enough for extending one's time of earthly service to Christ.

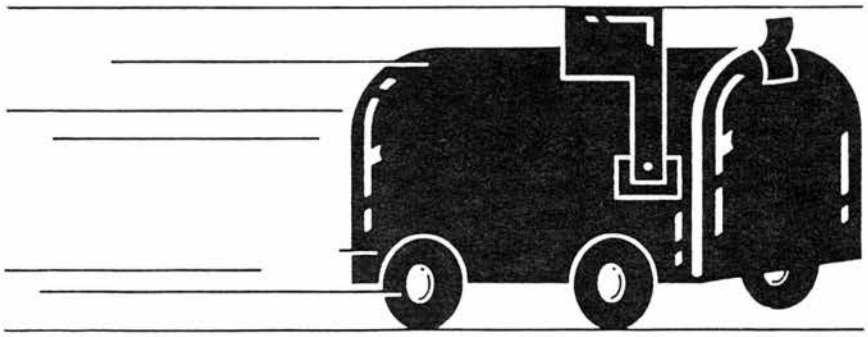
In point of fact, orthodox believers have not responded negatively to the cryonics program. Quite the opposite, as illustrated by the impressive sermon on the subject delivered by Lutheran pastor Kay Glaesner in 1965. Said he: "Christianity and the church have always been interested in the extension of human life ... The church of Christ does not retard science." (*The Christian Century*, Oct. 27, 1965).

Rather, it has been mainline theologians of mediating neo-orthodox and existentialist leanings who have excoriated the idea. Joseph Sittler of Chicago, for example, has called the concept an "exalted form of madness," owing to its "radically nonhistorical concept of what a human life is": to extract man, a "profoundly historical being," from his existential setting is to destroy him (*Time*, Sept. 30, 1966). Here is an excellent example of the genuinely reactionary nature of existentially grounded theology: man is defined by categories ("historicity") that arbitrarily prohibit his legitimate activity. (One is reminded of Denis de Rougemont's wholly appropriate blast, in his *Meanings of Europe*, at Sartre's comparable political pessimism.) Contemporary theology, no longer subjecting itself to revelational perspective, is perpetually subject to a non-revelational "hardening of categories" of the most reactionary kind.

Just as it was orthodox believer C.S. Lewis who took space travel seriously and faced in depth the theological question of human contact with other intelligent creatures, while liberals were engaged in obscurantist documentary criticism and political demonstrations, so it will be (I'll wager) the truly progressive evangelical theologians who develop serious theologies of cryonics. And they have the most to gain. Personally, I would gladly have chipped in to defray the costs of eventually resuscitating Warfield, Machen, Pieper, or Lewis, had cryogenic interment been around at the time of their clinical deaths. I shudder to think what they – or the Fathers or the Reformers – would say when faced with today's secular theology.

I'm for cryonics: the future could well gain from those in the present who have come experientially to acknowledge the absolute lordship of the Christ of Scripture.

Letters to The Editors



TO: Editors, *Cryonics*
FROM: Ralph Whelan
RE: "New Alcor Staffer," September *Cryonics*

In the September issue, Mike Darwin published a flattering piece welcoming me to the organization and informing the membership of the staff acquisition. I'm quite grateful to Mike for the introduction. As everyone knows, it's nice to feel appreciated.

And because it's nice to feel appreciated, I'd like to amend one item from that piece, in an effort to shift some credit toward its due recipient. The article states that I "placed a call and spoke with Arthur McCombs offering the following proposal," the proposal being a one-month-expense-paid-but-otherwise-volunteer work trip to Alcor.

Actually, I placed a call and spoke with Arthur about my difficulties with the questionnaire. The conversation digressed, and Arthur spent about an hour exploring my interest in cryonics and, I presume, assuring himself of my

stability. Toward the end of the conversation, *he* made the above proposition to *me*. I said that I was interested and he promised to call back after running the idea by The Powers. He did so and the rest is history.

I wouldn't be here were it not for Arthur, so I feel bad about letting the article run with the factual error. Worse, I proofed the article, noticed the inaccuracy, and let it get away from me. My apologies and gratitude go to Arthur McCombs.

My apologies also to Mike, who took the heat for my oversight.

Dear Editors:

Yipes! In the [July] issue of *Cryonics* you reversed two letters in my name and two digits in my phone number in the "Meeting Schedules" section. My last name is Klien and my home phone number is (508) 250-0820. Enclosed is a flyer that is being sent to 175 MIT nanotech members. I am always trying to think of ways of getting more people to the Alcor Boston meetings!

I am happy to see that the $25,000 surcharge for non-members passed. This can quickly add up to a lot of money, based on the number of suspensions you have been doing recently. And this will generate funds a lot quicker than simply asking members for contributions. I also noticed that the Australian who was frozen had a $125,000 trust fund. What do you do with the extra $25,000? If there are no strings attached to it, it would only take ten more people like him to take care of Alcor's budget.

Sincerely,
Eric Klien
Chelmsford, MA

Carlos Mondragón comments:

The surcharged $25,000 went to the operating fund.

Dear Alcorites:

A while ago I proposed sinking underground enclosures in the floor of the patient storage bay and vehicle bay, in order to provide the dewars with more protection and free up space in the facility. Recently a variation on this with some additional advantages occurred to me. (In part, it was sparked by the Nelson interview in the *Venturist Monthly News*).

It occurred to me that, particularly in the Southern California climate, there isn't a whole lot to be gained by placing those underground enclosures inside the building. My first thought was to put them in the parking lot, but even I am not blind to the PR problems that might cause. But, still, the advantages to be gained were clear: the next facility could be down-sized, reducing its costs and subsequent property taxes. Access for refilling could be greatly improved. How could the advantages of exterior underground storage be reconciled with the aesthetic aspects? Then it struck me: put those enclosures in the ornamental garden. (Yes, I do realize I was just reinventing the cemetery.) Sure, it wouldn't be as cheap as getting double use of the area as a parking lot, but it would still be cheaper than interior storage, and it would be a "10" on aesthetics. It would give survivors a place to visit to remember their loved ones, and it might even silence those critics who feel that "dead" people ought to be kept underground.

Naturally, the next facility would still need some interior storage space. You'd want buffer space for bad weather, and you'd want to keep dewars indoors until they were filled to capacity. And the dewars would have to be monitored thru underground conduits, since you wouldn't want to be lifting the paving stone/lids daily. But I still think this could save money, and address the aesthetics. What do you think?

Brett Paul Bellmore
Capac, MI

Dear Editor,

I believe you need to clarify several points in the August, 1990 issue of *Cryonics*.

1. *Suspension Minimums to Rise* (p. 1-2): If a person signs up at the neurosuspension rate of $35,000 and then later (after the rates have risen) wishes to increase his coverage to whole body, will his minimum be $100,000 or $120,000? In other words, do BOTH numbers get "grandfathered in"?

And how about a long-time member in my own circumstance? I have an insurance policy for $100,000 payable to Alcor but I have chosen neurosuspension. Does this take away my ability to switch to whole body without adding additional insurance?

Also, what was the particular reason for raising neurosuspension minimums to $41,000 instead of a round $40,000 (as recommended in Mike Darwin's article on p. 22)? It may be difficult to purchase precisely $41,000 in insurance.

2. *Non-Member Suspensions Surcharged* (p. 2-3): How have you defined a "non-member, last-minute suspension?" Is this only to apply in cases where the person to be suspended is already declared dead before the paperwork is completed? If a person's family signs him up a day before he deanimates, is that "non-member?" If a person signs up with the expectation that he has only hours or days to live and then survives for several months or years afterward, when does he *stop* being "last-minute," so that the surcharge would no longer apply?

3. There is an important misprint in the article about the Cryonics Institute's storage unit, p. 9. You discuss the HSSV-2 dual patient unit and then discuss the RSSSV (rectangular unit). Then at the beginning of the fourth full paragraph down you state, "The HSSV was designed to hold six patients when at capacity..." I believe this is a misprint for "RSSSV."

4. A comment on John LaValley's "irate review" of FM-2030's book (on p. 41): I have heard several negative reactions to the review. Some are justified – it *is* unprofessional of *Cryonics* editors to print such an ill-tempered article which concentrates so much on the reviewer's personal feelings and on the perceived personality of the writer, rather than concentrating on specific and reasoned judgments on what the writer is *saying*. Perhaps it makes Mr. LaValley feel better to let us all know how "p---d off" he is, but it does nothing to help us understand the book in question. The editors should have returned the review to Mr. LaValley with the admonition to rewrite it in a less "irate" form and with more reasonable criticism of the ideas. In any case, the review only "mildly irritated" me and I don't think it is worth getting too worked up about.

However, I have also heard comments to the effect that "most people in cryonics agree with FM-2030" and that "we shouldn't ever criticize other people who support cryonics." First, anyone who was at FM-2030's talk at the Reanimation Conference in California last spring knows that there was a great deal of disagreement (including by me) with his interpretation of the future and of the human race's place in it. More importantly, agreement with the principles of cryonics does not ever

make someone immune from criticism. Would you all want taken away your ability to criticize the Editors of *Cryonics*? If Saddam Hussein suddenly became a cryonicist, would that mean we could no longer criticize his real estate acquisition methods? FM-2030 sat calmly through the criticism at the Reanimation Conference and I believe he is adult enough to handle this review.

Putting out a regular magazine as complex as *Cryonics* will inevitably lead to occasional mistakes in editorial judgment and to hard feelings among whatever members feel they are being criticized. I encourage the readers of this publication to write in with their comments whenever they disagree; but let us not force the magazine in the direction of being bland and totally lacking in controversy.

Steve Bridge
Indianapolis, Indiana

Dear Editor:

I just received my August issue of *Cryonics* and there are three items I would like to comment on: "The Cost Of Cryonics," by Mike Darwin; "A Mathematical Model of Long-Term Storage Costs," by Mike Perry; and John LaValley's book review of FM-2030's book, *Are You A Trans-Human?*

Mike Darwin has done a very extensive workup on the actual labor and material costs of suspending a patient. I feel, however, that he has disregarded the most important costs of doing cryonic suspensions, the cost of Alcor's day-to-day operating overhead. I feel that, in the future, the overhead of running Alcor must be addressed somehow. We can recover these costs either by: 1) Raising the Emergency Response fees; 2) Receiving more donations; 3) Deducting money from the proceeds of each suspension to cover overhead; 4) Reducing service; or 5) Combinations of the above options.

At present, due to the generosity of Dick Jones, we do not have any immediate difficulties. In the future, however, (around 1992 or 1993) we will have to take a look at our options. Since we have already spent so much time (at Board meetings) and space (in *Cryonics*) discussing this, I will not spend a lot more of either discussing it here. I am willing to discuss financial matters with any Alcor members. My telephone number is (619) 249-3553.

Mike Perry has a followup article that goes over my head. He seems to try to support Alcor's present policy of the immense difference in the cost of neuro and whole body suspensions. My business sense tells me that there should be only a small difference between Alcor's charges for these two options.

I have noticed that complicated mathematical calculations sometimes just do not work out in "real life" like they do "on paper." The financial pyramid schemes are good examples of this. Buyers of pyramid stocks or merchandise are often enticed to spend their money based on a systematic projection of how, at each distribution, more and more "merchandise" will be sold to the distributors, dealers, and retailers. But in "real life" these schemes usually do not work out due to non-mathematical considerations like lack of a desire of "customers" to buy the "merchandise," or for other reasons.

In any case, the main point that I want to make is that I feel that the price spread between neuro and whole body options is too large. Alcor's prices are arrived at by computing the difference in the costs of the labor and material of doing the actual suspension and the long-term storage. When one pencils in the cost of regular everyday overhead, the cost of a neuro and a whole body suspension are more closely related.

Both Mike Darwin and Mike Perry have long argued for the large price difference between neuro and whole-body. I believe that both these gentlemen sincerely feel that neuro is all a person needs: that if cryonics is going to work and we will have the technology to reanimate our patients in the future, we will also have the technology to take care of the problems of a missing body. Although they may be right on this subject, **and I have the highest respect for them on other matters**, I do not agree with their financial philosophy. I would like to see the price of whole body suspension stay at $120,000 because that is high enough for reimbursement of some of the overhead. I would like to see the price for neuro rise to $75,000 to allow for reimbursement of some overhead expenses.

Lastly, I would like to comment on John LaValley's book review of FM-2030's *"Are You A Trans-Human?"*. I will not comment on the use of filthy language or the personal attacks on Mr. FM-2030. I think it is obvious that they are in bad taste and I understand that the editor has realized this and has printed an apology in the September issue. I commend him for this.

Aside from this, I differ with the use of Alcor's magazine to denounce good supporters of Alcor (except in cases where it might be crucial to our survival). FM's book is not about cryonics, it is not an attack on Alcor; it is just a fun book about possible future scenarios. FM himself has never been critical of Alcor – in fact just the opposite. FM, who is regarded by many as being very knowledgeable about the future, does many radio talk shows and university lectures each year. He often takes the time to expound to the audience about cryonics and, when asked, he always recommends Alcor.

Mike Darwin usually does a good job writing and editing most of the articles in *Cryonics*. I always look forward to receiving the magazine and I say that not just because I like Mike personally. But my first concern is that I want to live! And at present, helping Alcor seems to be my best chance. I think our main job at Alcor (including *Cryonics*) should be promoting cryonics, and not attacking our supporters.

My father used to have a saying: "If you can't say anything nice about someone, don't say anything at all." If that is too much to ask, could we at least agree that: "If you can't say something nice about **any friends of Alcor's, who are helping us in influential ways**, please don't say anything at all."

Sincerely,
Dave Pizer
Wrightwood, CA

Mike Perry replies:

Dave Pizer wants to start charging Alcor's operating expenses to the Patient Care Fund. That's a big step, one that should not be undertaken lightly. I realize that "money doesn't grow on trees" and that such a step could become necessary in the future to keep Alcor functional, but I hope the alternatives are duly explored (increasing dues, soliciting donations, or cutting back on non-patient-care operations, for example) before taking it. Should the step be taken, it means that the Patient Care Fund will have to take in money at a higher rate to pay the additional expense. In other words, at least some members will have to be charged more for their suspensions. Dave advocates charging the neuros extra, while leaving the whole body charges unchanged from what they would otherwise be. He thinks that $75,000 (an increase of $34,000 over the rate to go into effect next January 1) would be appropriate, though he offers no analysis to justify this figure. I would like to see some

such analysis. Also I fail to see why it is the neuros only who should bear the extra cost. Both the whole body and neuro rates ($120,000 and $41,000 respectively) are intended to cover only suspension and storage costs, not operating expenses. If operating expenses must also be provided for, wouldn't it be more equitable to distribute the extra cost over both whole bodies and neuros?

Dave says my article is "over his head" and appears to call into question the conclusions without understanding how they were arrived at. (I would be happy to explain the mathematics to him or anyone else – no one as yet has asked me to do so.) He is sure that "there should be only a small difference between Alcor's charges for neuro and whole body suspension." I hope it will not have to be so, not because I want to see whole bodies charged a lot, but because I think there are ways of avoiding high charges to neuros without compromising the viability of the organization. The less it costs for suspension, the more people will get frozen. Dave is quite right in asserting that I sincerely feel that "neuro is all a person needs." That is, I think it offers essentially as good a chance as whole body for eventual restoration to good health in a fully functioning, acceptable body. I am sure that people have failed to sign up for cryonic suspension, and have consequently been lost because: (1) they couldn't afford whole body; and (2) they couldn't bring themselves to believe that neuro would be adequate. Moreover, if cryonics is to become a mass movement, as I would like to see it become (rather than see more billions of people needlessly reduced to ashes or slime) it is essential that the lowest-cost, viable suspension option be identified and popularized. I would like to see a campaign to popularize the neuro option and to counter the objections of people who think it is defective, and I am willing to contribute.

Dear Editors,

Rudeness and nastiness are just too much for some people to resist. Often it's easier to write a vicious attack on someone's work that it is to restrain one's passions and to examine the work calmly and critically. Unfortunately, John LaValley seems not to understand that politeness and respect are more effective both in influencing the person to whom the criticism is addressed and in influencing other readers. His brutal review of FM-2030's book, *Are You A Trans-Human* (*Cryonics*, August, 1990) should not have seen print without at least some editorial response.

Some of Mr. LaValley's points, though poorly expressed, have a basis. I agree that FM-2030 is mistaken to disparage long attention spans. Advanced technology and the improvement of the human condition require extensive and sustained cognition. I also agree that FM's views on competition are in error (see my review of the book in *EXTROPY* #4 and #5). However, LaValley could surely have managed a better critical analysis than "Bull---t." Certainly *Cryonics* readers have come to expect a higher intellectual standard than this, to say nothing of decency.

LaValley's offhand comparison of FM-2030's work to Hitler's *Mein Kampf* was worse than unfounded. By equating books of such vastly differing moral qualities, LaValley undermines the gravity of the evil of the National Socialist dictator and his ideas. FM-2030, as evidenced by both his writings and personal acquaintance, is a deeply humane man, concerned with the improvement and transformation of the human condition. I believe some of his ideas are mistaken, but he has the right concerns and many good ideas that cryonicists will share and that they will find in very few writers.

Why is it that LaValley makes no mention of FM's strongly pro-immortality, pro-cryonics views? Why no mention of FM's empowering optimism, his pro-technologism, his opposition to violence and destruction, his sensible and perceptive comments on eco-fundamentalism, and his questioning of traditions and dogmas?

We all have a responsibility to treat each other with respect and consideration – unless others violently infringe on our rights. When anyone is treated otherwise it is a shame. FM-2030 is a man who supports Alcor and cryonics both in his writings and in his frequent public talks and interviews. This makes it all the more disturbing that the editors of this magazine should publish LaValley's review with no editorial comment. I know that Mike has expressed negative views about FM-2030: perhaps this is why the review was published in this way. I ask that more self-restraint be exercised both in the writing of articles of this tone and in making editorial decisions.

Max More
Los Angeles, CA

Mike Darwin responds to Dave Pizer and Max More re: LaValley review:

Regarding the issue of John LaValley's review of FM-2030's Are You A Trans-human, *I agree that the review should not have been published as it was and have already gone on record to this effect. However, I wish to disagree strongly that we should never publish anything negative about people who have been good supporters of Alcor. My first thought on this is that if such a policy is implemented it should start with me; since I have been such a staunch supporter of Alcor, no one should say anything less than complimentary about me either....*

Well, it doesn't work that way, Or at least it shouldn't. When you write a book or do anything you put yourself, or at least your ideas and your work on the firing line. I have never, to my knowledge, made negative comments about FM-2030, the man, to Max More or Dave Pizer. I have made negative comments about his work, and about several basic positions he holds. In fact, I like FM-2030 a lot and recognize the many positive things he has done. But this does not wipe away the fact that he has publicly advocated ideas which I find repugnant and, were they implemented, a threat to human freedom and well-being.

Nor am I alone in this opinion inside Alcor. At a recent conference attended by many Alcor members (the Reanimation Conference held on May 4-6, 1990 in Ontario, CA) FM-2030 advocated forced modification of suspension patients so that they would meet the norms of the peaceful world of the future he envisions. This position met with sharp disagreement (and I would go so far as to say even hostility) from a number of Alcor people present in the audience at the panel discussion.

Additionally, I find many of the ideas in FM-2030's writings morally repugnant. Because I and other Alcor members feel this way, and because, not in spite of, FM-2030's public advocacy of cryonics and Alcor, I felt it especially important to publish this review.

The point here is that ideas are ideas and just because someone is being nice to us doesn't mean they get exempted from criticism of their ideas.

Dear Editors,

I was recently cleaning up some old word processing files when I came across the snippets of text below. Written by Hugh Hixon, Mike Darwin, and myself in 1987, they were originally intended for the *"Alcor: Threshold to Tomorrow"* booklet. I thought you might print them for posterity (and a little bit of inspiration).
Yours Truly,
Brian Wowk
Winnipeg, Manitoba

We foresee a time when humanity has achieved complete control over biological processes, including aging.

An era in which artificial intelligence, automation, and the resources of space are used to produce almost unlimited wealth.

An era in which long life, perfect health, and unlimited potential are the birthright of every human being.

There may already be individuals among us who will see this era, who will one day walk under strange stars and skies, and whose lives and circumstances will be beyond the imaginings of science fiction.

* * *

Sometime within the next one hundred years the last involuntary natural death will occur. Who would wish to be the centerpiece of that tragedy? And having decided such an event is a tragedy, who would be next? Who would forego the opportunities the future will hold: to stride across the earth like the gods of legend; to reach out among the stars of the cosmos; to extend life experience across spans of time and space heretofore undreamed of?

Recognizing that life is far too precious to lose at this promising point in history, some of us have resolved not to give it up easily or needlessly. We have taken steps to ensure our survival will not be unduly limited by medicine which has yet to reach its full potential. In taking these steps we have chosen to restrict neither our vision, nor our will to survive. If our options for continued existence in this era are ever exhausted, we will be launched toward another.

As with lifeboats upon the trackless sea, we do not anticipate an easy journey to such a distant shore. Our best estimates make obvious the possibilities of foundering on technical failure, natural disaster, or the jagged reef of human shortsightedness. We make no guarantee, either to ourselves or to others, that such a voyage will certainly succeed. This is a true adventure, and our survival at the end will be a matter of both skill and luck.

Yet we do not see this venture as a remarkable risk. We see it only as an extension of our will to breathe.

Standing near the apex of the technological base that supports modern civilization, we have made a modest investment of our time and resources. We have created an organization, and bent available technologies to our goal. We have taken small but extraordinary steps to ensure our safe passage to the most distant and exciting futures of humanity. The name of our organization is the Alcor Life Extension Foundation. We invite you to join us.

What Evolutionary Theory Says (And What It Does Not Say) About Immortality

Thomas Donaldson

We have all been faced, now and then, by someone asking us: well, why does aging exist at all if it isn't somehow favored by evolution? Or then again, some people, even scientists, have claimed that evolution suggests that aging is deeply embedded in our physiology. (They mean by this that major changes would be needed to do away with aging, and so,....).

This essay will discuss such issues, in the context of what current evolutionary work really has to tell us about immortality. The theory goes back to the 50s and 60s, to W.D. Hamilton (*J Theor Bio*, **12**, 12 (1966)), G.C. Williams (*Evolution*, **11**, 398 (1957); and P.B. Medawar, *An Unsolved Problem In Biology*, London, 1952), and others. The experiments on aging and evolution are more recent (M.R. Rose and P.M. Service, *Review Biol Research On Aging*, **2**, 85 (1985); T.E. Johnson, *J Gerontology*, **43(4)**, B87 (1988)). This work has raised questions of detail, but strongly supports previous theoretical ideas.

Of course, neither theories nor experiments about evolution and aging will tell us how to live any longer. To live longer we must deal much more closely with the physiology of aging itself. Most of the substantive conclusions coming out of this theory are negative ones. That doesn't make them any less useful.

Finally, I think it right to emphasize one point: the theory of evolution is a theory describing patterns of change in a population of self-reproducing automata, each of which inherits its major characteristics from its forebears. You will not escape these processes simply by uploading into a computer, any more than you can escape the general thermodynamics which imply them. At most you might speed them up, for good or ill. It's a fallacy to think that senescence applies only to "living" systems!

The current theory of evolution, of course, is a scientific model. As a model it was among the first parts of biology to achieve serious mathematical treatment. It's characteristic of such models that they become tautological: selection promotes characters X,Y,Z in an animal because characters X,Y,Z promote genetic survival (which is simply a restatement). Models can't be judged on any internal grounds. The issue is: does this model actually fit the phenomena it tries to model? It will not tell us the structure and lifestyle of a turtle; but what it will say is that the structure and lifestyle of the turtle must correspond in specific ways to the life and conditions under which the turtle lives and flourishes.

The theory of gravity does not command us to fall. Nor does evolution command us to die. Nor can it tell us that our strivings for immortality will fail. But it may tell us something about how we would change if we became immortal. Sure, that isn't a means to immortality, but we'd like hints of what it would be like when we got there, too.

The biggest *negative* conclusion of evolutionary theory is that the simple fact that we age does not show that any *positive* evolutionary reasons exist for our aging. If our aging shows anything, it shows that we are currently undergoing rapid evolution toward greater longevity!

This conclusion follows very simply. Aged animals are not well adapted to their environment. Something must therefore be out of synch. When we examine what happens to animals in the wild we see at once just

what is happening: most animals do not live long enough in the wild to show any significant signs of aging (cf. G.C. Williams, *op cit*). What is out of synch is that these aged animals (the aged mice in their cage, or the aged human beings in their Retirement Home both) aren't in their "natural" environment, the one to which they were formerly adapted.

No one would claim that caged mice live in a natural setting. But neither do we: most people alive now are only a few generations away from a day in which age 50 was considered old, pneumonia and other diseases were rampant, and as in the case of the mice, almost nobody lived long enough to show any signs of aging as such. Even as late as 1900, only 25% of the population in developed countries lived as long as 65 years. By now, almost 70% can expect that longevity. True, upper-class humans have always lived better than others: that's why we learned of aging so early that we think it "natural." But upper-class humans were a tiny proportion of humans living. The others of course left no word of themselves at all.

No one worried about faraway issues like aging when their immediate problems were getting enough to eat and avoiding the Plague.

"Evolutionary pressure" here is a predictive use of evolution. It says that if we ever find a failure of adaptation, then change must be occurring. The animal will either cease to exist or change until it matches its new environment. How this is to happen in detail isn't predicted; it's amusing that we can see the whole of cryonics and immortalism as the means forced by "evolutionary pressure" to improve our longevity and therefore our adaptation. (Yes, I think there's more to cryonics and immortalism than this. But there *is* this).

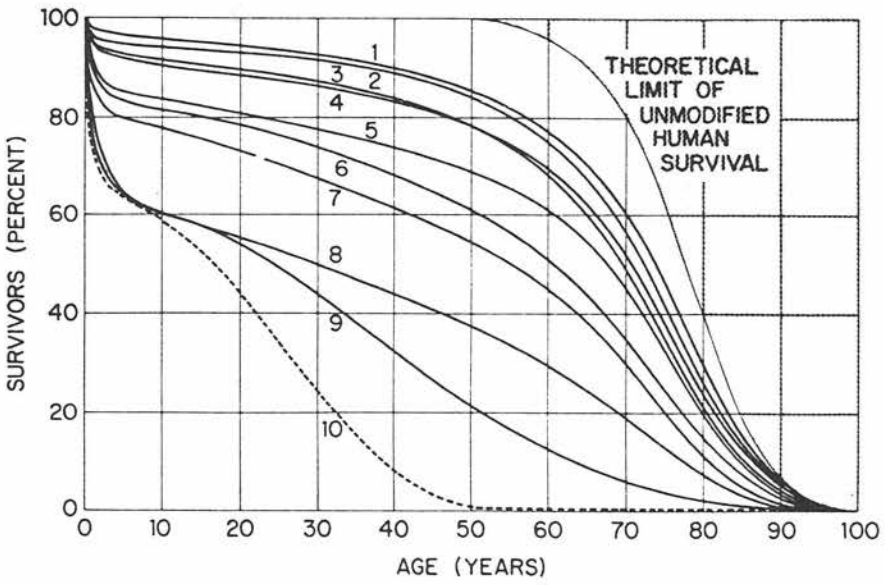
Evolutionary theory of course does not stop there. It's a very reasonable question to ask how it can happen that caged mice will show this strange condition of "aging," very similar for every mouse. There is a good answer which follows from the fact that most wild mice never survive long enough to show the condition. The answer is that evolutionary selection acts only on live animals, not on dead ones. To put it less pungently, why should an animal develop a physiological ability to live at top condition for 60 years unless it has a good chance of living that long for other reasons?

The notion that aging might somehow be actively favored has been long discredited as a general explanation. Circumstances in which evolution would favor a species but not the individuals making up the species, again, can only happen in unusual or contrived circumstances. (Theorists have devised such circumstances, none of which fits a human life-style).

But there is another implication, too. There must once have been a time when aging as such did not preoccupy people as it does now. We can guess when that time was: about 5,000 years ago, before the rise of cities, there were no upper classes who could be assured of always getting enough to eat, shelter, and the other bare requisites of life. And the *Epic of Gilgamesh* gives us a historical record of the time when people first lived in cities and discovered, not death, because death was commonplace, but Death, the inevitable end. We can imagine them thinking: "do you mean, even if I suffer no want all my life long I will still die...?" Remember how Gilgamesh was master of everything, but found that not enough?

W.D. Hamilton has constructed one of the much more quantitative versions of the simple notions of aging sketched above. As models, these versions fit (note the choice of word here!) the life pattern of species like the salmon, the Century plant, or bamboo, all of which live for a while, reproduce once, and then die immediately of old age. The notions of age-specific death rates and age-specific birth rates are central to these models. The age-specific death rate is the proportion of a species dying at a specific age. The age-specific birth rate is the proportion reproducing at a specific age.

With these concepts we can develop other consequences of these same evolutionary ideas. Any increase in age-specific birth rate at age A will accompany a decrease in age-specific death rates for all ages $A_0 < A$. Reciprocally, a decrease in age-specific death



1 NEW ZEALAND, 1934–1938
2 U.S. (WHITES), 1939–1941
3 U.S. (WHITES), 1929–1931
4 ENGLAND AND WALES, 1930–1932
5 ITALY, 1930–1932
6 U.S. (WHITES), 1900–1902
7 JAPAN, 1926–1930
8 MEXICO, 1930
9 BRITISH INDIA, 1921–1930
10 STONE AGE MAN

Historical changes in the human survival curve.

The Biology of Senescence, 3rd edition, A. Comfort, Elesevier, 1979.

rates at age A_0 will accompany an increase in age-specific birth rate at all ages A greater than A_0. Both statements will remain true if we switch "increase" to "decrease" and vice versa.

These characteristics far from determine the curve. For salmon, reproduction concentrates at almost a single point in the salmon's life. Consequently their death rate is low beforehand and extremely high afterwards. Other species, like human beings, spread their reproduction over their lifespan, with a relative concentration in the younger range. (This means, incidentally, that increases in birth rate at higher ages – due, among other things, to far better medicine and conditions of life than formerly – will bring with them corresponding evolution toward lower death rates at higher ages).

These relations between age-specific birth rates and age-specific death rates may tell us something more, too. Those of us who follow a life plan similar to our current lives: that is, those who do not become a mass of clones, or meld into one another inside a computer network (notice, though, that I'm *not* saying that simple translation into computer form would affect this issue, because it would not. Computer viruses are true life forms, subject to the same processes!), will show a pattern of very high ages of reproduction, with births occurring very rarely.

If we continue to reproduce only before age 40, then these theories would suggest that our lifespans, one way or another, would be correspondingly limited. One way that might happen would be simple competition from our great-great-great grandchildren (and others' great-cubed grandchildren). (That's what's meant by evolutionary pressure.) I doubt that this would happen: what it really says is that ages of reproduction will rise in synch with our lifespans. A woman who first becomes a mother at age 20,000 years would fit these rules very well.

I believe these ideas have implications for the other styles of existence too. For instance, anyone who turns themselves into a multiple clone-being (not just bodily duplication, but mental duplication too) should not be surprised if the organism of which they are now a part sacrifices them willingly for any slight reason. If the meme or the gene continues in lots of other vessels, then any one vessel has the value of a fingernail. But perhaps they are happy with this possibility.

Any physiologist will note that I have said nothing at all about physiological mechanisms involved. Evolution itself says nothing on this issue, either. In fact, Darwin made no assumptions about the mechanisms of heredity, only that inheritance occurred. (Memes would do just as well as genes!). In that sense, a historical understanding of how our lifespans evolved will also tell us very little about the physiology involved. However, since evolution itself has been brought out in support of deathist ideas by many people, something more than this needs to be said.

Two Deathist Questions:

One deathist comment often heard (a recent issue of *Discovery* contains an example, by Jared Diamond) is that lifespan must depend on many separate genes, hence we cannot expect any swift progress toward increasing it.

This claim needs analysis, because like most such claims it is half true and half false. First of all, several experiments on artificial selection have increased the lifespan of fruitflies (Rose, *op cit*; B. Charlesworth, *Evolution In Age-Structured Populations*, Cambridge Univ. Press, London, 1980) within a relatively small number of generations. In the most recent such experiment, scientists have increased inherited lifespan of the roundworm by changing only *one* gene (T.E. Johnson, *Science*, **249**, 908 (24 Aug, 1990); T.E. Johnson and W.B. Wood, *PNAS(USA)*, **79**, 6603 (1982)). We can conclude from this that highly significant increases in lifespan can and *do* require only small changes. For human beings, extremely strong evidence (including the action of deprenyl) suggests that the pattern of our aging stems first of all from our hypothalamus and pituitary. Relatively small changes in hormone output may cause considerable increases in longevity: a doubling of lifespan or more.

The logical error made by deathists here is the confusion of the existence of senescence at all with the exact lifespan adopted by a specific species. It's not enough just to explain why senescence *exists*. If we come to human medicine, deathists must explain why our lifespans should be 75 rather than 75,000 years.

But the truth in this half-truth needs recognition too. Simple hormonal adjustments may double, triple, or even ultimately quadruple our lifespans—until some other reason for failure takes over. I do not believe that even strict *immortality* is impossible. But the existence of senescence (as distinct from the lifespan) probably does depend on many different genes and controls. Sudden elevation to total immortality isn't likely.

This deathist sophistry more than any other may account for the open hostility toward evolutionary theories of aging shown by some cryonicists. I hope, myself, that cryonicists will recognize that the ideas do not become more shallow because some of their proponents are shallow.

I've already dealt partially with the second deathist question: it is really the claim that some mysterious process limits the lifespan of all vertebrate animals. Evolutionists find no such process despite searching through a very wide variety of life forms. Yet for deathists we need other comments too. First, human beings haven't been wealthy and well-fed for more than a few generations. Only 200 years ago most people in Europe and the U.S. lived in conditions we only associate with poor countries now. If selection for greater longevity takes 40 generations (cf. work of Rose) then we only have at least 1,000 years more to go. Even for human beings, no signs exist that aging is immovable.

A quest for immortality involves not just abolition of aging, but abolition of any other process causing our death. We may discover many such processes the longer we live.

But we can go farther, because we are human beings. A quest for immortality involves not just abolition of aging, but abolition of any other process causing our death. We may discover many such processes the longer we live. To discover and overcome them is our goal. In the end, then, it matters very little just what problems we must solve, only whether we see them now or not.

The Cryonic Suspension of A-1242

Mike Darwin and Steve Bridge

First Call

On the evening of May 8, 1990 a telephone call came in from an Alcor associate member notifying us that his wife was hospitalized and likely to deanimate. This member and his wife, whom we'll call Dr. and Mrs. Graham, had visited the Alcor facility in October of 1989 and had decided at that time to pursue suspension arrangements. They were in the early stages of the sign-up process when Mrs. Graham experienced unexpected complications from a long-standing cancer and was rushed to the hospital. Dr. Graham informed us that Mrs. Graham's physicians felt that she was unlikely to survive this admission and that she had apparently experienced irreversible damage to her lungs as a result of chemotherapy.

Mike Darwin suggested that an Alcor team be dispatched immediately (since the Grahams lived a few hours away in a coastal city we'll call Seaside) and that Dr. Graham fill out the Alcor suspension paperwork that night. Owing to his fatigue, and shock at his wife's sudden turn for the worse, Dr. Graham indicated that he was in no condition to execute paperwork and, in any event, expected his wife to last for several more days. He suggested that we come the following day, once his wife was on a respirator and her condition and prognosis could be better assessed. Despite severe anxiety on the part of Mike Darwin that we get there as soon as possible, Dr. Graham was firm. As Mrs. Graham's blood gases were reasonable and not deteriorating, it was hard to argue otherwise.

Unprepared

There were already many complications in this situation. Dr. Graham had been involved in cryonics to various degrees for over 20 years, and he had been in the process of beginning to prepare suspension arrangements for himself, his mother, and his wife; but he had not completed these arrangements. Apparently Dr. Graham did not realize how serious his wife's condition was, since he had not previously told Alcor personnel that Mrs. Graham had had breast cancer for four years. Now, her death was suddenly approaching and he was not prepared. Thus, *we* were not adequately prepared. We knew that when we got to Seaside, before we performed any suspension procedures, we would have to get Dr. Graham to read, understand, and sign the appropriate cryonic suspension documents, including the Cryonic Suspension Agreement, the Consent for Cryonic Suspension, and the Authorization of Anatomical Donation. He would also have to provide the minimum Suspension Funding.

The next morning (May 9), we further delayed in leaving while Dr. Graham and Mrs. Graham's doctor debated the propriety of putting the patient on a respirator. Finally, Mrs. Graham was placed on a respirator and we started on final preparations, under the assumption that this would buy her a few more days.

A Suspension Begins

This assumption turned out to be entirely incorrect, and Mrs. Graham's condition steadily worsened. We again increased the speed of our preparations. Michael Darwin, Steve Bridge, and Arthur McCombs prepared themselves and the equipment so we could take both the Alcor ambulance and Jerry Leaf's Cryovita van to Seaside to stand by for the time when Mrs. Graham would be declared legally dead. When it became clear that we would be leaving soon but that we could be in Seaside overnight, Arthur McCombs left for his house to pick up a change of clothes. Unfortunately, shortly after he left the facility, the call came in from Mrs. Graham's physician advising us that Mrs. Graham was in cardiac arrest. Mike Darwin had previously advised the physician on how to proceed if that should occur, and the physician followed his instructions and administered the Abbreviated Instructions for Stabilization of Alcor Biostasis Patients. Within minutes Mike Darwin and Steve Bridge were on their way out the door to respond to the emergency.

Just as we were leaving, Alcor Treasurer Dave Pizer pulled into the parking lot, presumably on some errand that had nothing to do with this suspension. Mike Darwin commandeered Dave Pizer to drive the ambulance and the three of us left almost immediately, with Steve Bridge driving Jerry Leaf's van.

We left the facility sometime around 3:15 P.M. and went east on 91, to pick up 200 pounds of ice at the ice house just off of 14th St. We left the ice house at approximately 3:40 – right into the heart of rush hour traffic. With Steve fresh from Indiana, Dave fresh from Phoenix, and Mike not very familiar with the route we were to travel, this was not the best of situations. Other people later gave us better suggestions for getting to Seaside, but we were forced to take main highways to prevent getting lost. This delayed us about 20 minutes, perhaps.

It was extremely fortunate for us that we had the CB radios installed and working. We lost visual track of each other several times, but the radios kept us in touch. They also allowed us to confirm the route and exits without having to stop. (We have since added a cellular phone, so we can now keep in touch with Alcor as well.)

Arrival

We arrived in Seaside at approximately 6:50 P.M. and found the hospital quickly. We decided to wait to refill the gas tanks until after we had taken possession of the patient.

When we arrived at the waiting room of the hospital, we discovered that, much to our amazement, Dr. Graham had gone home to eat. We also discovered that, while Mike's instructions were otherwise followed com-

pletely, only the patient's *head* had been packed in ice, instead of the entire body. This may be a result of the way the instructions are usually given; i.e., "Pack the patient in ice, especially the head." Under pressure, the other party may hear, "Pack the patient's head in ice."

The hospital personnel were ready for us and the nurse in charge of the Intensive Care Unit (ICU) allowed us (*encouraged* us, really) to get the patient into the Portable Ice Bath (PIB) as soon as possible. Once we had reached Dr. Graham and established that he would come right back over, Mike and Steve took the ice and the PIB to the patient's room. We quickly moved her into the PIB, placed rectal and esophageal thermocouple probes to monitor her temperature descent, and covered her with ice.

Due to the long ischemic time delay (4 hours and 48 minutes), no attempt was made to restore circulation with CPR. The hospital had done CPR for approximately 15 minutes while transport medications were given, but owing to staff limitations were unable to provide extended support. We were incredibly fortunate to have had any support at all; usually the treating physician and hospital staff will decline to take any action in support of suspension because they are concerned about liability, ethics, and their competence and legal authority to act.

All we could do in this situation, where there had been prolonged ischemia and minimal stabilization, was quickly cover the patient in ice in direct contact with the skin and reduce her temperature by external cooling. Even though Mrs. Graham's head and neck had been completely packed in plastic bags filled with ice, her pharyngeal temperature had only dropped to 15.8C (60F)!

Doing The Paperwork

We then left the ICU and returned to the hospital lobby to discuss the paperwork with Dr. Graham. He appeared a bit dazed by everything and confessed that he hadn't really examined the paperwork to any great degree. He kept saying that he trusted us and wanted to get this going as soon as possible. Steve explained carefully to him that, since he had not previously signed up and was not fully familiar with the legal documents, we had no authority to proceed until we could establish informed consent and full authorization. Obviously we were all under a great deal of pressure to get the patient back to the Alcor facility. However, it is critical that full and informed consent be established in any suspension, and this is especially necessary in a case like this for the protection of the patient, the family, and for Alcor.

When understanding and informed consent was established (and Dr. Graham's long history of cryonics knowledge and involvement was taken into consideration here), the three core documents were signed by Dr. Graham and witnessed by two hospital security guards. Dr. Graham then gave us a check to cover the cost of a neurosuspension (as a down-payment) and agreed to pay the balance for whole body suspension within a few days.

Dr. Graham also filled out the first page of the Cryonic Suspension Application and was told that we would be contacting him for the rest of that information. At this time, Dr. Graham also filled out a consent form for Alcor to receive a copy of the patient's medical records.

Mike and Steve went back to the ICU, picked up the completed death certificate, discussed the patient's last few hours with the nurses, left some Alcor information for the physician and the head nurse, and went into the patient's room. We rapidly wheeled the patient out of the room and through the hallways to the mortuary pickup exit, accompanied by one of the very helpful and courteous security guards.

In fact, all of the hospital personnel we dealt with were polite and professional. Any hostility was kept concealed, and several people were quite friendly. We are not sure why this was so (although we feel that our *own* constant efforts to be polite and professional give us some advantage in this regard), but it is usually the case and we hope it will continue.

Return To Alcor

We left the hospital about 9:30 P.M. and drove to a nearby gas station to fill up both vehicles. On the return trip, Dave Pizer drove Jerry Leaf's van and Steve drove the Alcor ambulance.

One *good* aspect of the trip was what Steve could only describe as the "Curtis Henderson pioneering kind of feeling" we got driving along the Pacific coast with a suspension patient in the back and the moon glowing brightly on the ocean. It was sort of thrilling, surreal, and heroic all at the same time. The trip back was fairly smooth, since traffic was light, although the ambulance does have an alarming tendency to oversteer badly when fully loaded.

At 1:10 A.M. we arrived at the facility with the patient. Others present at the lab included Carlos Mondragón, Jerry Leaf, Dr. Thomas Munson, Scott Greene, Arel Lucas and Naomi Reynolds (both of whom had flown in from Alcor Northern California), Arthur McCombs, Laurence Gale, Saul Kent, Hugh Hixon, and Michael Perry.

Perfusate preparation had been delayed until paperwork was executed and the patient was in our legal custody. As a consequence of this, plus some technical delays [setting up for a perfusion seems to be nearly as complex as setting up for a Space Shuttle launch, if the reduced scale is taken into account –SB], perfusate and other preparations were not completed until 8:30 A.M.

Naomi Reynolds and Scott Greene stayed up all night filtering the perfusate and Jerry Leaf and Laurence Gale also stayed awake making final preparations. Laurence also drove to pick up additional dry ice. The rest of the staff took naps at the lab, at home, or at Saul Kent's home.

Surgical Team Duties:

Thoracic Surgery: Jerry Leaf, Thomas Munson, assisted by Arthur McCombs
Cranial Surgery: Mike Darwin
Chemical Analysis and Silicone Fluid preparation: Hugh Hixon
Technical Recording: Naomi Reynolds; later, Arel Lucas
Narrative Recording: Steve Bridge
Photography: Saul Kent
Assistants and Circulators: Arel Lucas, Scott Greene, Carlos Mondragón, Laurence Gale

Notetaking during the suspension.
Left: Mike Darwin, center: Arel Lucas, right: Naomi Reynolds.

Surgery Begins

At 9:49 A.M. on May 10, Mike Darwin began the scalp incision to drill the "burr hole," exposing a 3-5 mm area of Mrs. Graham's brain. The burr hole allows for dynamic monitoring of brain volume and blood washout during the suspension. Patients (such as Mrs. Graham) who have suffered ischemic injury invariably develop brain swelling (edema), and edema of other tissues as well, during circulation of cryoprotective agents (perfusion). To prevent the brain from being severely injured by this swelling, it is carefully monitored during perfusion. If too much edema occurs, as evidenced by the brain bulging into the burr hole opening in the bone, perfusion can be modified or stopped.

At 9:51 A.M. Jerry Leaf began the midline incision to open the chest and connect the patient to the heart-lung machine so that cryoprotective drugs could be circulated through the patient's tissues to minimize freezing damage.

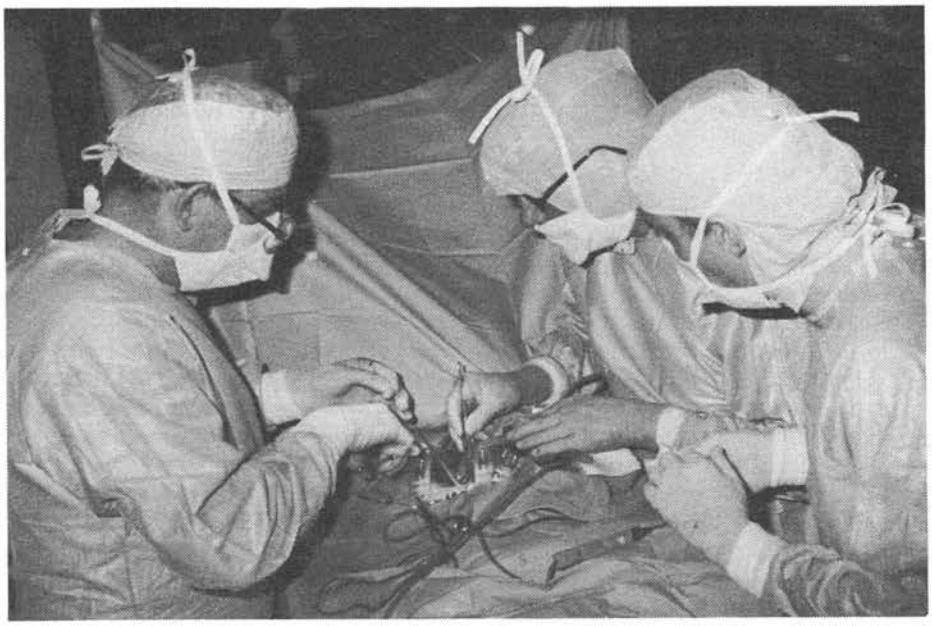
By 11:58 A.M. all surgery was completed and total body washout (displacement of the patient's blood with perfusate) was begun. This was the first time the Abbreviated Protocol had even been used, and we were concerned about whether or not the patient would be clotted. When the scalp incision was made to open the burr hole, a fair amount of bleeding was noted and there was no sign of either blood clotting or agglutination (clumping of red cells upon cooling). At 12:04 P.M. the first venous sample was taken and the pH was 6.41, very acid compared to the normal pH of 7.4, but not unexpected considering the circumstances.

Absence of clotting was confirmed as the blood washout proceeded smoothly. Much to our relief, the area of the cerebral cortex surface that was exposed by the burr hole showed excellent blood washout and complete clearing of pial (brain surface) vessels by 12:25 P.M.

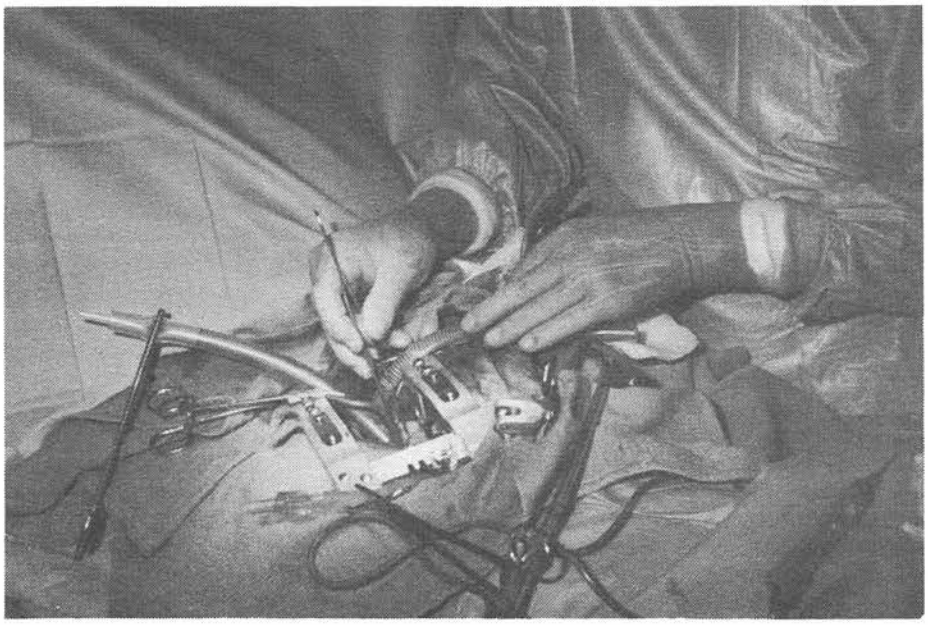
Cryoprotective Perfusion

The start of the "cryoprotective ramp" occurred at 12:13 P.M. We begin blood washout perfusion with a 5% (w/v) glycerol concentration whenever we have a patient who is ischemic. Normally, if we are doing a blood washout under optimum conditions in the field, we do not have cryoprotectant present. Because of the long warm ischemic time in this case, we used nitrogen gas to supply the oxygenator instead of oxygen. This is done to limit reperfusion injury; tissue damage would likely occur upon the reintroduction of oxygen during the restart of circulation. The perfusate also contains a free radical buffer (glutathione) to help minimize reperfusion injury.

In order to help minimize cerebral edema during perfusion, we used pulsatile perfusion on Mrs. Graham. Pulsatile flow, unlike the normal steady flow output from a heart-lung machine roller pump, mimics the natural pulsatile flow generated by the heart. This has been shown to help prevent cerebral edema during heart bypass sur-



Surgery underway on the patient's chest to place cannulae (tubes) which will allow the patient to be connected to the heart-lung machine for the circulation of cryoprotectant. Left to right: Suspension Team Leader Jerry Leaf, Thomas Munson, M.D., and Surgical Assistant Arthur McCombs.



Venous and arterial cannula in place in the patient's aorta and right heart.

gery and has been especially effective in controlling cerebral edema in ischemically injured suspension patients.

Almost from the start of perfusion, Mrs. Graham began to develop edema and experience increasing perfusion pressure. Her pressure during blood washout was 100/50 to 100/60 but rose to 150/90 within about an hour and forty-five minutes of the start of the cryoprotective ramp, and finally to 190/110 near the end of perfusion. At 2:21 P.M., perfusion was stopped due to increasing vascular resistance (as evidenced by rising perfusion pressure) and the development of cerebral edema as evidenced by the cortical surface bulging into the burr hole about 1 mm. Typically, in a properly stabilized and transported patient, we reach a terminal glycerol concentration of 4M glycerol (37% w/v glycerol). Our terminal glycerol concentration (as measured in the final venous effluent) in Mrs. Graham was 3.65 M glycerol (33.6% (w/v)). Considering the lack of adequate transport, we did surprisingly well.

At 2:26 the burr hole incision was closed, and at 2:55 the chest wound was closed. By 3:15 the patient was cleaned up, placed inside two plastic bags, and prepared for placement in the silicone oil bath for cooling to -79C.

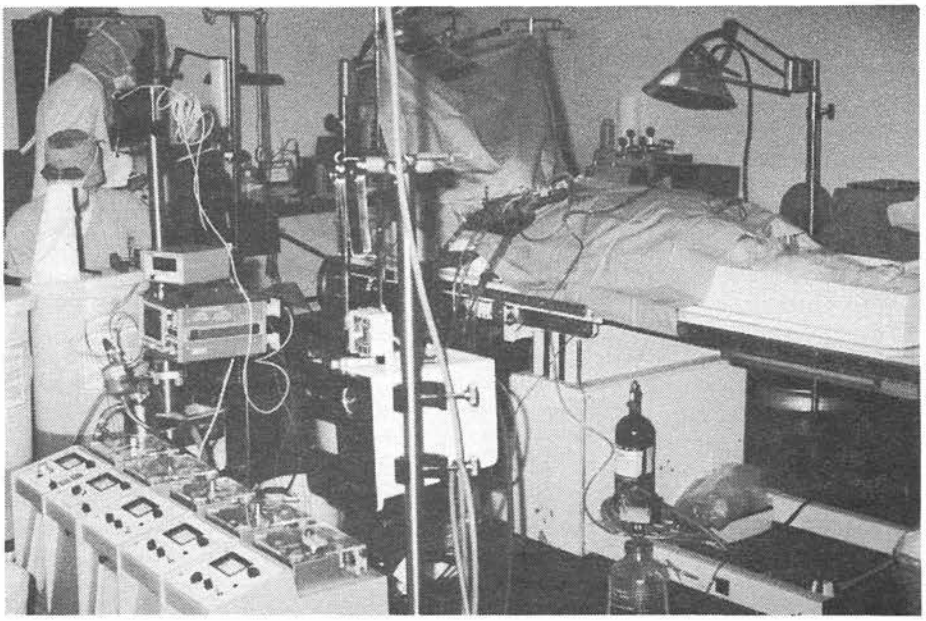
The temperature of the silicone oil bath had previously been reduced to -9.5C, and at 3:29 P.M. the patient was placed in the oil bath and the freezing process started.

From 3:40 P.M. on May 10 until 10:00 A.M. on May 11, Mrs. Graham was cooled at a controlled rate of about 2C per hour in the silicone oil bath. On May 19, 1990 at 3:50 P.M., Mrs. Graham was transferred from the silicone oil bath into two heavy-duty sleeping bags and affixed to a stretcher prior to insertion into the Bigfoot dewar for vapor cooling to liquid nitrogen temperature. On May 20 at 11:45 P.M., after completion of cooling to -196C, Mrs. Graham was transferred to a dual patient dewar and submerged in liquid nitrogen. On July 11 she was moved back into the Bigfoot unit with two other Alcor patients, where she is currently being maintained in long-term storage.

Legal Fallout

The morning of May 10th, while perfusion was still in progress, Carlos Mondragón received a call from a nephew of Mrs. Graham. The gentleman said he was "assisting the family" and he needed a certified copy of the death certificate in order to access certain bank accounts which Mrs. Graham held jointly with his mother. Carlos explained that there was little chance of getting a certified death certificate and why. (The California Department of Health Service's ongoing refusal to give us a permit for disposition of human remains meant that one line on the death certificate could not be completed.) He also explained what would likely be necessary to deal with the bank in the absence of one and offered help in that regard. Over the next few days there were more calls of a similar nature.

A few weeks after the suspension, we were told by Dr. Graham that his wife's sister was attempting to probate a photocopy of a will which Mrs.



Overview of the patient and heart-lung machine/perfusion circuit. The patient is on the operating table packed in ice and the heart-lung machine is in the foreground.

The patient being placed in protective plastic bags prior to placement in the silicone oil cooling bath for freezing to -79C.

Graham had signed in 1986. This will gave substantially all of Mrs. Graham's estate to her sister. It also contained a rather shocking provision stating specifically that she did not want to be frozen or cremated after death and directing that she have a "Christian burial."

Dr. Graham said he had not known of the existence of this will, but had since determined that his wife had destroyed the original in the process of implementing a new estate plan. Fortunately, Mrs. Graham's new estate plan left quite a paper trail, all of it in contradiction to the terms of the will. Mrs. Graham had put the assets she wanted her sister to have into joint tenancy accounts. She did the same with property meant for her husband. According to Dr. Graham, objections to cryonics which his wife had had in the past were religious in nature and had been overcome in recent months. Mike Darwin and Carlos Mondragón heard this directly from her when the Grahams visited the facility.

Dr. Graham has challenged the validity of the will and he plans to vigorously defend his wife's suspension. That process has just begun, and no quick resolution is expected.

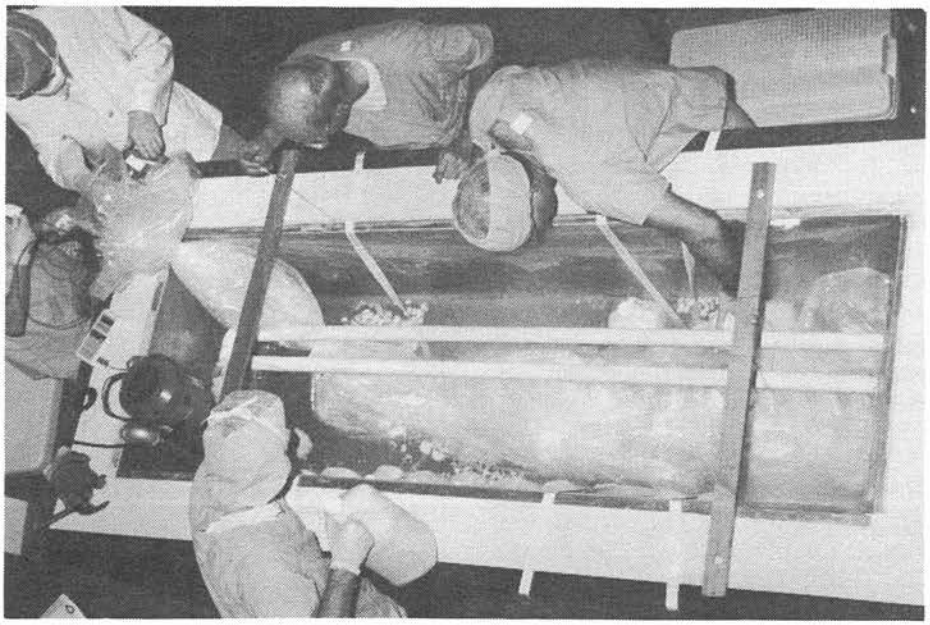
A Caution

We would like to add a brief but important caution to current and prospective Alcor members, especially to members who may wish to assist relatives in last minute suspensions. California law specifically requires that a person's instructions concerning disposition of his or her human remains following legal death *must* be followed, assuming that those instructions have been financially provided for and that they are not a threat to public health.

Alcor has successfully used this law to defend the rights of suspension patients. But if a person has stated that they *do not* wish cryonic suspension, that wish must also be respected. (Some of us feel that this is a moral obligation, as well as a legal one.) It is in your own best interests to make sure that your instructions for cryonic suspension are clearly known to all significant members of your family and that they are clearly written down in your will and in other documents (not ONLY in your will – wills can "disappear"). And – especially in California – be very cautious about attempting to suspend relatives who have stated they do not wish this procedure. Alcor will not endanger the suspensions of other patients in order to defend the suspension of someone who specifically did not want the procedure.

Perfusion Duties

Perfusion Supervision: Jerry Leaf
Staff Monitoring and Cranial Monitoring: Mike Darwin
Pump Monitor: Naomi Reynolds
Chemical Analysis: Hugh Hixon
Computer Analysis of Glycerolization: Michael Perry
Blood Samples: Scott Greene
Suction and Chest Monitoring: Arthur McCombs
Technical Notes: Arel Lucas
Narrative Notes and Outflow Monitoring: Steve Bridge
Silicone fluid preparation and monitoring: Laurence Gale
Photography: Saul Kent



The patient after placement in the silicone oil bath. The plastic jugs being added contain sand and are used as "space takers" to reduce the need for the (expensive) silicone oil.

Recollections of The Asilomar Conference

David Pizer

Fred and Linda Chamberlain have been hosting cryonics conferences for many years. Having attend several of them, I was looking forward to the August 24-26 gathering under the banner of *Lifepact*, an organization they founded to address the problems of re-entry into society after reanimation. The Asilomar Conference Center is located in one of the most breathtaking parts of the Monterrey Peninsula, right next to world famous Pebble Beach Golf Course and the 17-Mile-Drive Scenic Tour. Walk the sands, watch the waves pound the rocks, see the white-plumed spray, and get a powerful feeling that life should go on forever!

After arriving and checking in late Friday afternoon, we (my wife Trudy, Mike Perry, and I) went to the cafeteria for dinner, where we ate family style at the three large round tables that were reserved for the Lifepact group. That evening we had dinner with Bob and Mae Ettinger. Although I have talked with the Ettingers many times on the telephone, this is the first time I'd met them in person and it was a great pleasure to encounter the man who wrote "the book." The Ettingers are very pleasant people, well versed in many subjects, and very interesting to talk with. (I must admit it is hard to get Bob started in conversation, but once you engage him he is very absorbing.)

At 8 P.M. there was an informal gathering with an introduction to biostasis by Fred Chamberlain. Later, there was a group discussion and we got to meet a lot of old friends. It is enjoyable to get together with cryonicists. They aren't perfect (no one is), but they more than make up for it by the love of life that they radiate. Circulating through a group of such interesting people is an uplifting, invigorating experience.

Besides revisiting old friends, I met several new ones. Some people I remember particularly well: Ben Best, of the Cryonics Society of Canada, Trygve Bauge from Colorado and Norway, and Lee Corbin of California. Ben didn't look anything like I pictured from his writings. I found him pleasant and very interesting. Trygve was a friendly and persuasive fellow with a lot of exciting ideas. Lee Corbin, whom I'd seen before but not had a chance to talk to, had some illuminating thoughts on tough topics such as personal identity.

Saturday morning Greg Fahy spoke for Jerry Leaf on "Demonstrating Viable Memory After Cryopreservation." Greg is extremely knowledgeable in many areas. His presentation was very professional and he handled the subject and the questions afterward with unusual clarity. Greg has that rare talent shared by people like Ralph Merkle and Eric Drexler: the ability to make complicated subjects understandable to almost everyone.

Next, Ralph Merkle spoke on nanotechnology, covering applications in medicine and other fields. The talk had several points of information on the latest developments. I felt sorry that it was not televised so that the whole world could begin to understand what is coming soon.

Then Ben Best spoke on permafrost burial. Ben made a lot of new points I had never considered, especially about coupling permafrost burial with types of chemical fixation for a low- cost alternative to cryonic suspension. An interesting talk on a subject that deserves more attention.

Greg Fahy took the podium again, this time talking on "Reversing the Aging Process," and offering information on new dietary supplements that seem very promising. After the talk he was bombarded with questions and was only allowed to leave when he agreed to a special, extra questioning period later in the evening.

Next, Hal Sternberg gave an update on research on low-temperature medicine he is pursuing in northern California.

The last speaker before lunch was Jim Stevenson, who dealt with pro-death memes and other psychological issues. I have heard Jim speak several times before, and must say that while his other talks were very good, this was the most interesting of all. Jim is blind and I think he has developed through his other senses extra insight into the psychological make-up of non-cryonicists. He is developing countermeasures that may help persuade many cryonics opponents to change their stance.

At 2 P.M. we returned from lunch and a long, scenic drive to our conference room, where Thomas Donaldson gave an interesting talk on the current status of memory research.

Next Mae Ettinger spoke on ad-

Dinner at the Asilomar Conference Center. The food was terrible but the conversation was great! Counterclockwise: Dr. Mike Perry (back to camera), James Connaughton, Leonard Zubkoff, Alyson Abramowitz, Linda Chamberlain and Fred Chamberlain (conference hosts).

justment in cryonic re-entry, sharing a lot of her own thinking.

Keith Henson then brainstormed with the audience on a wide variety of topics ranging from space travel to cloning. Keith is well-known for his fantastic future thinking and he was true to form today.

Saul Kent spoke next, on "How to take your money with you," a subject of no small interest to our wealthier members. Saul gave some information on how people with average means might also plan for their financial success at reanimation.

At 4 P.M. Dick Marsh gave a very inspiring and emotional talk on communicating with fellow immortals in a bountiful future. Dick is a great motivational speaker and I'd never miss one of his lectures.

Next, Linda Chamberlain gave us an update on *Lifepact*. Linda presented several interesting options available to cryonicists who wish to take personal property and assets into the future.

At 5 P.M. Mike Perry spoke on how the goals of Venturism could tie in with living forever. Mike presented some novel ideas, emphasizing that Venturism advocates a position of enlightened self interest, extrapolated over a time scale of eternity. He was quoted several times later in the conference.

Dr. Mike Perry.

At 5:15 I spoke on why cryonicists should become Venturists. I had many people come to me after the talk and ask for more information on the cryonics community the Venturists are planning to build. There is a lot of support for this plan.

We had two surprise speakers, Trygve Bauge, who spoke on his plans for building earth-sheltered cryonics facilities, and Arel Lucas, who announced that she would be hosting a fund-raising dinner for Thomas Donaldson in December in Wrightwood.

We took a three hour break for dinner. After dinner, Trudy and I went for a walk on the beach. In the evening breeze, sharing the sight of the surf crashing against the rocks with such a beautiful person (my wife of 33 years), I could not imagine why anyone would not want to live forever.

Fred Chamberlain, conference co-host.

At 8:30 the Father of Cryonics, Bob Ettinger, spoke on "Biostasis, World View, and Life Strategy." Bob gave a well prepared speech, presenting his very interesting philosophy based on "me-first, feel good," all informed by enlightened self-interest. Many historical philosophical figures were covered and it ended with a surprising toast. His presence was a delight to all.

Later in the evening, we had an impromptu meeting between the leaders of the cryonic suspension organizations to discuss whether there was any interest in pursuing the formation of the Federation of Cryonics Societies (FOCS). We acknowledged that we still had many differences. However the fact that the meeting was cordial and lasted one and a half hours also showed that we have similar interests. Carlos officially represented Alcor, slightly assisted by Yours Truly. Bob Ettinger represented CI, and Jim Yount spoke for ACS. Jim is a very cordial and level-headed person.

After the formal meeting ended, several of us retired to a corner of the administration building (the only public building open at this hour) to unwind. In our little group there were myself, Carlos, Saul Kent, Keith Henson, David Christiansen, and Roger Gregory. We reviewed the events of the day, laughed and almost cried, joked, brainstormed, and planned for the future. We were serious and we were flippant, rattling on into the wee hours.

Sunday we had our last breakfast. At about 9 A.M. we went to the conference room. This time had been reserved for all the organizations to set up tables with their literature. Fred and Linda had been concerned that the old tensions between some organizations were not quite gone, and had asked all of us to use only this last time for display of materials. Everyone was represented. Since there were few if any new prospects, the old-timers used the time to reflect on the past and rekindle old friendships.

I hope I will remember the Asilomar Conference forever; where cryonicists met and studied, talked and planned strategies for the future in a small conference room on a beautiful beach in California. The few of us who came enjoyed this beautiful area and plan to do it repeatedly, perhaps endlessly. A little further away, multitudes of other humans also enjoyed themselves, held discussions on their personal interests, played on the beach, and viewed the beautiful homes and other sights. . . maybe for the last time.

Recollections Of The Asilomar Conference

Kevin Q. Brown

Kevin notes: I attended the Aug. 24-26 Conference on Biostasis & Reentry at the Asilomar Conference Center in Pacific Grove, CA, which was sponsored by Lifepact and organized by Linda and Fred Chamberlain. I took notes (accurately, I hope) on the Saturday, August 25 presentations, which I have turned into English below.

9:00 AM
"DEMONSTRATING VIABLE MEMORY AFTER CRYOPRESERVATION: RESEARCH DIRECTIONS"
Jerry Leaf, B.A.

Greg Fahy filled in for Jerry Leaf, who was not able to attend, and presented a large number of intriguing insights, including the following:

It would be a major accomplishment to show retention of memory (not just survival) after any kind of freezing, especially after cooling to dry ice temperature rather than just slightly below 0C, as was done in the experiments of Audrey Smith. Since memory is in the brain, we would like to concentrate on successful freezing of the brain. The obvious approach is to remove the brain, freeze it, thaw it out, reconnect it to the body, and see if it works. Unfortunately, reconnecting a severed brain to the body is quite difficult. Another approach is to freeze the brain in situ, without severing the connections between the body and the brain and without freezing the remainder of the animal. This might be done by perfusing the brain with humidified helium.

It may be that the greatest damage we see from freezing occurs during thawing, not during the freezing itself. We would like to see what the brain looks like (at the ultrastructure level) after being frozen, but not after being both frozen and thawed.

Why are frogs and turtles freeze-tolerant and what can we do to copy what they do? We do not entirely know. The levels of cryoprotectants that they produce do not entirely explain their ability to survive freezing. We do know, however, that frogs and turtles can survive long periods without oxygen, whereas mammals cannot. Also, since some regions of the tissues of frogs and turtles are less sensitive to ice than others, the ice that does form can be concentrated in the less sensitive areas. Mammals do not have any such less sensitive areas, though, so they cannot take advantage of that survival technique.

9:30 AM
"NANOTECHNOLOGY – THE AVENUE TO HEALTH AND WEALTH"
Ralph C. Merkle, Ph.D., Xerox PARC

Ralph gave his usual excellent introduction to nanotechnology. Even for people who have read about nanotechnology, Ralph's presentation was useful for making clear the important concepts and distinctions. Here are a few that stood out for me.

Today, fabrication limits technology. With nanotechnology, the limits will be physical law and design capability.

The three classes of medical treatment are (will be):

(1) surgery – intelligent guidance with crude tools,

(2) drugs – molecular tools without direct intelligent guidance, and

(3) cell repair systems – molecular tools guided with surgical precision.

Advanced nanotechnology will change our medical requirements. Currently, we require active tissue that can self-repair, hence we must preserve tissue *function*. With advanced nanotechnology, we will be able to repair passive tissues, thus needing to preserve only tissue *structure*.

10:00 AM
"PERMAFROST CRYONIC INTERMENT"
Benjamin Best, BSc (Pharmacy), BSc (Physics & Computer Science), BBA (Accounting and Finance)

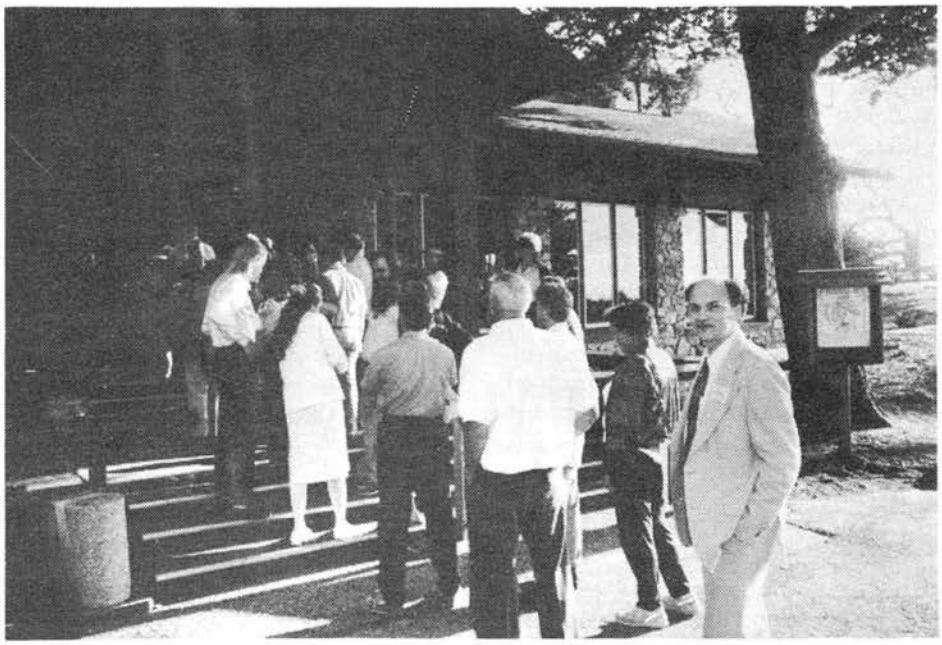
Benjamin was not recommending that we abandon LN2 (liquid nitrogen) suspension in favor of permafrost interment. Rather, he was exploring an alternative. The advantages of permafrost interment are:

(1) it maintains a low temperature without maintenance support of any human organization,

(2) it's cheaper,

(3) some people find it aesthetically pleasing (?), and

(4) it is a backup to other methods of suspension.



Asilomar attendees enjoying the sunshine. Canadian cryonicist Ben Best is looking toward the camera.

The obvious disadvantage of permafrost interment is that it does not seem to be cold enough to stop decay. Chemical preservation (with formaldehyde, glutaraldehyde, and mercuric chloride) may help alleviate that difficulty by forming cross-linking, etcetera. This, when combined with permafrost interment, may be able to preserve structure.

10:30 AM
"REVERSING THE AGING PROCESS MADE EASY"
Gregory M. Fahy, Ph.D.

This talk was one of the highlights of the conference; Greg was brought back for an encore later (9:00 P.M., Saturday). In this session he showed several examples of reversing aspects of aging.

Growth hormone – you lose 70% of your growth hormone between age 45 and 75. Giving growth hormone (at low levels) back to humans of ages 61-81 reverses some aspects of aging (Rudman, 6-month study). The thymus gland atrophies with age (and therefore the immune response and other parameters of aging), but the thymus can be regenerated with administration of growth hormone (with some other factors).

Zinc is nontoxic, cheap, and important for health. We tend to develop zinc deficiencies as we get older.

Elongation Factor 1 is needed for protein production, and the levels of it decline with age (George Webster). The mechanism seems to be similar in both fruit flies and mammals. *Centrophenoxine* reverses the decline of Elongation Factor 1 in vitro.

Coenzyme Q10 (CoQ10) – Greg Fahy helped popularize this in the U.S. (It had been taken safely in Japan for years.) CoQ10 is needed for energy production and is especially needed in the heart.

Deprenyl blocks some metabolism-related damage and in one experiment greatly increased the maximum life span.

11:00 AM
"LOW TEMPERATURE MEDICINE"
Hal Sternberg, Ph.D.

Hal and his associates have washed the blood out of hamsters and replaced it with a blood substitute at low temperature for four hours and then successfully revived them. These techniques are useful in mainstream medicine – "bloodless" surgery, chemotherapy for cancer, multiple organ transplants, etc. Brain pathologies from freezing include edema and microvascular damage (*except* in the cerebellum, which apparently does not suffer microvascular damage). Rewarming of hamsters in these experiments is currently done with a microwave oven; other rewarming techniques may cause less damage.

11:30 AM
"PRO-DEATH MEMES AND POSSIBLE COUNTERMEASURES"
Jim Stevenson, Ph.D.

Why do so many people think that God will give them immortality and so few look for a technical solution? For people to look for a technical solution:

(1) they need an optimistic view of the future,

(2) they need to believe it is possible, and

(3) they need to be willing to think about death. (Death – or thoughts of death – generate a lot of anxiety. Thoughts of a God that will save us are quite comforting to some people.)

Some people object that avoidance of death is not natural. One reply is that a century ago a 25% maternal death rate was natural. (Do you want that?)

Sentence completion is a technique from Nathaniel Branden (who had his own pro-death meme; he said that the finiteness of life makes one more productive). A person is given a choice of several endings for a stem of a sentence. For example, "Death means ..." Some people say "peace" or "an end to my struggles." Jim has had a hard time getting non-cryonicist volunteers to go through this experiment. Someone suggested using undergraduate college students (since they are the basis for many of today's psychology experiments anyway). He is working on a computerized version of the interview, since a computer may be less threatening than a human. If you know of any (non-cryonicist) volunteers, call Jim at (415) 494-1234.

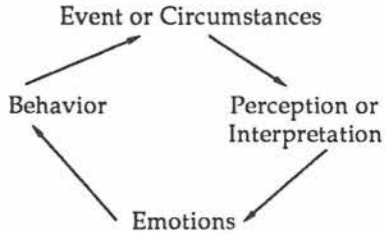
Near death experiences provide a meme that people use to support their spiritualistic beliefs. (A common experience is to see a light at the end of a tunnel and a figure in the middle of that light.) Since giving extra carbon dioxide to a person for 30 seconds produces the same effect in 1/3 to 1/2 of the population, the spiritualistic interpretation does not seem accurate. Apparently, yogis achieve this experience by building up their CO2 levels with breathing exercises. Also, the anesthetic ketamine will produce this effect.

2:00 P.M.
"MEMORY: ITS CURRENT STATUS"
Thomas Donaldson, Ph.D.

Rather than try to reproduce what Thomas covered, I prefer to refer you to Thomas' informative handout which he made available. (Contribution appreciated.) Interested people may want to subscribe to Periastron, too, even though his handout will not be part of Periastron. Write to Thomas Donaldson at PO Box 2365, Sunnyvale, CA 94087 for more information.

2:30 P.M.
"ADJUSTMENT AND READJUSTMENT IN CRYONIC REENTRY: CLOSURES AND BEGINNINGS"
Mae A. Ettinger, L.L.P., M.A.

It is not what happens to a person that causes distress but rather the way in which it is perceived. Rational Emotive Therapy (Albert Ellis) recognizes the cycle:



Before we do anything or decide anything, ask: "Is this thought true? Is it rationally based? Does it get what you want quickly? Does it help you feel the way you want to feel? Does it keep you out of trouble you don't want? Does it lead you to protect your life?" If most of the answers are "Yes," then you are being rational.

She suggested that we throw going away parties once a year (because we never know when we might go away).

3:00 P.M.
"HOW TO SPEND THE NEXT MILLION YEARS"
Keith Henson

Keith described the *Far Edge Committee* and beyond. He pointed out that our galaxy has about 100 billion stars and nobody can possibly visit them all serially because most stars would burn out before you could get to them. The solution is to visit them in parallel by visiting a star, duplicating the entire spaceship and crew, and proceeding to the next two stars in parallel. After about 32 branches and a quarter of a million years all the stars will have been visited and everyone will meet at the Far Edge of the galaxy for a big party. After that we will have to head for other galaxies. Since this is a long trip, uploaders will want to travel via their version of "warp drive"; slow down the clock rate and the rest of the universe appears speeded up.

Keith pointed out that we will not be able to tell whether or not any intelligent aliens exist in our galaxy because, with advanced nanotechnology, anyone can send a rocket ahead of everyone else that will terraform a planet and bury fake dinosaur bones, create fake aliens, etc. that are indistinguishable from the real thing.

He also has an interesting way to get into orbit without using rockets...

3:30 P.M.
"HOW TO TAKE YOUR MONEY WITH YOU"
Saul Kent

The Rule Against Perpetuities limits how long money can remain under the control of someone no longer living. All states of the U.S. (except perhaps Wisconsin) and most countries of the world have a Rule Against Perpetuities. Switzerland is the safest place for money, but they, too, have a Rule Against Perpetuities. Fortunately, Switzerland's neighbor, Liechtenstein, does NOT have a Rule Against Perpetuities, and Saul Kent has set up an organization based in Liechtenstein, with money deposited in Switzerland, which gets the best of both worlds.

Initially, the Reanimation Foundation was intended to be for only Saul Kent and his business partner Bill Faloon, but other people were interested in the concept, and including more people in the organization should improve the security of the arrangements. For some people, being able to "take it with you" may be the motivating factor for choosing cryonic suspension. The Reanimation Foundation is intended to support reanimation research as well as support one's reanimation, re-education, etc., while returning any money left over. There is a 1.5% annual management fee, split among the Union Bank of Switzerland, the Liechtenstein law firm, and Asset Preservation (a company for promoting the Reanimation Foundation in the U.S. run by Saul Kent and Bill Faloon). For more information, write to Saul Kent at 16280 Whispering Spur, Riverside, CA 92504-5847.

4:00 P.M.
"COMMUNITOPIA: THE POSITIVE TRIUMPH OF NEGATIVE ENTROPY"
Richard P. Marsh, Ph.D.

Richard Marsh was a real trooper, arriving just in time to give his presentation, despite trying personal circumstances. He spoke of the divine discontent of man and his marathon run (and walk) up Pike's Peak when he was (approximately) 70 years old. For him, joy is 90% ecstasy, 5% sadness, 3% pain, and 2% fear.

His notion of "communitopia" is an improvement on the stifling perfection of utopia, and the elimination of entropy is the primary task of an immortalist.

4:30 P.M.
"LIFEPACT: DESIGNING OUR OWN REENTRY VEHICLE AND PORT OF ARRIVAL"
Linda Chamberlain

Linda gave an overview of the background for founding Lifepact and the recent changes in it.

Why do we still have such difficulty convincing people that life is worthwhile and worth saving (via cryonics)? Most people were not willing to cross the oceans to immigrate to our country 200 years ago. Similarly, many people find the idea of going to the future (via cryonics) scary and uncomfortable; most people are not pioneers and adventurers. Lifepact was created to provide support at the other end.

Lifepact was originally independent of the suspension organizations. Many people, however, prefer to work with their own suspension organization on Lifepact issues, so Lifepact is becoming, for now, more of a forum for idea exchange than a "stand-alone" organization.

Lifepact project areas include:

(1) agreement developments,

(2) revocable donations & endowments,

(3) reanimation research,

(4) memory archiving,

(5) support groups, and

(6) favorable publicity and promotion of suspension groups.

What kind of agreements are proposed for (1) above? Here is an example. What if there is not enough funding for your reanimation, re-education, and rehabilitation? Then agree to (a) pay for your reanimation, etc. at the other end (without becoming a slave) or (b) support someone else's reanimation. This agreement is intended not just to improve your probability of coming back, but also to help you get back sooner.

Diaries, photographs, videos, etc. should help enhance your memory of yourself. The second project area above is to provide a mechanism for making revocable donations of those items. A Kansas storage facility for revocable donations is now available for Alcor members.

Fred and Linda Chamberlain soon are going to school, to work on reanimation research.

5:00 P.M.
"VENTURISM FOR ETERNITY"
Mike Perry, Ph.D.

Venturism was started approximately four years ago by Dave Pizer and Mike Perry to pursue something analogous to conventional religion. It has two main principles:

(1) do what is right

(2) promote conquest of death by technological means.

Principle (1) is more controversial and vague than principle (2). Part of the rationale for it is that if you plan to share eternity with other people, it is best if you are on good terms with them. Principle (1) thus does not promote altruism so much as enlightened self-interest.

5:15 P.M.
"WHY YOU SHOULD BE A VENTURIST"
Dave Pizer

"Isn't it wonderful that we have

the option of eating worms and we are taking away the option of worms eating us?"

Being a Venturist may help you avoid autopsy on religious grounds. Venturists are recognized as a religious, scientific, and educational 501(c)3 tax exempt organization by the IRS.

Venturist Philosophy is in its infancy and cryonicists are welcome to write to Venturist Monthly News. The Society of Venturism is planning to build a community with condominiums, apartments, a health spa, a motel/resort, a retirement center, a rest home, a hospice, and a full time nurse (who can pronounce legal death) all on a common campus. (This will NOT be called Ventureville!) Eventually, if the community is big enough, it will have its own university.

5:30 P.M.
MODELS FOR CRYONICS LABORATORIES & HOSPICES
Trygve Bauge

Trygve presented drawings of several models for cryonics laboratories and hospices, with emphasis on heavy fortification to resist natural and man-made disasters. For more information call him at (303) 499-7771.

As you may already know, Trygve is the person who recently had his grandfather from Norway frozen. Also, he celebrates each New Year by organizing a "polar bear" swim in the Boulder, CO area.

5:45 P.M.
THOMAS DONALDSON DEFENSE FUND DINNER
Arel Lucas

Mark Saturday, December 1 on your calendars to support the Thomas Donaldson Defense Fund at a Fund Raising Dinner at the Wrightwood, CA community hall. It will offer a fun, delicious, tax deductible meal for (probably about) $50.

8:30 P.M.
- SPECIAL GUEST SPEAKER: "THE BIG PICTURE: BIOSTASIS, WORLD VIEW, AND LIFE STRATEGY"
Robert Ettinger, "the father of cryonics."

As he has mentioned in the pages of *The Immortalist*, Robert Ettinger is writing a book on his philosophy of life. Rather than attempt to describe his concepts of Me First/Feel Good, and possibly misrepresent them, I refer people to his writings instead.

9:00 P.M.
QUESTIONS/ANSWERS/DISCUSSION ON REVERSING AGING
with Greg Fahy

Several more topics on aging were covered in this session. I have appended some below, but for more information on aging, send a dollar and your address to: Greg Fahy; Box 3757; Gaithersburg, MD 20885

Greg tested cryoprotective agents on the kidneys of Arlene Fried (Linda Chamberlain's mother, who was recently suspended by Alcor). The results were very similar to the results for rabbit kidneys and different from the results for pig kidneys. This is good news because most of Greg Fahy's work (and success) has been on rabbit kidneys.

Greg indicated that death is programmed, not just wear and tear. Several species die soon after reproduction. In particular, the rapid senescence of salmon after spawning is striking. (Someone suggested that programmed death after reproduction may be to maximize the rate of evolutionary change while still propagating the species.) Another example of an apparent genetic mechanism for death is that in an Amish community. A genetic defect (a deletion) in the men's Y chromosomes enabled them to live 14 years longer than the women. On the other hand, some organisms seem to be immortal. Chaparral at least 20,000 years old has been found that apparently sprouted just after the last ice age.

Mike West has shown a genetic mechanism for programmed senescence in vitro. He can turn this on and off in a culture repeatedly. (Full details are not available on this yet, though, because it may have a lot of commercial value.)

Keith Henson pointed out that some genetic programs can increase the odds of reproducing successfully and have the side effect of killing a person later. (Greg noted that these are known as pleiotropic mechanisms.) One example is that of cancer; by allowing cells to divide only a fixed number of times one helps prevent mutated cells from proliferating uncontrollably. Cancerous immortal cells somehow evade this programmed mechanism for limiting the number of divisions.

9:00 P.M.
PANEL DISCUSSION: FOCS – COOPERATION AND GROWTH FOR THE 1990s

Some industries, such as tissue banks, have largely avoided government regulation whereas others, such as real estate in California, have become burdened with numerous regulations. The tissue bank industry has largely avoided government regulation because it is self-regulating and has thereby avoided incidents that would attract regulatory legislation. The real estate business, on the other hand, has a history of abuses and thus complaints that led to government regulations. The cryonics organizations seem generally agreed that self-regulation is a lesser evil than government regulation, so they all have an incentive to make this work. Cryonics organizations are particularly susceptible to damaging legislation, partly because of past history (Chatsworth, for example), partly because cryonics is a nonstandard medical practice (and thus a suspect practice to the traditional medical community), and partly because once it catches on and becomes a profitable business, other, less reputable people may be attracted to it.

After reducing the size of the meeting to representatives of the three suspension organizations, some preliminary agreements were proposed:

(1) annual (and perhaps surprise) inspections of LN2 delivery, log books, etc.

(2) no deprecating comparisons of other suspension organizations

(3) when a complaint is written, a neutral committee will look into it to help resolve the problem. If, after all reasonable efforts, the problem cannot be resolved, the final result is (temporary) expulsion of the organization from FOCS.

When the formation of FOCS is complete, a PR group needs to inform everyone (including the legislatures) that it exists. To succeed, FOCS has to walk a fine line; it must promote high standards for cryonic suspension services yet not restrict trade, become a monopoly, or do price fixing.

Advertisements And Personals

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

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

Meeting Schedules

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

HELP!! **We need more places to meet in the greater LA area!** Specifically and immediately, November 4, for 15-25 people.

The DECEMBER meeting is the Annual Turkey Roast, at the home of:

(SUN, 2 DEC, 1990)
Saul Kent and Jo Ann Martin
16280 Whispering Spur, Riverside, CA

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

* * *

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

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

SUNDAY, 21 OCTOBER
Souplantation, Corona Hills Plaza
370 McKinley, Corona, CA, Tel: (714) 278-2540

NOTE: There will be a tour of the Alcor facility at 4:00 p.m. preceding the Supper Club meeting.

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

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

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

* * *

There is an Alcor chapter in the **San Francisco** Bay area. Its members are aggressively pursuing an improved rescue and suspension capability in that area. Meetings are generally held on the second Sunday of the month, at 4 PM. Meeting locations can be obtained by calling the chapter's Secretary, Arel Lucas, at (408) 978-7616.

The OCTOBER meeting will be held at the home of:

(SUN, 14 OCT, 1990)
Keith Henson and Arel Lucas
1794 Cardel Way, San Jose, CA

Directions: Take the 17 South (880) and get off going east on Camden. Stay on Camden as it turns south and go to Michon Dr. Turn right onto Michon and go to Harwood Rd. Turn left on Harwood and go south to Almaden Rd. (1st street on right). Turn right on Almaden and right again onto Elrose, then left onto Cardel. 1794 is near the end of the street, on the left.

* * *

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

Gerard Arthus, at (516) 474-2949, or Curtis Henderson, at (516) 589-4256

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

Meeting dates:
October 20, November 17, December 16, January 19

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

Meeting dates:
November 3, December 2, January 5, February 2

* * *

There is a cryonics discussion group in the **Boston** area. Information may be obtained by contacting Eric Klien at (508) 663-5480 (work) or (508) 250-0820 (home). Tentative meeting dates are October 28 and December 30.

Other Events Of Interest

• There will be a ***European Cryonics Conference*** October 26-29 at Gatwick Airport (London). This will include a tour of Alcor, U.K.'s new facility. See the April, 1990 issue of *Cryonics* for details and contact Saul Kent at 16280 Whispering Spur; Riverside, CA 92503, USA for additional information.

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

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

ALCOR LIFE EXTENSION FOUNDATION
12327 Doherty Street
Riverside, CA 92503

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