

Cryonics

Volume 14(9) • September, 1993

ISSN 1054-4305 • \$3.50

In This Issue...

Technical Estimates of Success in Cryonics
by Ralph Merkle, Ph.D.

— *And* —

Deathist Bias in Popular Culture
by Steve Neal

Plus:

Steve Harris, M.D.,
reviews

Chiller

the fascinating new
cryonics-based novel by

Sterling Blake

"A FASCINATING SUBJECT EXPLORED REALISTICALLY—
TENSE, ENTERTAINING *AND* THOUGHT-PROVOKING." —DEAN KOONTZ

CHILLER

A N O V E L B Y
STERLING BLAKE

Cryonics is...

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

Alcor is...

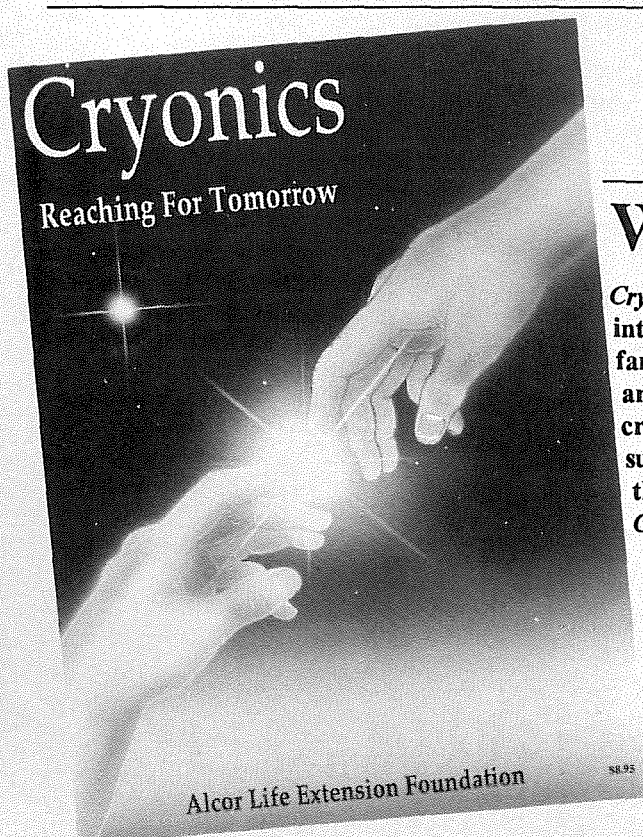
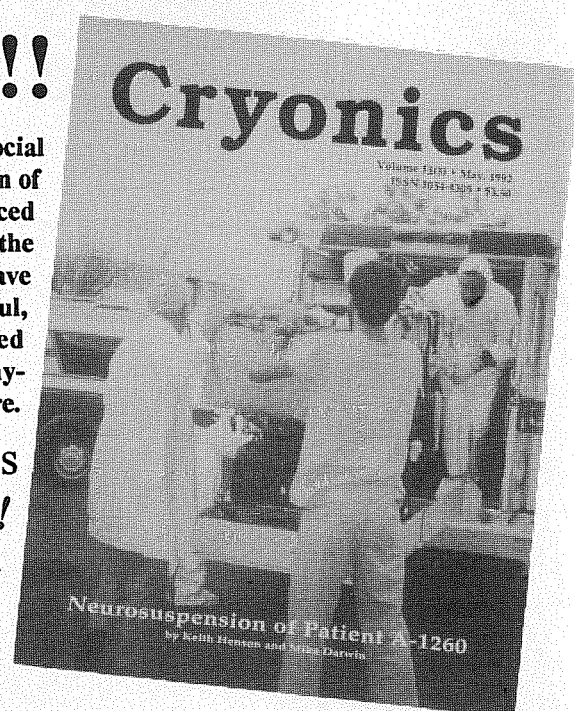
The Alcor Life Extension Foundation is a non-profit tax-exempt scientific and educational organization. Alcor currently has 27 members in cryonic suspension, hundreds of Suspension Members—people who have arrangements to be suspended—and hundreds more in the process of becoming Suspension Members. Our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

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

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Volume 14(9)

September, 1993

Issue 157, ISSN 1054-4305



Cryonics is the magazine of the Alcor Life Extension Foundation, Inc.

Editor: Ralph Whelan
Production Editors: Eric Geislinger
and Jane Talisman

Published monthly. Individual subscriptions: \$35 per year in the U.S.; \$40 per year in Canada and Mexico; \$45 per year all others. Back issues are \$3.50 each in the U.S., Canada, and Mexico; \$4.50 each all others.

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Issue to press: August 6, 1993.

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Cover: ...and we didn't even mention our lively Letters column.

Alcor's Moving Plans Solidify

July was a month of steady progress toward the planned move of Alcor's headquarters to a new facility in Scottsdale, Arizona. This "Acoma Building" (so dubbed after its location on Acoma Street in the Scottsdale Airpark), on which Alcor placed a \$20,000 deposit on July 15, grows more attractive the more we learn about it. This latest update is written just as this issue of *Cryonics* goes to press, and just a few hours after Alcor President Steve Bridge's return from his latest trip to Scottsdale.

The main purpose of Steve's visit was an appointment with the Arizona Attorney General's office, which Steve and Alcor Directors David Pizer and Mark Voelker attended, along with two officials representing the Arizona State Department of Health Services. The Arizona Attorney General was not present, but was represented by attorney Terri Skladany. The meeting was called after a meeting with the Health Department last month uncovered an absence of Arizona statute or rules regarding the status of Alcor's neuropatients. The Health Department suggested that an A.G. decision might be necessary to clarify the status of these "anatomical donations."

The upshot of this latest meeting appears to be that Alcor's neuropatients — and whole bodies, for that matter — can legitimately be stored only by a "properly licensed or approved" organization. However, inquiries by Steve into the application process for such licensing appeared to show that no such licensing process in fact exists. (Sound familiar?) Universities, hospitals, sperm banks, etc., that require such authorization have always received it "as a matter of course."

However, it was clear that in this case this was not being presented as an intentional roadblock or bureaucratic "Catch-22." The A.G.'s attorney told Alcor that they believe these details can be worked out, and presented a reasonably open-minded and cooperative attitude toward accomplishing this. Their specific requirements that any human remains shipped across state lines (as would be

necessary if we move there) be stored in hermetically sealed containers is obviously not consistent with storage of cryonic suspension patients, but after receiving a quick lesson on the unpleasant dynamics of hermetically sealed passive liquid nitrogen vessels, it seems likely that they'll be flexible on this point as well.

Further study of the general environs of the Acoma Building and the Scottsdale Airpark are painting an ever-prettier picture of this "bird in the hand." It now appears that the *only* unrented office/warehouse spaces between 3,000 and 20,000 sq.ft. in the entire Airpark are the unoccupied sections of... the Acoma Building! (Other types of available space, such as hangar space or office-only or small single-tenant, etc., would not be appropriate for Alcor's use.) The area is indeed "booming." (And *not* in the seismic sense!) What's more, the premier tenant candidates have recently stated that they would be happy to move in if Alcor buys the building, *but aren't interested if the current ownership prevails*. Apparently head and body freezings are not always the stigmas we think they are...

Other interesting facts recently uncovered: There is only one building in the Scottsdale Airpark that has sold for less than the \$39/sq.ft. Acoma Building in the past several months. This was sold at a loss to avoid repossession, and was a single-tenant building only partly air-conditioned. Despite this, the Acoma Building is by all accounts and examinations a first-rate building, one of the only buildings in the Airpark with heavy-duty floors, *full* air conditioning throughout the building, and ceilings high enough to allow second-story construction. Another realtor familiar with this building but *not* involved with this deal in any way has confirmed that it would cost roughly \$59/sq.ft. to construct an identical building from scratch, and that a realistic current cost for purchase *should* be about \$50/sq.ft.

Progress on forming a legal entity that can take ownership of the Acoma Building is excellent; Steve is working closely with our attorney in finalizing this, and hopes to see completion within two weeks. Over the next few days I will

be working on a four-page brochure that will present as much factual information about the building as possible, to be mailed to Alcor members upon completion. Hugh Hixon, Scott Herman, and I recently had our first meeting with a representative of a large-scale industrial moving company, during which we began fleshing out some of the complicated physical aspects of moving our entire operation (and most importantly, the patients!) several hundred miles. More on all of this as we proceed.

Lastly, I want to thank all of the members who have already contributed time and/or money to this incredibly demanding and time-consuming but *crucial* project, and encourage other members and readers to *please* follow their lead and help out. Donations to the Alcor Building Fund are tax-deductible.

Shrinking the Not-So-Pearly Gates

The July 1 issue of *Nature* contains heartening news for cryonicists and nano-computing enthusiasts alike: a research team from Queen's University in Ireland has succeeded in creating a logical "And" gate — essential to computing on any level — out of a single benzo-15-crown-ether-aldehyde molecule.

The molecule's fluorescence intensity ("output") varies depending on whether its "input" consists of hydrogen ions or sodium ions or both. *Science News*, in reporting this advance, made the uncharacteristically optimistic observation that "This technology offers the promise that single molecules could replace whole electronic components, such as transistors," and Leonard F. Lindoy of James Cook University in Australia is quoted as saying that "In theory, a cluster of molecules could replace an entire computer chip."

Granted, *Science News* then falls somewhat short of visionary in concluding that "The result may be smaller, faster, more efficient computers." What did you expect, Alcor's 800 number?

Letters to the Editor

Editor:

It is wonderful that Alcor is no longer paying any legal bills. We are well past the Dora Kent crisis, and past the politics of last year. It is time that we look to building Alcor for the future. There are a number of issues.

How will cryonics continue to grow? How will Alcor grow within the field? How will the Alcor organization evolve? As future difficulties arise, what are the underlying structures creating those difficulties? Most importantly, how should Alcor act to address those issues, and take advantage of major opportunities?

I would strongly suggest that anyone interested in addressing these issues read *The Fifth Discipline: The Art and Practice of the Learning Organization*, by Peter Senge (Doubleday Currency, New York, 1990). The word "cryonics" never appears, but the evolution of organizations, the spread of ideas, the structures of problems and how to deal with them, are discussed wisely and well.

Thank you,
Tom McKendree
Los Alamitos, CA

Dear Editor of *Cryonics*:

On the subject of criticisms Mike Federowicz (aka Darwin) has made concerning a recent suspension's "bleach problem":

Tanya Jones has done an excellent job with the details, in the 1993 July/August issue of *Cryonics*. More on that level is unnecessary. She correctly interprets Mike's use of misdirected inquiry and inflammatory interjection, but stops short of calling it deliberate distortion and character assault. Yet, this is what Mike's content and style of writing clearly suggest.

Mike calls for the establishment of some sort of quality control board to review technical or procedural problems when they occur. In doing so, he ignores the fact that no such practice was ever in being while he was in charge of the suspension team. If any such board had existed, it would have been used to delve into far more serious transgressions of Mike's. For example:

(1) Recklessly disregarding patient

safety from autopsy, in the interest of minor reductions to ischemic time.

(2) Exposing his fellow team members to legal liabilities without their knowledge or against their wills (in several cases damaging or destroying their careers).

(3) Jeopardizing Alcor's existence and wreaking havoc with its capacity to serve its members, by (1) and (2) above.

In particular, I am referring to the Dora Kent suspension, at which I was present (and its aftermath, with respect to which I was in close touch). But there have been many other suspensions since, in which Mike was a participant, and there are indications that he too often performed in a dangerously unreliable manner at these times also. When are we going to conduct formal reviews of these failures of Mike's? Only after detailed hearings about comparatively insignificant "bleach mishaps" are completed? Why do we not first do what is necessary to learn about and prevent future instances of gross neglect, malfeasance of responsibility and the willful disregard of safety to Alcor, its patients and its team members?

There are probably those who will say my treatment is unduly harsh. A few might argue that Mike's grasp of transport and suspension technologies, coupled with his level of surgical skills and past achievements, outweigh his shortcomings. I beg to differ with this point of view. A multi-vitamin or medication contaminated with a toxic agent is not regarded merely as a less effective aid to health. It must be discarded, as a danger to any who might be tempted to use it. It is my opinion that Mike is a greater liability than asset, and for over a year I have limited my own cryonic suspension arrangement options accordingly, as you will see later in this letter.

Mike has, very visibly, been penalized for his shortcomings. As a cumulative consequence of his misdeeds and ineptitude, he has gradually lost every vestige of authority and responsibility he once held within Alcor. Many highly competent people in Alcor will no longer work with Mike in any way. Still, there has been no formal review, no attempt to document

failings of Mike's in the sort of detail he now finds quite appropriate for equipment or procedural problems with minor levels of risk and damage. The reason seems to be that there have been far more pressing problems, including a continuing state of turmoil created by Mike himself.

Someday, when time permits (even though Mike is no longer a member of Alcor) it would be appropriate for Alcor to convene a formal board of inquiry to investigate suspensions in which Mike is known to have been a malefactor, formulating procedures to guard against future risks and damages of the same kind by others. To date, except for the thawing of patients at Chatsworth by Bob Nelson of the Cryonics Society of California, Mike's performance failures seem to represent an "upper limit" to how major responsibilities have been mishandled, and we should learn all we can by a careful study of this. Jerry Leaf, trying to look at things from a constructive viewpoint shortly after the Dora Kent Case turmoil broke out, said these events should be regarded as a "cargo of moon rocks," to be analyzed in great detail to learn everything we can about preventing recurrence.

Meanwhile, Mike's "grasping at straws," in his recent criticisms of Alcor and (in particular) Tanya Jones, appears to be simply the use of a convenient opportunity to try to run down Alcor's capability and stab its staff in the back, perhaps as a prelude to forming a new cryonics group. Rushing into publication on the "net" is a clear sign that Mike was not at all interested in an orderly and properly conducted review, but only in causing as much disruption as possible. Demeaning Alcor widely must seem to Mike a perfect opportunity to take along more of Alcor's members if he sets up a competing cryonics organization. We may expect him to continue this sort of thing in the months ahead, mixing speculative and marginally supportable criticism with inflammatory commentary.

If Mike forms a new cryonics group, I hope any Alcor members who consider joining it will carefully weigh their decisions to switch over before doing so, since their lives are at stake. When Linda Chamberlain and I formed Alcor, as an alternative to the Cryonics Society of California (CSC), we resolved not to "raid" CSC's membership, but rather to start from scratch, going directly to the public.

Four years later, when CSC went down in ruin, many CSC members joined Alcor, and then asked us why we hadn't tried to warn them before CSC collapsed. The answer is that we had no way of guessing what might happen. We thought that Bob Nelson would probably get CSC into legal trouble by gross misrepresentations of its capability, but it was beyond our wildest imagination that he would simply let all the patients thaw out.

There is no constructive or accurate way to warn you about dangers you may confront with any cryonics organization, new or old. Vague speculations are worse than useless, since these might lead to rigorous scrutiny of some areas while the danger or damage develops in entirely different places. All I can do is to tell you what I have done and will be doing, concerning precautions. You must decide for yourself what is best for you:

In April of 1992, Linda Chamberlain and I both gave to Alcor written instructions that, in the event of our deaths, Mike Federowicz was to have no participation whatever in our suspensions, even as an advisor. We did this because our distrust of Mike and our lack of respect for his judgment were such that we felt this course of action (1) minimized liabilities to Alcor and its members and (2) maximized our chances of survival.

Recently (July 1993), I (Fred) was given a biopsy-based diagnosis of Stage B cancer. Now, more than ever, I feel the precautions taken in early 1992 were appropriate. If I am frozen in the years ahead, I certainly hope that Tanya Jones or someone trained by her, under her supervision will be in charge. She reflects, in my estimation, our best chance for having a "Dagney Taggart" involved in Alcor at this time or in the near future.

(For those of you unfamiliar with Ayn Rand's "Atlas Shrugged," Dagney Taggart is a heroine who manages to keep a railroad running, as its Vice-President in Charge of Operations, while a wide variety of political and social changes make this nearly impossible.)

Conversely, I would not feel at all

safe if I were suspended by an organization in which Mike (Darwin) Federowicz had any responsibility or influence. I've said all I can for the present about the reasons for this assessment. There is a great deal more to say, and I hope someday I will have a chance to say it before a formal hearing which Alcor will conduct.

I suggest you think long and hard before making any decision to change your suspension arrangements from Alcor to a new cryonics organization. Cryonics is a long term proposition, not to be used as a stage for short term power struggles or ego trips, if we are to constructively do what is necessary to make it into the future.

Boundless life,
Fred Chamberlain

Letter to the Editor:

For some time, Mike Federowicz (aka Darwin) has tried to discredit Alcor personnel and lead Alcor members to the conclusion that the organization no longer deserves their trust. The recent invective against the Alcor suspension team (over the problems experienced when lithium hypochlorite added to the ice bath to decrease the risk of AIDS virus exposure to the suspension team members damaged the perfusion circuit) needs to be addressed.

Many, indeed most, current Alcor members do not have a personal knowledge of Alcor's history that dates back for more than a few years. It is important that some historical perspective be shed on this issue.

For over a decade, as Alcor members, we have watched Mike Federowicz attack other cryonics organizations and their members in a similar fashion and over similar types of issues. Far from being above error or reproach, Mike was amassing a record of personal incompetence and negligence. This record includes a number of actions and decisions of a magnitude that endangered the long term safety of Alcor itself as well as all of the suspended patients.

It would be biased to say that Mike had no talents and never produced anything of value for Alcor during the years in which he was actively involved. The opposite is actually the case. In the middle years of Alcor's development Mike made

tremendous contributions to membership growth. At that time Mike was more adept than anyone except Jerry Leaf himself at persuading hospital administrators and physicians to cooperate. Working with Jerry, Mike made immense contributions to the training of transport personnel. Many of those he trained still serve Alcor today. It was these sorts of contributions that kept Alcor directors willing to work at controlling Mike's negative aspects in order to continue to benefit from his energies.

It is important to understand, however, that years of attempting to channel Mike's energies toward the productive rather than the destructive turned out to be, on balance, just not worth the price. In spite of bringing many new members into Alcor, Mike's disruptive and negative approach alienated as many people as his charisma motivated. Far too many talented and energetic people who would have liked to make a contribution to Alcor have, over the years, been lost either directly or indirectly due to Mike's influence.

When Jerry Leaf was suspended, Alcor lost its most effective means of what Jerry himself called "Federowicz damage control." Alcor could no longer risk the dangers inherent in having a person with a long history of uncontrollable dishonesty and dangerously poor judgment in positions of responsibility. Mike was removed from not only the Board, but also from a position of responsibility as the Alcor Research Director and as the Suspension Team Leader.

We allowed Mike to malign others in cryonics for far too long before understanding that his primary motive was to cover up his own mistakes and poor judgment. Meanwhile, this deception and self aggrandizement damaged other cryonics organizations twofold. First with his innuendo and distortions of facts, and then by sapping their energies by pulling them into unproductive, tedious, interminable attempts at defending themselves.

Now that Alcor is just another stepping stone for Mike to use to gain his own ends, he has turned this strategy against Alcor itself. The humiliation and loss of control Mike suffered when removed from all positions of responsibility now add fuel to his attacks on the organization and its staff.

We need to end our silence about the real reasons for Mike's dismissal. That silence disarms our feeble attempts to defend ourselves. It leaves us without the shields or weapons that will protect us

most: the truth. And if we remain silent, we allow Mike to continue to delude unsuspecting newcomers.

For years Mike Federowicz, by calling himself Darwin, has cloaked himself in the reputation, integrity, and esteem of a celebrated and honored scientist. We strengthen Mike's attempts to degrade Alcor by the false impression of widespread respect that such a title bestows upon him. We belittle ourselves in the bargain. Even more important is the fact that we handicap and confuse newcomers who are misled by the false impression of widespread respect that continuation of this charade implies.

Our silence and acceptance of this situation gives Mike the advantage he needs to spread distrust and rumors through Alcor and weaken it to his own ends. I have often seen him do this very effectively in the past. Unhappily, I see it happening again. But this time the dangers touch home. If Alcor is unjustly weakened, so are the chances for me, for my life partner, for my suspended mother and father-in-law, and for friends and other suspension patients whom I have not yet had the privilege of knowing personally. Silence is no longer an option I feel I can afford. It is the very competence and integrity of Alcor's staff and suspension team that compels Mike to use covertly destructive tactics rather than engage in constructive actions. To those who can see through the smoke screen, it is actually a compliment to Alcor. But this is not easily understood by those without sufficient historical perspective.

The Alcor suspension team and the Alcor staff deserve credit for the monumental effort — and the results — which reestablished Alcor's suspension capabilities after the loss of Jerry Leaf. They do not deserve an undefended battering from an individual with a long track record of poor judgment and a thinly disguised personal agenda.

These current Alcor superstars, together with the suspended patients (including two of my own family members and several dear friends), and the newer and less well-informed membership, all deserve to be championed. As one of the founders of Alcor, perhaps my extensive experience with the abuses from and damage by Mike Federowicz can serve this purpose.

Due to a sense of proper business conduct and other concerns, not all members of the Alcor Board of Directors feel comfortable with my open publication on

this issue. However, it is my opinion that if we do not let Alcor members know that Mike's dismissal was for a long history of perilous judgment and actions, we will have failed the Alcor membership by default. They will not be able to make informed judgments about current controversies. The Alcor membership does not deserve to be abandoned in this manner.

Some in Alcor have expressed discomfort with the bar-room brawl that a letter of this kind could bring about. I do not intend to engage in any such activity in spite of the retaliation I expect this to bring upon myself. The unproductive nature of such a discourse is all too familiar to those who have been drawn into them in the past.

Fred Chamberlain (whose letter on this same subject appears in this issue) and I do not expect anyone to take our word on these issues. We are sure that Mike Federowicz has a different version to tell. Those who are interested in the truth about these matters should investigate these issues for themselves.

Talk to those whose opinions you trust. Talk to as many persons as you can for the broadest perspective possible, including Alcor directors, staff, trained transport representatives, and local group leaders and coordinators. The final analysis must be left to each individual, but at least the issues are now visible. Our phone number is available to any Alcor suspension member (and their families) who want to further clarify our positions.

Boundless life,
Linda Chamberlain

Dear Editor,

I am replying to your response in the July issue of *Cryonics* Magazine to my letter in the *same* issue regarding changing the structure of how the Board of Alcor is elected.

The manner in which you responded to my letter gives further validation to my opinion that there is a dire need for the restructuring of the Board of Alcor and how it is elected.

You either did not know or chose not to follow the policy of *Cryonics* magazine which is: any response by the editor to a letter submitted to *Cryonics* magazine is to appear in the *following issue* of *Cryonics*, not in the same issue.

Your actions (mentioned above) as Editor of *Cryonics* Magazine is a minor

example of how you, and many of the board members, act or fail to act on major issues regarding Alcor.

In your letter in the July issue of *Cryonics*, you said that you wish to see the Directorship of Alcor chosen on the basis of knowledge, ability, and values, not charisma and political appeal. I totally agree with you, Ralph, and those reasons are the very reasons I, as do many others, feel that there is an extreme need for change in the election process of Alcor.

If the criteria you mentioned was followed when you, Ralph, were elected to the board, I fail to see how you would be on the board today. I cannot see how your three and half year assignment in the military as a musician in the band, and the year or so experience as a bank teller *before* you became an employee of Alcor (and at that time not even a fully signed up member of Alcor), and then your experience as an employee of Alcor for about a year and a half can be viewed as having any basis other than charisma and political views. I am not saying that you are without values however, but your judgment can certainly be questioned on some very important issues.

Last year after much protest from the active members of Alcor, calling for the removal of the President of Alcor (past president) *you* called for his removal, then backed down because of *your own* personal interests, not for the good of Alcor. I feel (as do others), your judgment was flawed, and improper in *attacking* in *public* a physician who was assisting Alcor in a possible suspension last year. Your actions in that situation appeared to be influenced by the fact that the head of the suspension team is romantically tied to you. I fail to see your logic in voting for a move to Scottsdale, Arizona, and immediately afterward contacting the founders of Alcor to search for a building in Northern California.

You, as well as at least two other members of the board, responded publicly to a question from an Alcor Member as to your opinion of the proposed move to Scottsdale (a major decision in my book), with statements to the effect, that you did not know very much about these things, but you trusted certain board members' judgment in this regard.

This kind of response is all too common from yourself as well as several other board members.

In March of 1993, the board did not pursue the same building you are currently proposing because it did not have full sup-

port of the board. One of the major reasons was, Alcor could not afford it. It was a bad investment for investors because the majority of the building would be occupied by tenants.

Those issues I have just mentioned still stand and you have been advised of this, yet the majority of the board, voted for this move.

I feel many of the current board members lack the experience to make sound decisions, (especially financial), and ignore the advice of members who have this experience and make their living in this capacity.

It is my opinion that many of the board members do not take the time to examine their moral obligations as a board member, and the legal ramifications of some of their actions. The few members of the board who do, do not have an easy time of it with their colleagues.

My arguments in opposition to employees on the board are these: Alcor has enough members with extensive experience, which would be applicable to the position of a board member, who would like to be on the board, therefore, it is no longer necessary for employees to be on the board. It wasn't even necessary when you were appointed to the board.

In the case of yourself, Ralph, you wear several "hats": You are Editor of *Cryonics Magazine*, (a full time job); you are on the suspension team; you are the office manager at Alcor yet quite often you are working at home during the day in the capacity of one of your other positions. You are a vice president of Alcor, and an Alcor Board Member.

As a board member of Alcor you have to make rational decisions which can affect the office manager, the magazine, the suspension team, and moreover *who* heads the suspension team.

Emotions are not always rational. It would be difficult for *anyone* to be objective as a board member when their decisions will affect them as an employee.

Hugh Hixon, an excellent employee of Alcor, is also a board member. He has acknowledged at many Alcor meetings his lack of experience in business, yet he is continually in the position of making such decisions and to his own acknowledgment, refers to the opinion of certain board members. Hugh also lives at Alcor, and therefore has a further emotional attachment to Alcor which can and has put him in compromising positions.

Each and every board member is responsible for their actions. As a longtime

member of Alcor seeking a responsible board, I feel very strongly that the current board has a moral obligation to its members to restructure the board in order to open the door to potential board members who do have the knowledge, ability, values, and *leadership skills* necessary to be a board member.

A few members of the existing board have the qualities you listed, Ralph, but very few. Ignorance is *not* bliss, and the lack of judgment on the part of the inexperienced members has and continues to put the experienced members, not to mention Alcor members, in jeopardy.

Please take this into consideration before you vote in this upcoming election.

— Maureen Genteman

While in general this Editor does intend to continue the eminently sensible practice and policy of responding immediately to salient questions and commentary in the "Letters. . ." section (See below for an explanation of the "Editorial Response Policy" issue that has become so suddenly and "mysteriously" popular), the various issues unearthed by Ms. Genteman are far too complex — and subjective — to warrant such an exchange. I have a strong aversion to arguments from authority and innuendo, and believe they can be responded to appropriately only through providing the context of each issue, in as much detail as is required. This would require many magazine pages. I encourage anyone who wishes to hear or discuss my perspective on any of these issues to call me or write to me. — Ed

To The Editor of *Cryonics Magazine*,

I see that yet another policy of Alcor's is not being respected: namely not using letters to the editor as stalking horses for Alcor political diatribe. Here I refer to the lengthy responses by Steve Bridge to Saul Kent and Tanya Jones to me. That I should be the "victim" of this kind of thing is more than a little ironic and, I must admit, a bit amusing (I am chuckling as I write this). I say this because I used to be the biggest offender at doing this to others (so, at least in my case there is some justice: What goes around comes around).

This policy came about when Frank Rothacker complained to the Alcor Board and Editor (then me) about this ill-mannered and counter-productive behavior. Jerry Leaf led a crusade to change the

policy and got me to grudgingly agree (translate: kicking and screaming). However, after the passage of a short time (a year or so), I came to realize that it was a good policy because it was a fair policy. The editor has a tremendous advantage: he can rebut *immediately* without fear of rebuttal until the next month (or ever, if s/he chooses to shut down the debate). The resulting short letter followed by pages of attack (often one-sided) hardly encourages critical (or even *any*) letters to the editor. As soon as this policy was implemented both the quality and quantity of letters to the editor rose sharply.

Hugh Hixon certainly knew of this policy as he often enforced it on me. Steve Bridge certainly knew of it. I have seen nothing in the pages of *Cryonics* to the effect that it was dropped, and, more to the point, see no reason why it should be. In my case, no apology is necessary. I will take the oversight as quid pro quo for my past offenses. However, I think you do owe Saul an apology. Above all, you owe all your readers and correspondents the assurance of better treatment in the future.

Finally, I hereby request that *all* of the CRYONET dialogue with Tanya be published. What was published was hardly representative, and hardly fair.

Sincerely,
Mike Darwin

Since Mike forces my hand, I will explain to Cryonics readers what he and I (and many others) already know: that Jerry Leaf's "crusade" to form the Editorial Response Policy referred to by Mike and Maureen Genteman and Saul Kent (below) was motivated by his outrage at Mike's inability to observe even the loosest guidelines of tact and objectivity in responding to letter writers. Jerry was extremely explicit about this with me, stating that in reality this was a Mike Darwin Policy, not a Cryonics magazine policy. And he was quite content to let that policy accompany Mike in his departure from the Editorship of Cryonics.

Obviously there has been nothing in the pages of Cryonics to the effect that this policy was dropped. Just as, prior to Mike's above letter, there was nothing in the pages of Cryonics to the effect that it ever existed. It seemed, at the time, unwarranted to announce that "Now that Mike Darwin is no longer Editor, we feel that we have the self-control to fairly respond to matters of importance and substance in the same issue in which they are brought up."

It is only Mike's attempt to use our tact in this regard against Alcor that necessitates such a statement now.

I regret that my having to clarify this issue might serve to dignify it. The opening words of Mike's letter make it crystal clear that this policy is the furthest thing from his agenda. — Ed.

From Stephen Bridge, President:

More probably needs to be said about this aspect of editorial policy, and I will do so — next month.

Dear Editor:

In the July/August issue of *Cryonics Magazine*, you engaged in a practice which, I believe, is unfair and is in direct contradiction to Alcor policy.

In printing my letter to the Alcor Board, in which I complained about the board ignoring the wishes of the Alcor membership (on p. 3), you printed Alcor President Steve Bridge's response to my letter without informing me that you were going to do so, and without giving me a chance to reply to his letter.

The reason I believe this practice is unfair is because it gave Alcor management the opportunity to rebut my criticism of the board at greater length and in greater depth than was conveyed in my letter, without giving me a chance to answer this rebuttal in the same issue of the magazine.

The practice of "ambushing" Alcor's critics was common in the early years of *Cryonics Magazine*, when Mike Darwin was editor. It was stopped by Jerry Leaf, who pointed out that the practice was unfair, which led to a policy statement that all contributors to *Cryonics* would be given an opportunity to answer the rebuttal of management to their published letters in the same issue in which the rebuttal is printed. Ironically, Mike Darwin has also fallen victim to an editorial "ambush" in the very same issue of the magazine (on p. 4).

In my letter, I stated that I had been authorized by the Alcor Board (in October 1992) "to set up public meetings to enable Alcor members to discuss their ideas about changes in the structure and organization of Alcor" and that, instead of local meetings, "I decided to set up a conference to discuss these issues." Steve responds that he was "...not aware: that I 'considered this a substitute for these local meetings or

part of your authorization by the Board. I thought, and I believe the other Directors thought, that this was a personal Saul Kent project to discuss change in cryonics."

In fact, I first encouraged local cryonics organizations to discuss these issues at their meetings and asked them to send me an audio tape recording of their discussions, with the idea that I would have two large regional meetings (on the east and west coast) afterwards. Since only the Indiana group followed through on my request, I gave up on the idea of both local and regional meetings and decided, instead, to put together a single, large conference that everyone would be urged to attend.

Every step of this evolutionary process was reported to the Board at the November and December, 1992 and January and February, 1993 meetings. If Steve says that he (and his fellow Directors) thought the conference was strictly "a personal Saul Kent project," I suspect it was because it was my idea to explore these issues in the first place, and because for most members of the board, the decision to "authorize" my project at the October meeting was a political one, rather than an indication of real interest in the project.

Steve insists that, because I invited members from other cryonics organizations to attend the conference, he saw no "intent" to make the conference a "referendum for change in Alcor that would offer 'the wishes of the Alcor membership.'" I never said, nor do I believe, nor would I ever be in favor of, such a conference being a "referendum for change in Alcor." I simply thought then, as I do now, that such a conference was a good opportunity for Alcor's Directors to "listen" to the wishes of the Alcor membership and to "respond" to these wishes, and I was disappointed that so few Alcor Directors attended the conference. The reason I invited members from cryonics organizations other than Alcor was that I thought the issues discussed at the conference would be of interest to them.

Steve suggests that it was inappropriate for me to refer (in my letter) to the conference as an "Alcor conference" because cryonics organizations in addition to Alcor sponsored the conference. As he put it, "To characterize this as an Alcor Conference for Change after the fact is a very political move and does not reflect reality."

Actually, I did not call the event an "Alcor Conference" anywhere in my letter.

I did, however, focus on the opinions of the Alcor members at the conference for a very good reason. . . because 45 of the 50 people in attendance were, in fact, Alcor members, while two of the others were ex-Alcor members with close ties to the organization, and only one was a member of another cryonics organization. If describing what happened at the conference and then complaining about the lack of interest among Alcor's Directors is a "political move" that "does not reflect reality," then we must have attended different conferences.

Every Alcor director except Carlos Mondragón and Keith Henson promised me that they would attend the conference and participate in one or more of the panels, yet only three of these six Directors attended the conference, only one of them (Steve Bridge) attended more than one panel, while two Directors (Mark Voelker and Dave Pizer) failed to inform me that they were not coming.

Steve's statement that one Director (who he fails to name) "canceled his attendance based on what he thought were physical threats against him by another individual who was to be there (also not named)" is obviously based upon information given to Steve by that Director, but denied to me, the organizer and director of the conference.

Steve's statement that he thinks "it is possible that some Directors thought that the conference was mostly a chance to promote *21st Century Medicine*" lacks credibility because not one of the Directors told me that he or she was not coming to the conference for that reason, and because only one of the seven panels at the conference dealt with matters related to *21st Century Medicine*.

Steve's remark that he doesn't think "the Directors are 'blatantly' ignoring the wishes of the Alcor membership" is true when applied to the conference because most of the Directors were simply not there. On the other hand, many Alcor Directors have, indeed, been ignoring on a regular basis the advice, suggestions, recommendations, and professional judgment of some of Alcor's most qualified and experienced members.

As Dr. Steve Harris, the only Alcor member who is both a practicing medical doctor and a research scientist at a major medical center, put in a recent posting on Cryonet:

"I've now seen Alcor divest themselves of a man with a lifetime of

cryonics experience (more than anyone now breathing), so that he is not available during Alcor cryonic suspensions in any capacity. I've seen Alcor ignore advice from an Alcor psychologist (as well as my own advice) when it came to managing a threatened suicide by a member (later carried out). I've seen Alcor ignore the advice of a small computer system expert (someone who made a living it) when it came to Alcor's small computer system. I've seen Alcor ignore editing advice from a professional writer. I've seen Alcor ignore investment advice from both a man who makes his living as an investor, and another man who is now CEO of one of the largest investment firms in the country. I've seen Alcor ignore business advice from members with great business experience. I've seen Alcor ignore proffered gifts from both the wealthy and not so wealthy. . . In my own case. . . as a physician I happened to cross Alcor management in the course of a rather ticklish medical management problem, during which certain lay Alcor personnel, who'd never seen any medical case remotely like it in their lives, nevertheless finally decided that my input was screwing things up, and that they knew better what should be done (as it later turned out, they did not)."

Steve Bridge ends his response to my letter by stating that: ". . . the inference that Alcor asked you to set up this conference and then proceeded to ignore the results is a severe distortion of the situation." He's right. Most of the Alcor Directors were never interested in finding out whether Alcor members want change or what that change might be. The fact that they ignored the conference and showed no interest in its results is not surprising because — as Dr. Harris and others who have crossed swords with them know very well — they're far more interested in approval than in advice.

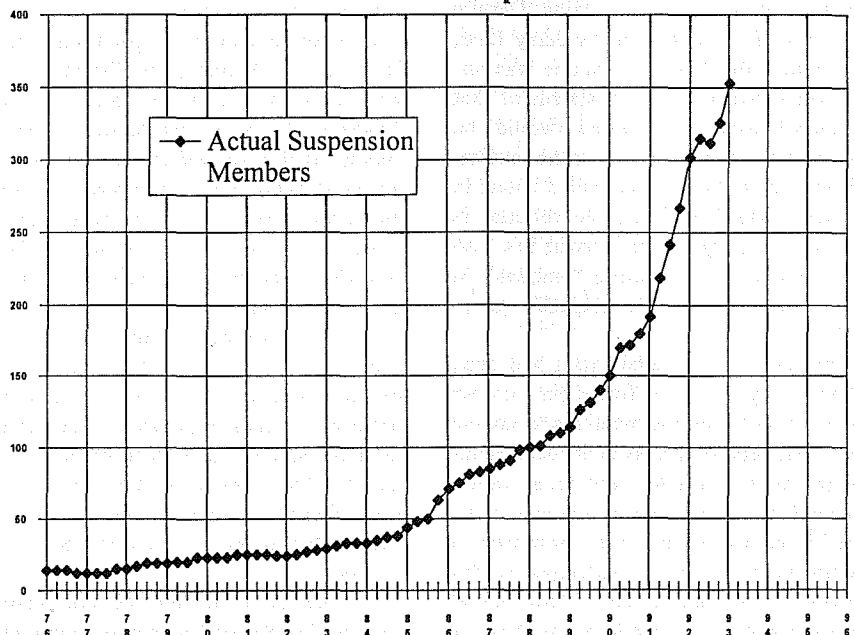
Sincerely,
Saul Kent

How Many Are We?

Alcor has 361 Suspension Members, 494 Associate Members (includes 103 people in the process of becoming Suspension Members), and 27 members in suspension. These numbers are broken down by country below.

Country	Members	Applicants	Subscribers
Andorra	0	0	1
Argentina	0	1	1
Australia	13	1	4
Austria	1	0	1
Brazil	0	0	1
Canada	11	5	43
Costa Rica	0	0	1
Denmark	0	0	1
Estonia	0	0	1
Finland	0	0	1
France	0	0	2
Germany	2	0	2
Holland	0	0	1
Italy	0	2	1
Japan	2	0	0
Lichtenstein	0	0	1
Lithuania	0	0	2
New Zealand	0	0	1
Russia	0	0	1
Spain	6	2	0
Sri Lanka	0	0	1
Sweden	0	0	2
U.K.	13	3	8
U.S.A.	313	89	313
Ukraine	0	0	1

Total Alcor Suspension Members
Linear Graph



Cryonics and Armand Karow, Jr.

Michael Perry

"Most of us now breathing have a good chance of physical life after death — a sober, scientific probability of revival and rejuvenation of our frozen bodies."¹

This quote from Robert Ettinger's *The Prospect of Immortality* expresses the hope most of us feel through cryonics, an opportunity he further characterizes as "... the greatest promise (and perhaps the greatest problem) of all history ..."¹

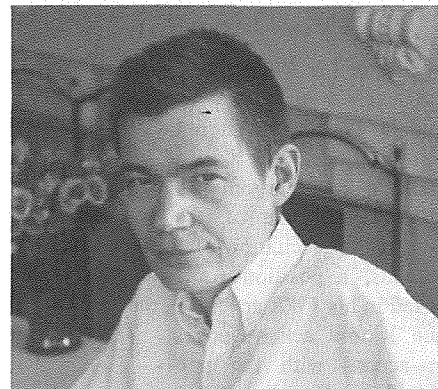
While a relative handful of us have been attracted to this promise (more than repelled by any "problem") and are trying to make it reality, most of the world is still uninterested. Among the "uninterested" are most scientists, whose support could lend credibility that would lead to more research and faster progress, as well as more people being frozen. Sadly "uninterested" are most cryobiologists, whose specialty (biology in general at low temperature) is particularly relevant. Most cryobiologists to this day, in fact, still dismiss cryonics as a "cult" phenomenon without scientific foundation. (There are powerful scientific arguments to counter this pessimism, but they generally find expression *outside* the confines of cryobiology, e.g. the published work of encryption expert, Dr. Ralph Merkle.²)

It was in the 1960s that cryonics got its start, and when in turn scientific opposition hardened, particularly among cryobiologists. Most in fact simply refused to have anything to do with cryonics, or limited their public comments to a handful of words, usually negative. One cryobiologist who *did* interact, on more than a minimal level, was Armand Karow (pronounced *KAY-roh*) Jr. His story is useful, I think, apart from its purely historical interest, because of what it tells about the thinking of a mainstream scientist in a field adjacent to cryonics.

Cryobiology at this time was fairly new itself, having started for most intents and purposes in 1948 when Drs. Polge, Smith, and Parkes added material from a mislabeled bottle to bird sperm then froze it to dry ice temperature. The mislabeled material was glycerol and it had the unexpected property that the cells, on warming, regained life. By the mid-1960s some impressive results had been obtained with at least the partial freezing and full resuscitation of organs such as the cat brain and whole mammals, such as hamsters. Dr. Karow himself had played a significant part, particularly in his published studies of cooling and warming techniques, the properties of different cryoprotective agents, and the survival of various mammalian hearts after some freezing.³

Some of Karow's work was reported favorably in cryonics newsletters, then in July 1966 a letter from Karow himself found its way to the then-leading cryonics publication, Ev Cooper's *Freeze-Wait-Reanimate* (*FWR*). At that time Karow headed Interscience Research in Jackson, Miss., a nonprofit group devoted to perfecting techniques for freezing and resuscitating large tissue masses. At first they planned to perfect organ preservation, then freezing to dry ice temperature and resuscitation of whole mammals. The group had eight years' experience and had just resuscitated a rat heart after (partial) freezing. Karow cautioned: "The work is often tedious, time consuming, and unproductive regardless of the effort and money invested," and concluded his letter with a plea for donations from members of Cooper's organization, the Life Extension Society.

Karow's next appearance in cryonics print was in the October 1966 *FWR*, where a debate was raging over the pros and cons



of cryonics. Karow took the side of the "negative, friendly opposition" arguing that cell damage on freezing by then-current techniques is too severe to ever allow any reasonable chance for resuscitation. (This position, as expected, would be roundly challenged by Cooper, Ettinger and others.⁴) Karow concluded with a thanks for donations to date of LES members to Interscience Research, and another plea for funds.

By this time a new publication, *Cryonics Reports* (*CR*), of the Cryonics Society of New York, was challenging the primacy of *FWR*, and in fact Karow would not publish in *FWR* again. The November 1966 *CR* however, contained a fairly lengthy report by Karow, "The freeze preservation of organs and animals," which included a brief history of cryobiology, a discussion of problems, and recent research results. Among the latter was the successful resuscitation by Karow's own group of dog, pig, rabbit, guinea pig, and rat hearts after brief storage at -20° C. Karow comments that "Being able to freeze a dog's organs to -20° C. for 20 minutes, although a definite step forward, is obviously a long way from freezing an entire human being at -195° C., storing him for a long period of time, and finally thawing him so that he returns to the same state of function he had prior to freezing." Results achieved to date are deemed encouraging, however, and there is a call for high-level commitment: "The field of cryobiology is in need of vigorous, imaginative, and creative thinking from individuals in many disciplines including biology, chemistry, physics, engineering, and medicine."

In all, Karow's contributions are spread over 12 issues of *CR* with dates ranging up to 1970 (when the title of the

publication had changed to *Immortality*), most of it appearing in 1967 as a regular column, "Scientifically speaking." A brief survey of this material offers further insight.

After the CR article discussed above, the next was in January 1967, a critique of Suda's work with cat brain freezing and resuscitations. This work in turn has been hailed by many cryonicists as offering significant evidence of the likelihood of eventual resuscitation of today's cryonics patients, a position Karow strongly opposed in his FWR article. In the Suda critique Karow acknowledges, in accord with the published results, that "a rewarmed cat's brain will resume EEG activity after cooling to -20° C," but questions whether the brain is, in fact, free of substantial injury: "The EEG tracings obtained by Suda probably could have been generated even if a large number of the cells were damaged." (Later work, however, suggested little damage for brains stored for no more than 5 days at -20° C.⁵)

The next contribution was an article, "Goal: human cryo-anabiosis," that ran as a five-part serial, Feb.-Jun. 1967. The five subdivisions cover (1) hypothermic (above-freezing) preservation, (2) tissue perfusion, (3) heat transfer rates, (4) need for cryoprotective agents, and (5) need for research. Part 5 is also a commentary on the Bedford freezing which happened the previous January. Karow commends Bedford for, in addition to the freezing, providing a fund for cryobiological research (unfortunately to be consumed later in litigation, so that essentially no research was actually supported).

This is followed by "The secrets of life," a three-part serial ending in September, dealing with biology at the molecular level. There was one more article in December, the last in the "Scientifically speaking" series, "Supporting scientific research." It is noted that the brain of a dog can survive up to 20 minutes of warm interruption of blood flow without sign of damage (rather than the 3 minutes only that was previously thought the upper limit) but that research to establish this was expensive. More generally, "It has

been estimated that the average cost of research represented by every paper that appears in a biomedical journal is \$20,000." The enterprising scientist must turn to private, philanthropic organizations to support the more novel lines of research (this presumably would include any research mainly of interest in cryonics). One such organization was the Harlan Lane Foundation, and the article concludes with a plea for support of this institution from cryonics organizations.

There was a final article by Karow that appeared in the Aug.-Sep. 1970 issue

is related to cryonics and who arguably could have done something for the credibility of the movement by being a little less negative. Why in turn, if he was so negative, did he trouble to write articles for cryonics publications? Through a confidential source I was able briefly to contact Dr. Karow. He is now in his early 50s, and still very active in his field. Thus he would have been in mid to late twenties when the cryonics articles were written, and apparently oriented, with youthful enthusiasm, toward ambitious projects that called for wide-ranging funding solicitations. The scientific mainstream, in particular the cryobiological fraternity, was still in something of a fluid state regarding cryonics, and opposition, though growing, had not totally solidified. Below are further impressions of the phone conversation I had with Dr. Karow on July 16, 1993.

Karow was a kind, soft spoken man, willing to listen as well as talk. He was very firm, however, about cryonics, calling it "hucksterism of the grossest sort" and saying that it would be "far cheaper to dream of reconstituting mummies." It didn't seem to make much impression when I pointed out that with mummies

there is no preservation of the brain, unlike cryonics. I asked if he had heard of nanotechnology; he had not. I tried to explain about the possibility of manipulating matter at the atomic level, that this should allow repairs of freezing damage to frozen tissue, etc. He said it was "pure speculation" and "pretty much fantasy." He compared visions of the future to religious myths. On the issue of whether he might have religious beliefs that would affect his perception of cryonics he said, "I don't understand supernatural phenomena, whatever that might be," and reminded me that as a scientist he dealt with things that could be observed. His scientific interest was not cryonics but "the clinical problem of preserving organs for transplantation." Why then, had he contributed to cryonics publications? Mainly, he said, because he felt he had an obligation to inform people of the research their tax dollars were supporting. He had in turn been "severely criticized" for thus interacting with the cryonics fraternity and was especially con-

TABLE 1

FACTOR	REMEDY
1. Biochemical rate changes	Very fast freezing
2. Thermal shock	Slow cooling
3. Solute concentrations	Fast freezing
4. Ice crystal formation	Very slow freezing
5. Biologic variation	Optimal freezing rate as determined for a given tissue

CRYONICS REPORTS 4/67
from Human Cryo-Anabiosis by Karow, part III

(the magazine now having been retitled *Immortality*). It is a review and critique of the book *Suspended Animation* by Robert Prehoda (Chilton, 1969). Prehoda argues in favor of the scientific extension of the human lifespan, in which either hibernation or freezing could play an important part. He did not, however, advocate the "freeze-now" approach of cryonics, feeling it was too long a shot and the funds should be used for research and development. (Cryonicists in turn counter that it's not that long a shot, given anticipated future technology, and the person is lost for good if not frozen immediately after death.) When it comes to life extension, however, Karow is opposed even to the "research-now" approach of Prehoda, feeling instead that funds should be used to better the quality of life of those still animate.

So, in retrospect we are left with the question, which we frequently ask, of what makes a non-cryonicist tick. This is particularly significant in the case of a scientist like Armand Karow Jr. whose specialty

cerned that he not be characterized as being "involved in cryonics." (One other interaction he was taken to task for, according to my source, was to acknowledge in a paper some funding support from Cryonics Society of New York.) He also noted that it was "extraordinarily difficult" to cryopreserve tissues and didn't see much prospect for a radical improvement in techniques. On the other hand, he said, the future is "difficult to prognosticate," and noted the many unexpected things that have happened since the 1950s.

In short, I see a scientist with interests and specialization that seem to suggest — but in fact preclude — a favorable opinion of cryonics. Cryobiology is not cryonics. The kind of technology we envision for

resuscitation would obsolete and far transcend both cryobiology and medicine, as understood today. The people who are closest to being "experts" on cryonics are not cryobiologists or doctors but people who work in information processing or are trying to chart the course of the new field of nanotechnology. On the other hand, there are others from many different specialties, including cryobiology, who *are* supporters of cryonics. They are more open-minded about the possibilities, and undoubtedly also, more interested in the main goal of biological immortality.

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Understanding Alcor: Notes from the President

Patient Care Funding Concerns

Stephen Bridge



During at least the past decade, the two most important questions for Alcor's Board of Directors have been: 1) How do we perform cryonic suspensions well? and 2) How do we keep our patients in suspension? As members have pointed out to us recently, these two concerns are also uppermost in their minds and are a major component of their level of confidence in Alcor. Question #2 has three basic parts — the physical and engineering aspects, legal protection for the Patients themselves, and (my subject for this column) providing *financial protection*.

At the end of December, 1988, Alcor had 11 patients in suspension and \$183,149.13 in the Patient Care Fund (PCF). Only four years later, at the end of 1992, there were 27 patients under Alcor's care and \$1,237,444 in the Patient Care Fund. Clearly, this is a much greater responsibility for Alcor's Directors.

For quite some time, Alcor has been calling the Patient Care Fund the "Patient Care Trust Fund (PCTF)," while working to actually make it one. This effort has been more difficult and frustrating than one might imagine. We want to make it clear that, right now, this money is *STILL* not a trust fund. In fact, because of how long this is taking and because some Directors feel the evidence is growing that a trust fund will be very difficult to create, the Directors are considering changing the name back to simply the "Patient Care Fund." This article will give you some background in this, and also discuss other complex issues of Patient Care finances.

I should remind our members and readers that, because of our non-profit, charitable status (501c3), Alcor does not keep separate funding accounts by patient. All suspension funding is grouped together in the PCF so that all patients are treated

equally (with the exceptions of the inherent differences between Whole Body Suspension and Neurosuspension).

For the same reasons, Alcor does not establish individual trusts for each patient, although some Suspension Members have established their own personal trusts to transfer the money to Alcor when they become patients. In Alcor's structure, all suspension funding is *donated* to Alcor, and Alcor agrees to use that funding to pay for an experiment that consists of the cryonic suspension, maintenance, and (possible) reanimation of that patient.

In late 1991 (before I was a Director), as the Patient Care Fund began to grow, it became apparent that some layers of protection were going to be necessary to safeguard the money in the Fund. Two primary concerns were expressed — first, that the PCF was a "deep pocket" in a lawsuit against *any* part of Alcor's operation

and, second, that simple policy constraints might not be enough to prevent future Officers or Directors from using the PCF in inappropriate ways (to be sure, not all Directors agreed with this second concern). In the fall of 1991, then-President Carlos Mondragón asked an attorney to look into various strategies for protecting this Fund.

In October, 1991, this attorney responded with an opinion that such a trust would be difficult to establish, because of the unique business Alcor was in, and the difficult task of deciding who the "beneficiary" of the trust was. Since the money was *donated* to Alcor and since the patients have no legal existence anyway, the patients could not be the beneficiaries.

[READER'S NOTE: A *trust* is a legal device by which property is held by one person (the trustee) for the benefit of another (the beneficiary). The person who sets up the trust is called the settlor. The property that is held in trust is known as the corpus, or trust fund. Brown, Byers, Lawlor. *Business Law*, Glencoe / Macmillan / McGraw-Hill, seventh edition, 1989.]

In November of 1991, the Board apparently moved to change the Patient Care Fund into the Patient Care Trust Fund (PCTF); that is, to rename the Fund by adding the word "trust." Minutes of that time were not being kept very accurately, and the November minutes do not actually mention such a decision. However, in a memo later in November, Carlos called it the "Patient Care Trust Fund." There was speculation at that time that just *naming* it a "trust fund" gave it some kind of legal protection. Supposedly Carlos had been given legal advice to that effect (although this was not part of the October letter from the attorney). In any case, attorneys I later consulted felt that such speculation was most likely incorrect.

Some further questioning of attorneys may have taken place; but, as far as I am aware, nothing concrete was done to establish a trust fund (although some members and Directors continued to ask about it) until the Board meeting in September, 1992, at which Allen Lopp, Mark Voelker, and myself were elected to the Board. At that meeting, a new motion was passed to formally call the fund the Patient Care Trust Fund. In addition, the minutes read, "It was generally agreed that an attorney should be consulted for further advice on

how to make the PCTF more like a trust, but no resolution to this effect was passed."

Carlos Mondragón asked the attorney from the previous year for more advice on this question, but received an answer which contained no new information at all. At the October Board Meeting, Carlos reported on this letter. Carlos and Director Ralph Whelan agreed to draft a preliminary trust document themselves and to submit it to a new trust attorney.

While a draft was not written, on December 10, Carlos did send a long letter about a trust document to another attorney who had done work for Alcor in the past. We never received a reply. After I became President in late January, I called his office a couple of times and left messages but did not receive a response. On March 22, 1993, I sent a formal letter to this attorney, instructing him not to proceed.

Meanwhile, on March 3, 1993 I had, on the recommendation of Dave Pizer, visited the offices of Evan Stone and Judy Kolodny Pressman at the legal firm Kolodny and Pressman in San Diego. This firm had the reputation of being good trust attorneys. I detailed our situation in a two hour meeting, gave them a mass of materials, and left impressed with their interest and capability.

Progress was very slow on this, as they absorbed a mass of information about cryonics and Alcor. Several calls by me elicited only slight progress until the middle of this July. Perhaps trust attorneys are all very slow, or we have been unlucky, or this is just a very complicated sort of trust.

When I spoke with Ms. Pressman in the middle of July, for the first time I began to see what the real problems were with making the Fund into a trust. She found it impossible to reconcile what she perceived to be our requirements. Carlos Mondragón had been adamant that the laws which prescribe the duties of non-profit Boards of Directors prohibit the Directors from giving up any control of Alcor funds, and therefore the Alcor Board of Directors as a whole is the only possible trustee. But, as Ms. Pressman pointed out, since Alcor owns the money and since the patients are not legal persons, the patients cannot be beneficiaries. What the Board appears to want, to her, is a trust where Alcor is the settlor, the trustee, and the beneficiary. Ms. Pressman called this a "pipe dream" trust, otherwise known as "not a trust." (We're going to be checking with attorneys who specialize in non-profit corporations to see what is actually

possible.)

Another problem, (which could be dealt with, perhaps, but only with much difficulty), is the "rule against perpetuities." Simply, a trust must have a fixed ending point, so that the trust is owned by the beneficiary outright not later than 21 years after the death of some person alive at the creation of the trust. Ms. Pressman is not aware that anyone has seriously tested the question, "How does one provide for a trust that lasts indefinitely, so that it protects the lives of persons who are not (legally) *alive* or *persons*?"

An interesting alternative, which at least two attorneys and several Alcor members have suggested independently, might be to make Patient Care an entirely separate corporation, with a separate Board of Directors. Several people think that separate companies handling the three basic activities of a cryonics society (suspension, storage, and research) might be the best way to organize cryonics in the future.

One action that has focused recent attention on the Patient Care Fund Investments is the Board's deliberations on whether to use some of this money as part of a purchase of a building. Currently, about \$64,000 of the Patient Care Fund is invested in real estate. About \$36,000 is invested in Symbex Property Group, which owns the Riverside building Alcor currently occupies. (Approximately \$25,000 was a member's investment in Symbex donated to Alcor as part of a pre-paid suspension, and \$4,000 was a member's investment donated to Alcor to cover bills from a relative's suspension.) Another \$28,000 is invested in the partnership that owns the Alcor-UK building in England. The Board of Directors has proposed that some amount of money be made available for investment in the partnership or corporation that may be formed to purchase a building for Alcor in Scottsdale, Arizona. \$20,000 from the Patient Care Fund has already been placed as a deposit on the building, with the conditions that 1) if the building is not purchased, the amount will be refunded to the PCF, and 2) if the building is purchased, this money will represent an ownership position for the Patient Care Fund.

I have heard all kinds of suggestions in this regard, from one extreme ...

— "It is so important to get out of Riverside for the safety of the patients that Alcor should do whatever is necessary to make this pur-

chase, and it is a proper use of the Patient Care Fund to invest in a building which will safely house the patients as long as necessary."

... all the way to the other:

— "No amount of Patient Care money should ever be used for a building, even if the patients are in danger where they are."

Personally, I think that patient safety includes a safe building and I could justify some limited amount of money from Patient Care being used in this purchase. I have set my own limits at \$130,000 (approximately 17% of the purchase price of the building in Scottsdale) maximum. I would certainly prefer that *all* of the money which Alcor invests in such a building come from directed donations from the members for that purpose. And I would not vote to use Patient Care funds in that way if such use is prohibited by the Patient Care Fund Policy.

Other related areas of Patient Care have been argued about for years:

- How should the funds be invested?
- Who should make the investment decisions?

• What bills are legitimate expenses of Patient Care?

• What is our true cost per year of Patient Care?

• Should the true cost be charged to the patients now, or should it be partially spread out over future patients and current members? (cf., Mike Darwin's restaurant analogy: Does the first customer in a new restaurant pay for the entire building?)

• Armed with such knowledge, what should Alcor's minimum suspension funding levels be?

• How much of the suspension funding should go into Patient Care, how much should be reserved for suspension expenses, and how much should be left for the Operating Fund?

For three months, Michael Riskin (Alcor's internal auditor), Ralph Whelan, and I have been sweating over the issues of legitimate expense, true cost, appropriate funding levels, and funding allocation. When the final version of this report is finally ready (I hope within the next three weeks or less), the answers to these questions may well cause major changes in Alcor's Patient Care Policy. We hope that we

can find ways not to raise either suspension rates or membership fees further, although it is clear that we cannot really charge current patients all of the items that are a legitimate part of Patient Care.

Getting these answers in turn may affect how a Trust Fund Agreement should be written or whether the current Patient Care Fund Policy should be re-drafted.

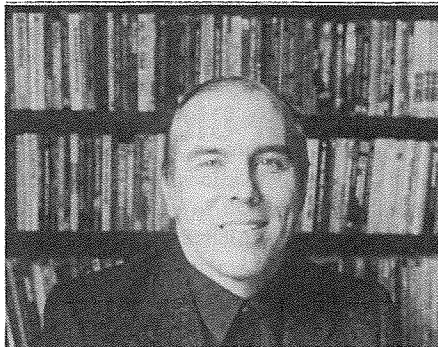
Who makes the decision on investments is equally important. If we set up one formula now and then make the Patient Care account into a Trust Fund, the Trustees then become responsible for the investments and the previous policy is useless. Several members have pointed out that the Directors have not been closely following their own policy this year in the investment area. The Patient Care Fund Policy requires an Investment Committee to "manage the assets of the Fund subject to the following restrictions and limitations:" The last Investment Committee resigned in September, 1992 and a new one has not been appointed. We plan to take care of that as quickly as possible.

The Board of Directors will be struggling with all of these issues in August, as they decide what to do to safeguard the Patient Care Fund.

Future Tech

What to do with a Million Years (Part 2)

H. Keith Henson



My last column ended with 50 trillion explorers swapping tales about what they saw of the galaxy at the Far Edge Party™. After a few millennia some of them should sober up and consider what to do next to avoid boredom. Fortunately there is *plenty* to do, though most of the projects take a lot of time. Moving stars is one such example.

One of the reasons Tipler and Drexler (among others) consider it likely that the universe is uninhabited by technophiles is

its "wild" condition. Intelligent beings (it is supposed) will modify the natural conditions existing so they can make efficient use of natural resources. We can observe a vast wastage of the mass and energy (or mass-energy) in the universe. Much of it is going down black holes, the rest is radiating uselessly into space, so the assumption is that no technophiles are out there. This assumption may be wrong, of course. But if it is right, then we have a heck of a task ahead of us reorganizing the universe.

From all we know about physics, such tasks are daunting, but possible. Take moving a star.

There are several ways to go about moving a star. Perhaps the most elegant is the "solar sail" method first proposed (as far as I know) by Eric Drexler. A space faring society — even one without nanotechnology — can hang a vast array of solar sails over one hemisphere of a star. The sails must be actively controlled to hover on light because the gravity of the

star and the light pressure both fall off on the square of the distance. The net effect is to convert the star into a remarkably sluggish fusion/photon engine. Over the entire life of a star it could build up a few hundred km/sec velocity. Solar powered ion engines anchored in solar gravity would be much more effective, as are minor nudges which result in close encounters between stars. In any case, the very patient *can* move stars.

If a single star can be moved, so can any group of them, even an entire galaxy (the gas, dust, dark matter, and black holes should tag along if the stars are moved slowly). Those concerned with very long term survival might actually have a need to move a galaxy. Galaxies collide, and there might be excellent reasons to modify the collisions so the black holes in the middle of the galaxies miss each other.

Late last year in one of these columns I mentioned that I should write a column on reworking big planets, stars, and black holes into habitats. Paul Birch beat me to it with an excellent article in the December 1992 issue of *Analog* called "A Visit to SupraJupiter." His contention is that if people want to live on the outside of an object instead of the more sensible inside as is done with O'Neill cylinders, they can "roof over" heavy objects at the one g level with dynamic supports (based on objects moving faster than the local orbital

speed) and put a planetary landscape on top of that. SupraJupiter, for example would have 319 times the land area of earth. Such habitats provide a few amenities not found in O'Neill cylinders, such as sunsets on the horizon, "natural weather," and thousands of times the area of the largest possible space colony cylinders.

Paul discussed how almost any massive "underbody" (stars, neutron stars, and black holes) can be used to anchor habitats. Stars of course provide energy from the inside. It will take some clever engineering to spread out the light where it is needed and get the waste heat out. Very large black holes (on the order of 3×10^{12} solar masses) have event horizons of about a lightyear radius, near the one g level. If you backed off ten times that far, the gravity would be a little low (in the 1/100 of a g range), but talk about *area*, the "object" would have about 1200 square light years of surface! It would also take 30 years to send a message half way around it at the speed of light. Even though it may be a little unwieldy, there are some interesting fantasy aspects. A gaggle of geese *could* pull a chariot through the air. Lighting it does seem to be a bit of a problem. Our sun illuminates about 3.6×10^{-9} of a square light year at earth orbit, so it would take between 10^{11} and 10^{12} stars to illuminate the surface, or close to the same

mass of stars as the black hole itself. It would take some interesting choreography to keep them in orbit.

At a gram per square meter, the shell uses up a thousand solar masses for each square light year. A more reasonable amount of mass, including a deep atmosphere, might well be a million times that much.

It is, I suppose, possible that a habitat could be constructed *inside* the event horizon of a supermassive black hole, but it will take some interesting extensions to our current knowledge of physics to find out how they are doing in there. However, living inside the event horizon would likely put a person beyond the reach of governments.

A shell habitat around a black hole has one very valuable feature. It stops the loss of matter from the universe. Thus it is a worthwhile project even if the real estate value is not considered. Of course, the managers of this project would *really* be concerned about galactic collisions. At any rate, it looks like there is plenty to keep us busy on the galactic stage for as long as we wish.

Next time I will try to report on a project Hugh Hixon and I have going to reduce the cost of the liquid nitrogen we use to keep Alcor's patients frozen.

Deathist Bias in Popular Culture

Steve Neal

Introduction

One of the themes Ed Regis uses repeatedly in *Great Mambo Chicken and the Transhuman Condition* is that of hubris, defined as: "Scornful, overweening pride; transgression of the divine or moral law through ambition, ultimately causing the transgressor's doom."

In many ways, the Extropian

philosophy is all about hubris; its exponents strive to reach heights that are generally considered to be the preserve of God(s). One of the top priority items in this striving is immortality, which seems sensible: living forever certainly gives one more time to work on the other stuff. Conversely, practicing (for example) Dynamic Optimism whilst two meters underground in a pine box would be awkward.

For reasons that I will touch on elsewhere, it would be useful to promote the idea of immortality (via cryonics, for the time being) in society-at-large, to the point where Fred and Wilma Average think of death as a long nap in the Whirlpool Frost-Free. This paper is a brief look at where we're at in this regard at present, with particular attention to "the popular culture." I am using this phrase as shor-

thand for "mostly TV and movies," and specifically exclude from it science fiction in print.

Cryonics In Popular Culture

Consider cryonics as depicted in popular culture. One theme that has been explored on numerous occasions is the "thawing out" of someone or something that has been placed in "suspended animation." Without fail, the revived cryonauts are malevolent, ungrateful, and generally Evil. In most cases, they do their best to kill their benefactors and seize control of whatever environment they find themselves in. I don't recall any revival scenario where the until-recently-frozen pop up from their coldsleep capsule and inform their new friends that Mutual of Omaha will cover any expenses incurred in the revival process. Nope, the message is clear: Only bad people get frozen ... either they're fugitives from justice (often attempting to wait out some statute of limitations) or prisoners (as in the "Botany Bay" episode of *Star Trek*) or just bad people who have grown tired of victimizing their contemporaries and — "Whoah! Wouldn't it be fun to victimize some *future* people?"

And it gets worse. Not only are TV/movie cryonauts inevitably Evil, they are generally rather stupid as well. They apparently never even consider such simple measures as leaving revival instructions where the animate can find them: "The future people will think we're sissies if we tell them we need an oxygen atmosphere." They are obviously unconcerned about being revived by a race that thinks intravenous hydrochloric acid is the breakfast of champions. And they obviously expect altruistic attitudes will be the norm among revivers; my own cryonics capsule is going to sport a large "VALUABLE PRIZE INSIDE" banner, along with easy-to-follow assembly instructions. I also plan to follow Egyptian customs, insofar as I will insist on being frozen with two pieces of ID and my MasterCard. Movie cryonauts don't seem to worry about that kind of stuff: "Just make sure you pack my Kill-O-Rama Blaster, doc."

This, though, is pretty blatant stuff. The simple stories of movies and TV require conflict, and they're always hard up for sources thereof. And hey, maybe we will wake up in the future surrounded by the kind of idiots that populate television scripts, and want to wipe them out immediately. If I was revived by the charac-

ters from *M*A*S*H*, my first impulse would be to blast them all, and then go back to sleep until a less irritating civilization evolved.

Immortality In Popular Culture

A more serious bias can be seen when you look at depictions of people who want to live forever. Wishing to avoid going gently into that good night is clearly the mark of a psychopath, not just in Hollywood's eyes, but almost universally in human mythology. Immortality is always associated with evil and corruption; avoiding death is a Bad Thing. Two cases in point:

The recent film version of "*Dracula*" showed the Count being "inflicted" with immortality as punishment for using inappropriate language in church. When, faced with the threat of having Winona Ryder as a girlfriend for all eternity, he finally smartens up and apologizes, he is granted "absolution" by being allowed to kick the bucket.

Of interest to uploading enthusiasts is the sad case of Freddy Krueger, villain of the *Nightmare on Elm Street* films. Freddy, for those of you unfamiliar with the plot, was a serial killer who was killed by a vigilante group; we're never given the whole story, but I surmise that Freddy was pursued and captured by a steely-eyed loner cop who played by his own rules (despite being handcuffed by the courts), then set free by our revolving-door criminal justice system. The occupants of Elm Street (the locale of Freddy's murders) were annoyed enough by this that they ran Freddy down and tossed him into a furnace (presumably, they couldn't buy handguns) at the local school. Unfortunately for them, Freddy's soul was so Evil that it stuck around long enough for the children of Elm Street to grow up, at which point it started terrorizing them by entering their dreams. Change the terminology a little bit, and you've got an uploaded persona mucking about in other peoples' virtual realities. Freddy was eventually put to rest by burying his bones in holy ground, but this only lasted from the end of part III to the beginning of part IV; evidently, there was an offsite backup.

The list goes on... the *Pet Semetary* films, *Twilight Zone* episodes from here to eternity, Dorian Gray, vampires, werewolves, golems ... The concept of Not Dying has become synonymous with "bad"; consider "The House That Wouldn't Die," the

tale of a bad house, or "*The Brain That Wouldn't Die*," the tale of a bad brain [1]. Anything that lasts longer than three-score and whatever is suspect. Even mere longevity is somehow indicative of evil. Anything that's been around for a long time is generally pretty rotten in popular culture. From H.P. Lovecraft on down, we're constantly confronted with "age-old evil" and "horrors from the dawn of time." Nowhere do we find reference to "Evil that was born yesterday" or "Horror from 1977"[2].

The essence of popular immortality, then, can be summarized as follows:

- 1) Wanting to live forever is Evil.
- 2) If you're sufficiently Evil, you might live forever.
- 3) If you live forever, you're Evil.
- 4) Mind your manners, or you'll be sent to your room without Death.

Bright Spots

The popular culture picture of the struggle against death is not all bad, of course. Witness the popularity of *Cocoon*, in which a group of lovable but neglected senior citizens is scooped up by a flying saucer to be taken away to a distant planet where they "won't ever die." Evidently, for those old enough and sufficiently obnoxious, immortality is OK, as long as they practice it somewhere else. Of more relevance is *Reanimator*, in which an obsessive young medical student, Herbert West, has discovered a serum which can revive the dead, though not without some unpleasant side effects, such as marked anti-social tendencies. Our hero's hubris draws the wrath of the Dean of Medicine and the med school's resident "grant machine," who has made his reputation on proving the irreversibility of death. In an interesting reversal of the usual cinematic treatment of overweening pride, West is unscathed and undeterred at the end of the film, while those who opposed him are effectively dead. [3]

So What?

The above discussion raises several important issues that should be addressed, preferably before Alcor is stormed by an ugly torch-waving mob of peasants. The association of immortality with Evil is going to be a major stumbling block in creating institutions (read "propagating

memes") to sustain and nourish Extropian values. The ongoing debates in society regarding right-to-life and right-to-death (among many other things) indicate that there's a lot of people out there who think that the State owns your body. That idea, coupled with an association between immortality and death, could have some serious consequences for present and future cryonauts. It is easy to picture a future where laws arise forbidding cryonic suspension and/or requiring all those presently in suspension be thawed out and given a "proper burial." Once you're frozen, your only "defense" is the continued existence of a social structure that'll leave you alone until methods for bringing you back safely are worked out. [4] It therefore behooves those of us who are planning to be around for a few more years to start planting some seeds that may grow into an antidote to the "Evil Immortal" meme.

One approach is to co-opt some of those hoary old Hollywood themes and put an Extropian twist on them. One particularly intriguing idea is that of an "Extropian Beach Party" film, with Max More in the Frankie Avalon role, Perry Metzger as "Moon Doggie," and Tim May as the Beaver. "The happy-go-lucky immortal denizens of Extropian Beach are challenged to a surfing duel by the local

ephemeral motorcycle gang, 'The Deathists' ..."

Endnote

I have deliberately (or rather, lazily) ignored many instances of the topics under discussion, for one or more of the reasons listed below:

- a) I don't remember them clearly.
- b) I haven't seem 'em personally.
- c) I couldn't find anything amusing to say about them.
- d) My fascist inclination to avoid any film featuring member or members of the vile Fonda clan.
- e) The concepts depicted were either better expressed elsewhere or added very little information.
- f) This entire essay was a setup for introducing the Extropian Beach Party meme.

Notes

[1] That brains have an extremely bad reputation in Hollywood is an understatement, but that topic is an essay in itself. A

friend of mine [5] was an ardent collector of "motile brain" flicks, and put it most succinctly: "There's nothing quite so terrifying as a brain gone bad."

[2] Except perhaps in reviews of classic disco music compilations.

[3] Though not so dead as to preclude their appearance in a sequel, *Bride of Re-Animator*.

[4] This could be used as a counter-argument to the ideas of those whom I term "passive libertarians." This group is characterized by the idea that there's nothing one can do to counter the growth of the state and its associated economic "drag" except wait for it to collapse, suffer through a few years of abject poverty, and rebuild a libertarian society on the ruins. This idea has its merits (given how futile direct confrontation with Big Brother can be) but ignores the plight of the suspended, who can't "survive" a collapse of the economic infrastructure; they need coolant, electricity, and the annuities that pay for their suspension.

[5] This friend is now dead, and therefore presumably a non-Evil and reliable source of information.

Estimates of Technical Success and Survival Strategies in Cryonics

Ralph Merkle, Ph.D.

There has been some discussion about the varying estimates of technical success that people assign to cryonics, the impact of those estimates on the resulting strategies adopted by the individual, and the consequent utility of those strategies.

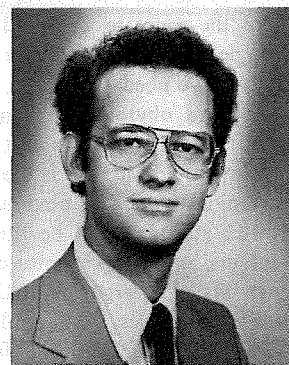
Success is more likely the greater the expected future improvements in medical technology. Future medical technology utilizing advances in nanotechnology and other areas should be dramatically superior. The difference should be greater than

the difference between the medical technology of a few centuries ago and that of today. Acceptance of nanotechnology by the technical community is rapidly increasing. ("Nanotechnology" in this context means "molecular nanotechnology" or "molecular manufacturing.") Thus, a wider acceptance and understanding of nanotechnology and its implications will cause more people to conclude that cryonics is more likely to work.

The following analysis should hold

for factors which increase the estimated technical likelihood of success.

A simple model might be based on two main factors: (1) assume that each person estimates, as best they can, the probability of technical success based on currently available data and (2) each person decides their own individual threshold probability. If the individual success estimate exceeds the individual threshold, then the person signs up for cryonics or otherwise becomes active: we will call



these people the *active* population. If the success estimate is below the threshold, the person does not pursue cryonics: we will call these people the *inactive* population.

Most people are inactive: they have a low success estimate or a high threshold, or both. The active population would be those who have a relatively high success estimate and/or have a relatively low threshold.

This analysis neglects non-rational considerations, or simply assumes that such non-rational considerations are absorbed into the setting of the threshold. An individual utterly opposed to cryonics on non-technical grounds would adopt a threshold of 100%, and would therefore not become active even if cryonics were proven to work. In any event, this simplified model clearly captures only some of the considerations involved in a decision to become (or not become) part of the active population in providing a clearer picture of at least some of the factors involved.

After absorbing the idea of nanotechnology and the implications this has for future medical capabilities, an individual who previously assigned a low chance of success to cryonics would afterwards usually assign a higher chance. For example, a person who previously assigned a 0.1% chance of success to cryonics might afterwards assign a 10% chance of success, while a person who previously assigned a 0.001% chance of success might afterwards assign a 0.1% chance of success.

The first-order effect of this shift would be to increase the active population.

Existing members of the active population, upon learning about nanotechnology, would likely increase their success estimates. This would not directly change the size of the active population (they were already active) but might alter their strategies (see below).

While individual success estimates would increase, it's not obvious that the active population as a whole would increase its overall average success estimate (although it might). This is because members of the inactive population would increase their success estimates above threshold, and would thus add new members to the active population whose estimates were just above threshold. For example, active people who previously felt there was a 10% chance of success might increase their estimate to (say) 70%, but at the same time there would be a larger pool

of inactive people who had previously thought there was a 0.1% chance of success and who revised their estimate of success upwards to 10%. If we assume (for the sake of simplicity) a uniform threshold of 1%, this shift would result in a net increase in the active population, an increase in the success estimate among long-time members of the active population, but no great shift in the average success estimate of members of the active population as a whole. Further, the number of people who felt there was a 10% chance of success would increase, although the specific individuals who held this estimate would change. (Note that the numbers used are for purposes of the example only, and are unlikely to be accurate).

It might be presumed that individuals who assign a high probability of success to the technical aspects of cryonics would focus their activities on non-technical issues. There are many non-technical issues of clear interest: organizational stability, financial integrity, laws restricting or preventing cryonic suspension, etc. Perhaps the dominant non-technical issue is acceptance of cryonics by the community at large and by the medical community in particular. Such acceptance plays a crucial role in every interaction between the cryonics community and the social and legal institutions that limit our options for survival. One of the most effective methods of securing such acceptance from the medical community is research showing that cryonics is technically feasible. It would therefore be inaccurate to assume that individuals who assign a high probability of success to the technical aspects of cryonics would not have an interest in research. One of the most effective methods of decreasing the risk of mortality in a cryonic suspension would be to conduct the suspension while the terminally ill patient was still relatively healthy, e.g., somewhat before (rather than somewhat after) "clinical death." The suspension should also take place in a hospital setting, with the full cooperation and support of the medical establishment. This happy state of affairs is unlikely to occur without fairly extensive research that analyzes cryonics in some detail, and provides a supportive body of evidence that even "conservative" physicians and hospital administrators will admit offers some reasonable chance of success. (Note that "conservative" fully deserves quotes in this context. The "conservative" opposition to cryonics is based on the concept that being burned to ashes or buried alive

is a more "conservative" treatment than being frozen. The absurdity of this concept would be most amusing were it not for its iron grip on many minds).

Even if we do assume that theirs is an "optimum" success estimate (optimum in the sense that it is maximally motivating), it would be a mistake to assume that technical factors which tend to increase estimates of success would decrease the population that is "optimally motivated." It would more likely just change the members of the "optimally motivated" population, e.g., old members would become "too optimistic" while new members (who had previously viewed the whole thing as too unlikely to even bother considering it) would shift into the "optimally motivated" category.

The theory of "optimal motivation," implicit in some postings, appears rather dubious. The concept that an individual who assigns an 80% chance of success to cryonics will view the resulting 20% chance of dying with equanimity seems open to question. A more plausible conclusion is that there is a fairly broad range of success estimates which are compatible with fairly vigorous efforts to increase the chance of success, with the behavior of specific individuals being heavily influenced by very specific and personal factors. Some people like to get involved and do things, others don't.

In summary: factors that tend to increase estimates of the success of cryonics will result in upward shifts in distributions of the success estimates in individuals and in the general population. There might or might not be shifts in the active population taken as a whole. Such shifts will likely be accompanied by some moderate shifts in emphasis among the available survival strategies in the active population as a whole, but are unlikely to lead to any dramatic overall shift in strategy. Further, the increase in absolute numbers of the total active population will increase the absolute resources available for any specific strategy, even if the relative resources (as a percentage of the total) do in fact shift somewhat.

Alcor MidWest Moves Forward

Courtney Smith

Alcor Midwest held its July meeting at the lovely home of Jim Binkowski where local members feasted on food that everyone brought. Highlights included Jim's shish-ke-bob and Brian Shock's killer chocolate cake (able to kill diabetics at ten feet).

The key discussion once again focused on building a stabilization capability in the Midwest. We currently have one member, Bob Schwartz, who is Alcor Certified. Fortunately, four members of the local group have stepped up and committed to becoming Alcor Certified. Even more fortunately, one member is a practicing mortician. This will enable us to move more quickly to a stage where we will be able to perform a total body washout in the Midwest.

The next question is how to get trained. Member Stan Brown will be asking Tanya if it makes sense to have her come out here to train us or is it necessary for our people to go to California. It looks like we could get 4 or 5 members to come to a one week training session in the Midwest if we had a couple of weeks notice. An alternative would be to explore the possibility of hiring Mike Darwin to train the local group. One concern was whether or not Alcor would recognize Mike's training and Alcor Certify the members.

Brenda Peters, a member of the Alcor Board of Directors, will be putting together a phone list of the local members. This will enable us to contact each other for ongoing business as well as in emergencies.

Local soon-to-be-member Jim Cunningham will look into the requirements for getting Emergency Medical Technician certification. Right now, it looks like it may be too much time for our local members to commit to. Still, the addition of EMT training would boost the technical capability of the Midwest Stabilization Team.

Bob Schwartz will look into getting a nation-wide pager for himself so that he can be reached quickly. He will carry the pager because he and his wife Margaret are storing the stabilization kit for the Midwest.

One concern of our group is having a shipping box. Bob Schwartz is taking the lead in building one. Courtney Smith will ask Alcor UK for a copy of their plans and Bob will talk to Alcor HQ, local member Norman Folker, and Alcor NY member Curtis Henderson for plans/ideas before embarking on construction. Longtime member Norm once started to build a shipping box so has some of the materials necessary for the box and many ideas for the design.

Local member, Air Force Reserve Captain, and practicing mortician Ted Budz has volunteered to be the Official Alcor Mortician for Illinois. This means that Alcor Midwest now has morticians in Illinois and Indiana. In addition, Ted will look into the ease of getting a mortician license for Wisconsin.

Jim Binkowski volunteered to be our Treasurer (our only officer!) and to set up a bank account for us at the bank that he is President of. He has generously offered to do all our banking

for free!

Stan Gerber will be writing a short Emergency Action Plan for local members. This will basically give key phone numbers and actions to do for non-technical members to do while waiting for Alcor to move into action or to arrive on the scene.

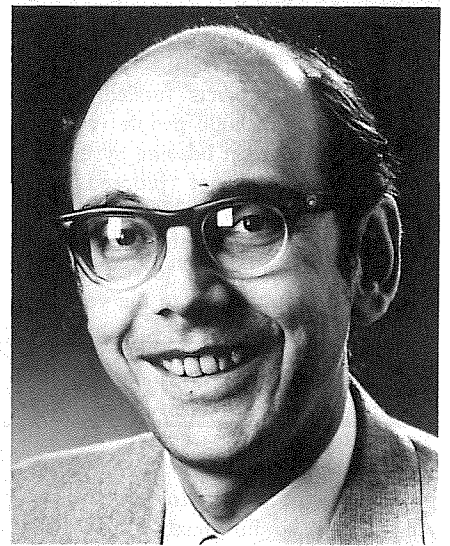
We had decided on dues at the last meeting but decided to raise them at this meeting. Our dues are now \$150 per year or \$15 per month for members and \$50 per year or \$5 per month for non-members. Our year will start August 1st.

We would like to sponsor a cryonics conference in the fall. Brenda will organize the conference so we will be looking for speakers, location, and so on over the coming month.

The next exciting meeting of Alcor Midwest will be on August 21 at the Schwartz' house in Indianapolis.

It's Our Problem

Thomas Donaldson



Ralph Merkle's article in the July/August issue of *Cryonics*, telling of his encounters with David Pegg, brings into clear relief one issue that needs much more attention by all cryonicists. The problem isn't just that David Pegg doesn't believe that cryonics can work; nor is it even that most scientists and doctors don't believe it can work. The problem is just what this really tells us about our situation.

At the last Alcor North meeting in Sunnyvale, I mentioned in passing that some people *might* escape cryonic suspension (by having their lifespan extended first by 10 years, then as technology continues, another 20, then another 30... until finally we work out how to keep anyone healthy forever). I was surprised at the large number of people there who seemed to feel that they were in that lucky class; and I would not be surprised, now, to learn that most members of Alcor feel that they are in that lucky class.

Pegg provides a living example that such an optimistic conclusion to our particular battle just ain't necessarily so. The failure of Alcor to win a motion to get its legal fees refunded for the law cases it fought and won tells us the same thing. Look, guys, we are 360 people (as of last count). And the vast majority (well over 99%) of people out there who are NOT members of Alcor believe that our real struggles (against death, not against the State of California or one another) will fail. Sure, a significant number of those people will gladly help us fight part of our law cases; they do that out of respect for human freedom rather than respect for cryonicist ideas. And most of these people have not yet even come around to the notion that *aging* is a potentially curable dis-

ease. Those in government, if anything, are even more backward; I still vividly recall an article by one D. Frye, an administrator in the US Health Department, who argued that we should indeed work on aging, specifically so that everyone will remain in the peak of health until age 75 or so ... and then drop dead all at once on schedule.

We all know very well the *political* consequences of these public attitudes. Alcor's legal troubles tell us also of the *legal* consequences. But unfortunately these attitudes have serious *scientific* consequences as well.

Scientific research does not come out of the air. It is funded by real groups of people for real purposes. Currently, at least among cryonicists, nanotechnology has been making a splash. So long as it isn't capitalized that's fine; even very early in the history of cryonics cryonicists believed that capabilities for manipulating cells on a nanoscale would be needed to repair the damage caused by technologically backward, clumsy freezings, and other damage caused by the fact that suspension could only start more than an hour after declaration of death. (It was not, of course, *called* nanotechnology, but with our wider vocabulary we can say that's what it was). Okay: all those who believe that the major reason for most interest in nanotechnology right now is for *its use in cryonics* please raise your hands. We all know that the subject gets its major funding from (basically) two areas: materials science and electronics. The major present reason for interest in nanotechnology has little even to do with medicine. It's interesting as a way to still further reduce the size and so increase the power or decrease the expense of *our computers*.

It is even true that most gerontologists don't work on aging because they seek immortality. A few more years, perhaps, at the most; but we must be conservative in our scientific conclusions. And funding for the field shows this very well; presently a great deal of money goes into work on Alzheimer's Disease. Some money does go into other questions, of which the currently major one is a detailed investigation of the *effects* of calorie deprivation. What is missing? Any serious attempt by gerontologists to actually *apply* any of the treatments which have already worked on animals to human beings. The closest to such an attempt is a long-running study of calorie deprivation in monkeys. Nor, for that matter, have even gerontologists come to see aging as a *disease* (yes, what is and isn't a disease depends on much more than the physical condition itself. Only 400 years ago obesity was a sign of beauty).

The situation remains much as it did 10 years ago: any serious attempt to raise money in support of research against aging would simply be laughed out of consideration... by most people. Naturally cryonicists would not laugh at all; but we've already noticed that cryonicists do not form a large part of the American population. And as cryonicists we might all hope for some sudden breakthrough ... but that's not the way such things usually happen.

So then, just who is it that will finance the research and development needed to find treatments for aging and improvements in the suspension process? The FDA? The NIH? We all know who that is. At least some of us accept that responsibility, though presently there are very few avenues by which we can actually help out (what do you expect from only

360 people?). And that has another consequence which we may all find disagreeable, but may still have the ring of hard truth. Research projects funded by 360 people, even by 10,000 people (which is the number we might become by the year 2000) simply do not proceed at a breakneck pace.

And that is why we should all, everyone living now and able to read this article, reconcile ourselves to the very high

probability that someday we too will join the other suspension patients ... waiting silent and unconscious for the day when our fellows can and will revive us. I remember when I was a boy, and thought then that I was young enough that I might live long enough for immortality to be discovered ... or at least long enough for suspended animation (as in Heinlein) to be discovered (the idea fascinated me even then). I am much older now; and I notice

very much that both aging research and suspended animation still remain dreams, even in 1993, when many science fiction stories of the '40s and '50s took place.

It's one thing to be optimistic and quite another to be determined. And it is determination rather than optimism that ultimately wins.

Reviews

Chiller

by Sterling Blake

Reviewed by Steven B. Harris

Even dedicated science fiction readers may not know that the University of California at Riverside houses an endowed science fiction library called The Eaton Collection, and that the Eaton endowment fund also hosts a gathering of academic science fiction people for a scholarly conference on science fiction each year. This so-called Eaton Conference goes on for couple of days in Riverside every spring, and professors and professional writers show up for it from across the country.

As it happens, the Alcor Life Extension Foundation was the indirect beneficiary of an Eaton Conference five years ago. Two science fiction writers who were guests at the conference decided then that as long as they were in Riverside, they might as well visit a place they'd recently heard about in the news, a place where people were said to actually be freezing bodies for revival in the future. That place was the Alcor Life Extension Foundation. The writers were Sterling Blake (a pen name) and Joe Haldeman. Blake and Haldeman thus came to make an appointment one fine April day in 1988 to see the Alcor labs, and because they were both reasonably well-known SF writers (for instance, see a review of one of Haldeman's books in *Cryonics* Sept., 1990), Mike Darwin, Hugh Hixon, and I gave them the grand tour of the facility, doing our best to sound like reasonable people rather than body-freez-

ing fanatical believers. Both authors arrived in what was first a non-serious, touristy, and amused mood; but both went away somewhat later looking rather thoughtful.

Beware when a science fiction author begins to look thoughtful. Sterling Blake began showing up regularly at cryonics meetings in 1990, saying formally and openly to all that he was thinking of doing a book on cryonics, and asking if he could use all of us real cryonicists for background. We were flattered, and agreed. On Blake's part, he soon found that he wasn't just doing objective journalism for background material after a while; eventually he became so interested and immersed in the idea of cryonics that he personally began to think it might really work.

Blake was still serious about the book project, though. The novel he wrote from his experiences at Alcor eventually ran to 200,000 words. Blake called it *Chiller*, after what is, in the novel, a common epithet for a cryonicist in the near future (*Chiller* is no relation to the bad TV movie of the same name of a few years ago). *Chiller*, the Blake novel, was released by Bantam in July. In hardcover, the white dust-jacket of this rather weighty book has a picture of a lovely woman's sleeping face behind a plane of ice crystals, in a fashion eerily reminiscent of the original 1964 Doubleday dust jacket of R.C.W. Et-

tinger's *The Prospect of Immortality* (although on the cover of Ettinger's book the woman's eyes are open; make of this what you will...). In any case, Bantam obviously was somewhere convinced to put a fair amount of money into marketing *Chiller*, and the finished physical product shows it.

Chiller is fiction; basically a murder mystery. It is also the most realistic cryonics fiction yet published. It was written, after all, by a *cryonicist* with an inside track, and if you want good cryonics fiction it is easier (and works better) to turn best-selling SF writers into cryonicists, rather than trying to teach cryonicists how to write. If ex-coroner Thomas Noguchi (with Arthur Lyons) did a hatchet job on cryonics and cryonicists with their 1990 detective novel *Physical Evidence* (see review in *Cryonics* Jan., 1991), Blake more than makes up for it in this book. Here, for once, is a major novel where the cryonicists are clearly the good guys.

Cryonics insiders will get a kick out of *Chiller*, for Blake has made few attempts to disguise his characters and his places. Blake's Southern California cryonics organization, set in the near future and called "Immortality Incorporated," is quite obviously Alcor, albeit a homely Alcor more reminiscent of 1988 than the Alcor of the present bureaucratized 90s. Blake's Immortality Incorporated is a shoe-string outfit run mostly by a young

idealist named Alex, and an older all-around fix-it man named Ray. In the novel, Alex and Ray spend a fair amount of time traveling around to various used medical equipment supply houses in an old pickup truck, and it is impossible for those in the know not to see them as Mike Darwin and Hugh Hixon. Also featured as an Immortality Inc. regular (to my personal amusement) is a physician named Susan Hagerty, a scientist who finds herself in academic hot water with various oily university administrators over her association with cryonicists, just as in real life another physician did, once upon a time at UCLA.

(The good Dr. Hagerty got my initials and my academic background, but is missing a few other things... In Noguchi's book I am portrayed as an avaricious Greek doctor named Katsilometes; in *Chiller* my character is a better person, but has been transformed into the opposite sex. I wonder what cryonics fiction has in store for me next?)

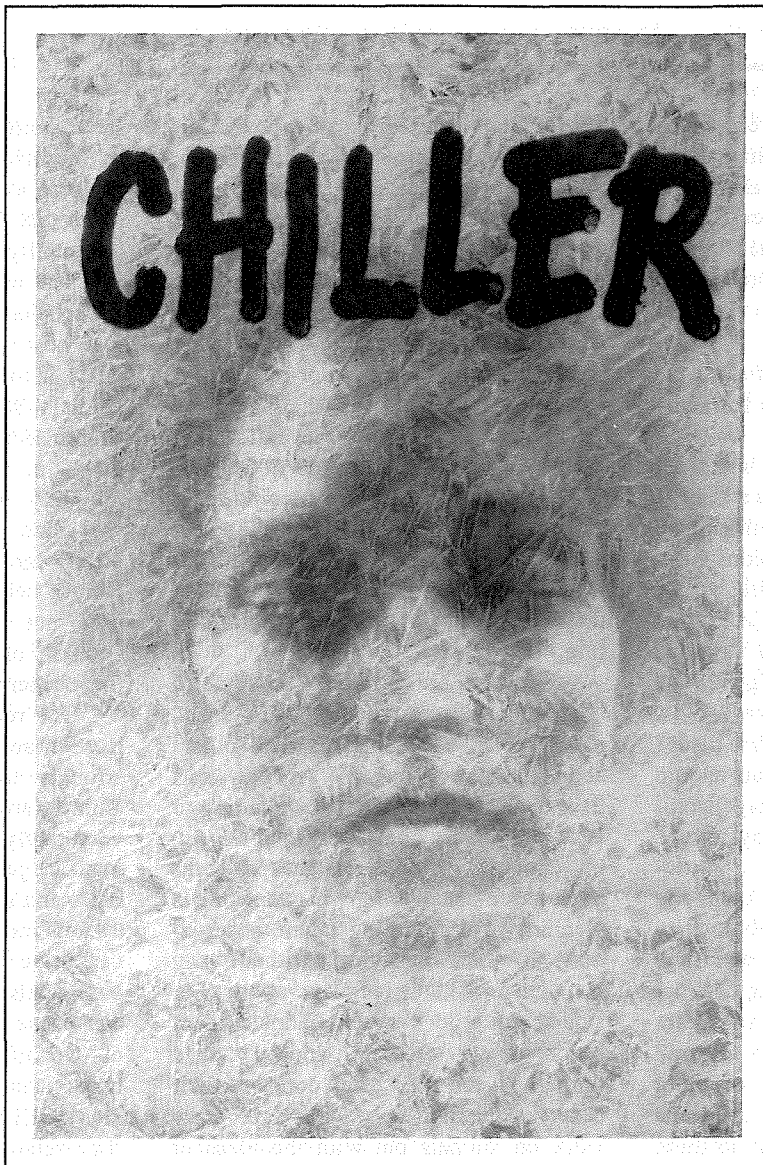
By far the most complex and horrifying character in *Chiller* is a near-genius sociopath known simply as George. George will kill for a number of psychotic reasons, but he has a special taste for killing cryonicists, and does so with such success that the unsuspecting reader of *Chiller* is in for a new experience in artistic despair. It's no fair killing main characters! But there is a silver lining: the tug-of-war between Immortality Incorporated and the minions of the State over the bodies of murdered cryonicists gives Blake plenty of room for musing and debate over the central issue of "When is dead really DEAD?" which has plagued the thinking of real cryonicists from the very beginning. To the police and coroner of *Chiller*, a murdered cryonicist is just a piece of evidence to be sliced and diced as necessary. To Blake's cryonicists, by contrast, a "murdered" cryonicist is a very sick patient, in desperate need of quick help. In

Blake's novel, for the first time in literature, this particular dilemma in point of view is presented to the reading public. The result makes for substantial dramatic irony and literary tension. There is, satisfyingly, a certain amount of body smuggling by the good guys in *Chiller*, in the fine tradition of the classic (but still not widely published) Dave Pizer novel *Ralph's Journey*, and of course the case of

biology. And so it is: houses can be grown from seeds in Blake's future, and some cryonic suspensions can be reversed. Hospital rugs are living ciliated artificial organisms that live on skin dander and the occasional unlucky cockroach. People live longer in Blake's future, due to medical advances suspiciously like nanotechnology, and in fact when the future arrives at the end of the novel, the dismayed reader

finds that George is still around and doing fine, thank you. To kill people irreversibly in the 21st century, it naturally turns out that one must do a much better and more thorough job than simply drilling them full of holes with a firearm. George knows how.

Will cryonicists enjoy *Chiller*? Undoubtedly. *Chiller* is technically up to standard in both cryonics and medical detail (the result of the author's careful solicitation of manuscript technical detail advice by a wide variety of knowledgeable people). *Chiller* also gives us nearly every cryonics cliché, from a vision of Walt Disney frozen in a can, to the slogans on Alcor T-shirts. *Chiller* offers crazy TV preachers, unscrupulous noncryonicist body-freezing con-men, uncaring coroners, giant South American cockroaches, computerized medical care, cyanide guns, psychopathic computer hackers, romance, and even a certain amount of sex (note: major artistic license here — Blake's cryonic workers are suave, heterosexual, and get laid often; it's sometimes easier to believe in the cockroach-eating rugs). Cryonic-



the real Dora Kent. *Chiller* is obviously being targeted by Bantam as a mainstream novel, but there is no doubt that it is science fiction: the last few chapters of the novel are set more than 40 years in the future. A character in the novel muses that the 19th century was dominated by the discoveries of chemistry, the 20th century by the inventions of physics, and the 21st century is destined to be dominated by the fruits of control of

ists will surely like the story, but we can only hope that the general public will also feel the same about *Chiller*, and buy the novel in mass quantities. Although Blake is not overly preachy, it's impossible to read *Chiller* without gaining some sympathy for the cryonics point of view. What more could we ask for? Not much: the Alcor mailing address is thoughtfully listed in the book's acknowledgments at the end.

How Monkeys See the World

by Dorothy L. Cheney and Robert M. Seyfarth

Reviewed by Thomas Donaldson

I expect that many cryonicist readers, when they see this book reviewed, will wonder first of all what it has to say to cryonicists. After all, we are not monkeys, nor are we ethologists. On reading, however, it becomes very clear that Cheney and Seyfarth have a great deal to say to us.

In the pages of *Cryonics* and on the Net, discussions have gone on for some time about just what form we will evolve into: immortal, yes, but what does that *mean* over tens of thousands of years? Some claim that we will upload into computers. Other discussions have dealt with consciousness: will we be conscious? For that matter just what does consciousness consist of, anyway? And if we become more intelligent, how will that happen and in what way? What is it to be intelligent, in the first place? Every one of these questions puts us into questions of philosophy, language, computing, brain structure and physiology, and many others.

Cheney and Seyfarth don't directly answer these questions. What they provide in their book is an empirical analysis of many of them, using data not just from monkeys but from the studies of apes and very young human children too, even sometimes studies of other animals. And like any empirical analysis, it shows many depths to these questions which could not easily have shown themselves without the kind of close comparison with real (not imaginary) thinking creatures.

The two authors both participated in a 13-year observational study of vervet monkeys (*Cercopithecus aethiops*) in Kenya. Adult vervets are about the size of a domestic cat. Their aim wasn't just to describe vervet behavior, but to analyze it in detail with special reference to many of the questions I have listed

above. One major origin of such studies comes from a growing dissatisfaction with laboratory tests of animal intelligence and behavior, which present animals with test situations they would never meet in their normal setting. Laboratory animals inhabit cages: if you were a prisoner for life, would your response to tests match your response if you were free? And so they began a prolonged observation of several vervet groups in the wild. They do not ignore laboratory work, and also present some of their own, done after their study; but the aim of their work was to find out what their vervets could do (and what they could not do) in their normal setting.

Nor were either Cheney or Seyfarth ignorant of all the thinking by linguists, philosophers, psychologists, and others about these questions. In fact, they start their discussion of vervets by alluding to W.V.O. Quine's book *Word and Object*, in which Quine discusses the problems involved in discovering what someone is planning or thinking by a pure observation of their behavior, without any knowledge of their language at all. (For studies of wild vervets, Quine's ideas become very relevant, indeed.) And throughout the book, they compare their observations not only with laboratory work on animals but with the ideas of people like Dennett (one of whose books I recently reviewed) on issues such as consciousness.

So what do they find? First, about "intelligence": when we consider intelligence across many different species, it breaks apart into thousands of variations. They point out, for instance, that foraging birds or animals constantly solve a real-time 2-dimensional optimization problem; when human observers do the mathematics, the choices made by

these animals exactly match those given by the mathematical solution. Could we perform as well? And if not, does that mean that these birds or animals exceed our intelligence on these problems?

The essential point to look at here isn't behavior on laboratory tests, but just how an animal's mental abilities adapt it to its style of life. In the wild, animals show many mental abilities: even insects and fish can recognize their own kin, while apes and monkeys can not only recognize *their* kin but also recognize genetic relations between other monkeys unrelated to them. Human beings (and likely also chimpanzees) not only recognize their own kin, and kin of others, but understand that these others can also recognize their kin.

The reason why apes and monkeys have these specific abilities relates very strongly to the way they live: many animals are not social, and so must deal very rarely with the problems of working out just who is related to whom. Apes and monkeys live in groups of unrelated individuals, each one of which can have several offspring, and two parents also members of the group. This can cause contention between members of two different kin groups. We would expect that in any such contention the closest allies of each individual will be their relatives: exactly *why* all monkeys and apes (of which human beings are instances) have developed a finely honed sense of who is related to whom. In fact, these groups are hierarchical; every individual has their own ranking. And so it is not surprising that in laboratory tests, even vervets can solve the problem of transitivity (a standard test of intelligence): if $A > B$, and $B > C$, then $A > C$.

Cheney and Seyfarth confine themselves to analysis of monkeys, but this analysis of intelligence raises many

questions. Just what mental abilities must we have now, and what must we have in future? Suppose that someone became solitary, wandering among the stars for thousands of years: would they first lose all concepts of social ranking and then later lose all concepts of ranking itself? No matter how we might change ourselves, that change will involve an interaction between what we need to live as we want to live, and how we want to live. Those choices, if successful, might have other effects on our mental abilities which we might not even imagine at first. This solitary interstellar wanderer might also compute multiple orbits, even for highly complex systems, using its unassisted brain. . . and still become bewildered on any notion of ranking.

This matter goes even farther. One way human beings differ from other animals is a greater ability to transfer a mental skill in one domain to another. That is how we come to have a concept of ranking independent of the particular instance. (Monkeys can rank things, but still lack the general concept of ranking). Yet that ability remains far from total. When someone sees an application for one mental skill in a new domain, we often say of that insight that it was "brilliant" or "profound": a way of saying that it was not obvious. And for many of these connections between domains we must learn them, we do not work them out for ourselves. Is this ability, then, a simple consequence of a more evolved language, or something more? And if it is to be something more, what brain structures and algorithms might we add to make such insights obvious?

Cheney and Seyfarth also looked at vocalization among their vervets. As expected, vervets have far less language skills than human beings or even chimpanzees; but they could show (by involved and ingenious experiments only... recall their own allusion to Quine) that their vocalizations did actually denote objects in the world. They had, for instance, several different vocalizations for threats: leopards, eagles, snakes, strange human beings, and several others. Did the monkeys recognize that their vocalizations had a particular meaning, as distinct from un-

derstanding that meaning? Apparently not. (Chimpanzees, however, when trained to use tokens to communicate, can distinguish the characteristics of the tokens from their meaning.) But their vervets uttered these sounds by choice, not automatically. In some cases, they would say nothing so as not to warn

To understand the evolution of language and self is also to see, even if faintly, signs of their future. It is not that humans or any animals are tied to some path which they must inevitably follow, but that we will see the possible paths far more sharply than before.

another opposing vervet of danger. Cheney and Seyfarth also tell of one time a vervet uttered the "word" denoting eagle, not because one was present but, apparently, to stop a fight.

Not only do these vervet sounds mean something, but the vervets use particular parts of their brain to understand them, just as we have special brain features that give the ability to hear *words* separately from the simple ability to hear. It's not that the vervets have a language, but that they have a *prelanguage*. In this light Cheney and Seyfarth also discuss language in very young children. They never mention it, but their discussion of vervet vocalizations, and what they mean, may tell us the way in which our own language abilities evolved. And so with a bit more work on other primates in the wild, we can probably achieve a far better understanding of our own history.

We use language not just for social occasions but to discuss events and properties of objects in the world. The vervets turned out to have very little curiosity about nonsocial events unless these events touched them quite directly. Their prewords for leopard or serpent basically functioned to warn other monkeys of a threat; at the same time, they did not recognize the marks on the ground left by the trail of a serpent. Cheney and Seyfarth describe how one monkey follows such a trail happily into the bushes, only to leap back in dismay

when it sees the serpent that made them. This issue actually raises unsolved questions about what vervets know and do not know, since the ability to recognize such signs should clearly help survival.

The latter chapters of this book discuss a question central to us, though not in the form we generally ask it. Do these vervets have a theory of mind? Previous chapters describe many instances, and experiments both in the wild and in the lab, showing that vervets understand that their words will have an effect on other vervets nearby. The natural question following from this one is: do they see this only as an effect on behavior, or do they understand that the other vervets, like them, have a mind, and that their words can influence what these other monkeys know or believe they know.

As the book proceeds, the problems raised by Quine become more and more real. Just how are we supposed to answer such a question, using observation alone? The vervet prelanguage even lacks words for "yes" and "no"; Cheney and Seyfarth had no way to simply ask their subjects what they felt or thought. And so they present a series of experiments, following each one by comments about how and why it might not really show belief in other minds. For instance, one test of other minds is the ability to lie; for vervets, outright lies (saying something false) is at best very rare. But the experiments could show that some vervets would lie by omission (not saying something true). Again, Cheney and Seyfarth report several cases in which the mother of an infant sees it enter bushes where that mother herself knows a snake lies in wait. She does *not* attempt to warn her infant at all (any attempt to warn would require the mother to have a concept that her infant, too, has a mind and that her words could give her child information that it did not already have). Again, although chimpanzees will teach their children (say, how to use a stick to poke for ants) the authors report that in 13 years of careful observation they found *no* example of one vervet teaching another. In sum, although these experiments can be explained otherwise, the simplest explanation is that vervets lack any notion that other vervets have minds like their

own, and may believe things that they do not. They have an elaborate understanding of the *behavior* of the other monkeys, but no real understanding of how that behavior happens.

For comparison, unlike vervets, which only forage in bands, small subgroups of a chimpanzee band often leave the main group to explore for food elsewhere. This means that chimpanzees in a group have different knowledge of different areas; moreover, some resources used by chimpanzees need more than one chimp, in cooperation, to access them. This points to strong suggestions about the use of self-awareness and awareness of others in wild chimpanzees.

And through these ideas Cheney and Seyfarth come to a question central for us. Are these monkeys conscious, and what does that consciousness mean? As part of their discussion they raise a very interesting point: if animals acquire their mental abilities because those abilities help their survival, just what would consciousness do for the monkey? (A question we might ask of ourselves, too. . . .) They tie the development of consciousness not into a simple awareness of the "external world" but specifically into whether or not vervets have a theory of mind. That is, by perceiving

one's own mind, one comes to understand that others too have minds. The advantage of such understanding comes from the abilities based on it: an ability to lie, an ability to teach one's children, an ability to explain rather than simply declare.

Among the merits of such a theory is that it may explain not only *that* we are conscious but of *what* we are conscious. A bit of introspection tells me (and I presume, you also) that I am actually *not* aware of most of the mental processing that goes on inside my own head. The circuits needed for such awareness simply aren't there. When I remember something, even after effort, I'm not aware of searching any kind of database. The memory simply appears. And a significant part of my awareness of internal thinking involves awareness of how I am planning out a communication to others. Certainly, like others in any technical field, I'm also aware of other thoughts which have no direct relation to social relationships at all. But could my awareness of these happen because the circuits needed for social relations must also involve these other thoughts, too? (Yes, there are other explanations of consciousness; but no one yet has a fully verifiable one.)

This idea, too, leads to interesting

conjectures. Would our lone interstellar wanderer eventually lose all his self-awareness? He might keep a prodigious ability to remember where he's been, and an ability to do all the needed computations to set his course elsewhere entirely in his head: but lose all awareness of himself as one among others, or even as a separate entity from the Universe through which he wanders. But isolation would not be the only way some of us might lose our consciousness; we could lose it in the opposite way, too, by turning into a society in which everyone knows immediately what anyone knows. Totally communal creatures also lack consciousness. What purpose would consciousness have for them?

To understand the evolution of language and self is also to see, even if faintly, signs of their future. It is not that humans or any animals are tied to some path which they must inevitably follow, but that we will see the possible paths far more sharply than before. No matter how much we come to redesign ourselves, every redesign will come to match our chosen style of living. Why should we indefinitely carry around with us abilities for which we have no use? If you wish to change yourself in any way, what *use* will you make of that change?

Business Meeting Report by Ralph Whelan, Secretary

An informal open discussion period began at 12:01 pm. Steve spent several minutes describing the facility in Scottsdale that the Board voted to place a deposit on at the special June 14 meeting of the Board. The main item of concern and discussion was the financing, specifically the risks of having tenants. Each director expressed his/her level of support for this option, the upshot of this being that 7 directors now support this option, while 2 believe it is too risky.

The July, 1993 meeting of the Alcor Board of Directors began at 1:17 pm, at the home of Marce and Walt Johnson in Huntington Beach, California.

Resolved: The minutes of the June, 1993 meeting are approved with one change: the size of the facility in Scottsdale is amended to read 19,000+

square feet, not 14,000 square feet. (Unanimous)

Resolved: The minutes of the June 14 special meeting of the Alcor Board of Directors are approved without change. (Unanimous)

The August 8 meeting of the Board of Directors will be in Torrance at the home of Russell Cheney. The September 12 meeting, also on the *second* Sunday of the month, will take place at the Alcor facility in Riverside. The annual election of directors will take place at this meeting.

Steve Bridge, President, submitted the following updates:

1. Several weeks ago, on the Ari-

zona land donated to us by suspension patient Bob Binkowski, we received an offer of \$50.00 for an easement for fiber optic phone lines. Dave Pizer said we could do better, so I let him have the project. Dave finally persuaded the company to offer us \$2,500, and we have now received the check. Thanks to Dave for taking this on.

2. We have had some requests to see the management letter from our certified audit, although I did provide an extensive summary in my article on the audit in *Cryonics*. After discussion with the Board of Directors, I decided to send copies to any Alcor Suspension Member who is interested in the further details.

3. As will be reported in the current issue of *Cryonics*, Alcor got NOTHING

in our Fee Motion Hearing. ZIP. Judge Muñoz said he was "not unsympathetic" to our case; but that our case did not fit the criteria set down by law for payment of fees. Judge Muñoz did, however, help us in breaking one final logjam in getting Death Certificates on our Whole Body patients, and we hope that problem is finally behind us.

4. Last September, as part of an Alcor purchase of Cryovita suspension-related equipment, Cryovita and Alcor agreed on a Promissory note, which would allow Alcor to pay Cryovita in stages, with a payment of principal due after each suspension and interest payments of 6 1/2% annual interest due monthly. Several months later, Paul Wakfer, President of Cryovita, personally purchased the note from Cryovita.

Since we were late in making the \$3,000 note payment to Paul Wakfer due after the last suspension (due by 30 days, paid after 60 days), Paul claimed Alcor was in default on the note and asked for the entire outstanding amount (about \$18,000) by the end of June. There was considerable disagreement over whether the language of the note allowed Paul to do this; but in the interests of avoiding a distracting, angry battle, we took the required amount from the Endowment Fund and paid off the note.

5. On July 8th, 1993, I went to a meeting of the Riverside City Planning Board for a hearing on our request for a time extension on our efforts to complete the required conditions on our Conditional Use Permit. The hearing went moderately well, although at the same time it put more pressure on the need to make decisions about our facility. The Commission gave us an extension of 120 days — but I could tell (and our advisor Trip Hord concurred) that they do NOT want to see us in there again. If we come back in 120 days (November 8) for an extension, we will not get one unless we can show some powerful reason. The Board will be deciding at the July meeting how far to go in completing the planning and construction necessary to bring this building up to code. Even if we move to Scottsdale, construction (or destruction) of some kind will be necessary to leave the Riverside building in a legally salable or leasable condition.

Ralph Whelan, Vice President, submitted the following updates:

1. I have drafted a letter to be mailed to members sometime early this coming week. This letter will officially inform members that Alcor board of Directors currently intends to purchase the Scottsdale facility. The letter also advises members to expect a color brochure with much more detail about the facility (floor plans, photos, maps, statistics, etc.), as well as a prospectus, should they desire one. Shortly after members have received the color brochure, they will receive phone calls from Directors, asking them for questions/concerns and encouraging them to request the prospectus.

2. Scott Herman, Hugh Hixon, and I have been trying to nail down a precise *desired* renovation plan for the sections we intend to occupy. At present, we are hung up on this because we don't know how much footers (which are required for employee-bearing second-story construction) cost to put in place, and we don't know how many would be necessary for the kind of second-story construction we desire. However, Scott has placed a few calls to Architectural Associations in Phoenix, and it is now quite certain that we *do* need footers for anything other than storage-only use of the second-story.

3. Progress on the reprinting of the next *CRFT* is excellent. A new cover for it is in the final stages of preparation right now, prepared by Ron Ferster and his company Grafix IV. Ron has been a medical illustrator for over twenty years, and his portfolio is fantastic. The quote for the new artwork was a little over \$1,600, but Ron is doing it in exchange for five year's dues. The total up front cost to Alcor will be \$90. Ron is also giving me a quote on the actual printing of the book. I'm optimistic that he will be able to save us money here.

4. I'm somewhat held up by my own slow progress on an updated comprehensive patient care costing project. I now have comments back from Michael Riskin and Carlos Mondragón on my basic operating approach, and I'll need just a few days to put the proposal in finished form. (Draft *One*....) This

project is essential, and Steve and I are agreed that the bluebook can't be reprinted with the current Cost of Cryonics article, which we know to be way off base. I have with me a couple of copies of the current unfinished (but still *lengthy*) form of my patient care costing proposal, if anyone would like to see the tact I am taking.

Tanya Jones, Suspension Services Manager, submitted the following updates:

1. One of the improvements in development this month is an inventory-control system through which all disposable and consumable inventory would be tracked, and which, when complete, would enable Alcor to conduct direct accounting of suspension-related expenses and inventory valuations for eventual cost-containment analyses. The completion of this project is dollar-dependent, and requires \$1764.00 to begin, with this figure excluding the modifications required to enable my computer to run an inventory system. An inventory control system will finally give Alcor staff and Board a mechanism through which accurate accounting information about a very substantial asset (inventory of disposables and consumables) may be obtained. This information would ultimately show up as an increase in the net worth of the company, if incorporated into the current financial statements.

2. The more compact version of the remote transport kit mentioned last month is still under construction. Hugh should be able to answer any questions about this project.

3. A final update concerning the burglarizing of the ambulance: the damage has been repaired, and with the exception of the CB radio, all of the stolen items were replaced.

Derek Ryan, Membership Administrator, submitted the following updates:

1. June, 1993 was a good month for Alcor membership growth. Alcor's total membership as of July 10, 1993 was 364. Eight individuals completed the sign-up process and became full suspen-

sion members in June. Additionally, 7 individuals entered the sign-up process, continuing the recent upswing in new sign-ups. Many of the new sign-ups are individuals who first contacted Alcor early in 1993 as a result of the *Omni* contest, and many of them already have funding arrangements in place, which means that they should complete their arrangements and become full suspension members in a relatively short period of time.

2. Mark Plus has made substantial progress recently in assessing membership paperwork and funding arrangements. He has finished assessing the files of all those on the "critical" list, and has moved on to the rest of the membership. At this point, he and I have assessed approximately 40% of the total membership files. I will start the process of correcting funding deficiencies (no guarantee such as a collateral assignment or irrevocable beneficiary designation, etc.) some time in July.

Ralph, Steve, and Hugh made a special point of thanking Alcor member Scott Herman for his ongoing arduous volunteer efforts at the Alcor facility, and Regina Pancake for her way-above-and-beyond-the-call-of-volunteerism efforts to secure a Death Certificate for Alcor patient Dick Jones.

Steve explained in detail the problems with our current facility, which has interior construction not done "to code." Several options for dealing with this within the 120-day limit were discussed, including vacating and closing off the second story. For now, we will continue in our preparation of architec-

tural plans for dealing with this.

Resolved: That Steve is authorized to pursue architectural plans and permits for bringing the Riverside facility up to code, with the stipulation that no construction will begin without a further vote of the Board. If required, Steve can borrow up to \$2,500 from the Endowment Fund to accomplish this. (Unanimous)

Brenda read aloud a letter to Alcor members from the Comos family which announces that they have purchased a site in Scottsdale, Arizona which they would like Alcor to consider cooperating with them in occupying. Brenda, Courtney Smith, and Alcor member Stephen Valentine — an accomplished architect — will be flying to Spain soon to meet with the Comos family to further these discussions.

Resolved: That the Board appoints Brenda to be Alcor's representative in discussions with the Comos family regarding a facility partnership. (Unanimous)

Resolved: That by Monday the 12th at midnight the Board will give Brenda a list of questions for the Comos' regarding their potential deal, and Brenda will attempt to find answers to these questions from the Comos', and Brenda will report the results of her conversations with the Comos', at a meeting of the Board at 7:00 pm on Monday the 19th at the Alcor facility in Riverside. At that meeting, the Board will decide by vote whether or not the letter from the

Comos' should be mailed to the members. (6 in favor, 1 opposed, 2 abstentions)

Resolved: That Steve is authorized to pursue a partnership arrangement for the purchase of the Acoma Street building, and can spend the funds necessary to accomplish this. The money for this will be taken from the Endowment Fund, to be repaid by the PCTF (as part of the PCTF's investment in the building) if the deal goes through. (7 in favor, 2 opposed)

Steve explained that there are various tasks urgently requiring attention, some related to the impending move and some not, that presently only Hugh is suited to accomplish. However, this will prevent Hugh from doing the various research related tasks that are also urgent. So, to free up as many as 20 to 30 hours per week of Hugh's time for research, we would like to hire Scott Herman on a six-month temporary basis, at \$1,000 per month.

Resolved: That Scott Herman is hired as a temporary employee for THREE months, at \$1,000 per month gross, to deal with moving and engineering tasks — and specifically an inventory project — to free up Hugh's time for research-related tasks. (7 in favor, 2 opposed)

Allen Lopp noted that this meeting takes place on the second anniversary of Jerry Leaf's deanimation and suspension. In memory of Jerry Leaf, the meeting was adjourned at 6:23 pm.

Advertisements & 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 \$8.00 per line per month (lines are approximately 66 columns wide). Tip-in rates per sheet are \$200 (printed one side) or \$240 (printed both sides), from camera-ready copy. Tip-in ads must be clearly identified as such.

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EXTROPY: The Journal of Transhumanist Thought #10: Pigs in Cyberspace, by Hans Morevec; Protecting Privacy with Electronic Cash, by Hal Finney; Technological Self-Transformation, by Max More; Interview with Mark Miller of Xanadu, by Dave Krieger; Nanocomputers, by J.

Storrs Hall; Reviews of *Nanosystems*, *Genius*, books on Ayn Rand. \$4.50 from Extropy Institute; PO Box 57306; Los Angeles, CA 90057-0306. E-mail info from more@usc.edu.

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

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

WANTED. Professional business sense, advice, and knowledge needed to help person with no business sense with what could be a quite profitable idea, and which as an offshoot could make cryonic storage a bit cheaper. M Connaughton, PO Box 1026, Cranbourne, Australia 3977.

MEME WAR OVER. REBECCA > GOD. GEE IT'S NICE TO BE IMPROVED WITH TRUTH. JET.

Recent Abstracts of Interest

Sparrow D O'Connor GT Rosner B DeMolles D Weiss ST

A longitudinal study of plasma cortisol concentration and pulmonary function decline in men. The Normative Aging Study.

Am Rev Respir Dis 1993 Jun;147(6 Pt 1):1345-8

Because of the important role of peripheral airways inflammation in the pathogenesis of asthma and COPD and because of the known anti-inflammatory actions of corticosteroids, we hypothesized that endogenous cortisol may influence the rate of decline of pulmonary function with aging. We examined the basal plasma cortisol concentration and serial spirometric measurements of 86 healthy men participating in the Normative Aging Study. Subjects selected for this study were free of any chronic illnesses and denied chronic use of any medications. Blood for cortisol determination was obtained with the subject in the supine position at 8:00 A.M. Two consecutive spirometric examinations that took place an average of 4.7 yr apart were employed in the analysis. Cross-sectional analysis revealed a weak ($p = 0.08$) direct relationship between the basal plasma cortisol concentration and FEV1. The cortisol concentration and FVC appeared unrelated. Longitudinal analysis revealed a significant ($p = 0.008$) relationship between the plasma cortisol concentration and the rate of decline of FEV1 over the follow-up interval after adjustment for age, height, smoking status, and initial FEV1 in a multivariate regression model. This multivariate model predicts that subjects with cortisol concentration 1 standard deviation (23.3 ng/ml) below the mean would experience FEV1 decline 71.6 ml/yr greater than subjects with cortisol concentration 1 standard deviation above the mean. This difference was comparable to the estimated 69.5 ml/yr difference between current and never smokers. Cortisol concentration was unrelated to the rate of decline of FVC. The data suggest that physiologic concentrations of cortisol may modulate the process responsible for the deterioration of ventilatory function with aging.

Taylor PA Ward A

Women, high-density lipoprotein cholesterol, and exercise.

Arch Intern Med 1993 May 24;153(10):1178-84

Exercise is widely believed to induce favorable changes in the lipid profiles of women, particularly to increase the cardio-protective high-density lipoprotein cholesterol (HDL-C) fraction. A critical appraisal of the literature demonstrates that many research studies fail to consider potential confounders such as hormonal status and body composition. Although cross-sectional stud-

ies confirm that active women have higher HDL-C levels than sedentary women, intervention studies suggest that exercise training programs, in the absence of other interventions, do not cause HDL-C levels to rise appreciably in older women. High volumes of exercise may increase HDL-C levels in younger women. Exercise programs of moderate intensity appear to modify the HDL-C-lowering effects of a hypocaloric, fat-restricted diet.

Undie AS Friedman E

Diet restriction prevents aging-induced deficits in brain phosphoinositide metabolism.

J Gerontol 1993 Mar;48(2):B62-7

Receptor-activated hydrolysis of [3H]-inositol-labeled phosphoinositides was evaluated in brain slices of 6-month-old (6M) and 24-month-old (24M) F344 rats that had been fed ad libitum (AL) or restricted (60% of normal) diet (RD). The muscarinic cholinergic agonist, carbachol, and the dopamine receptor agonist, SKF3893, stimulated significantly lower accumulation of [3H]inositol phosphates in striatal and cortical slices of the 24M AL rats compared to the 6M AL group. This observation suggests a decreased capacity of the aged brain to respond to receptor-activated phosphoinositide hydrolysis. Furthermore, the 24M RD tissues gave significantly higher responses to carbachol ($p < .01$) or SKF38393 ($p < .01$) compared to the 24M AL group. The 24M RD responses were not significantly different from corresponding responses in the 6M AL rats, implying complete prevention of the aging effect in the diet-restricted animals up to at least 24 months of age. Concomitant observations of decreased phosphoinositide labeling in the 24M AL tissues and prevention of this decrease in diet restriction may contribute to the observed effects of aging on inositol phosphate formation.

Chandra RK

Effect of vitamin and trace-element supplementation on immune responses and infection in elderly subjects

Lancet 1992 Nov 7;340(8828):1124-7

Ageing is associated with impaired immune responses and increased infection-related morbidity. This study assessed the effect of physiological amounts of vitamins and trace elements on immunocompetence and occurrence of infection-related illness. 96 independently living, healthy elderly individuals were randomly assigned to receive nutrient supplementation or placebo. Nutrient status and immunological variables were assessed at baseline and at 12 months, and the frequency of illness due to infection was ascertained. Subjects in the supplement group

had higher numbers of certain T-cell subsets and natural killer cells, enhanced proliferation response to mitogen, increased interleukin-2 production, and higher antibody response and natural killer cell activity. These subjects were less likely than those in the placebo group to have illness due to infections (mean [SD] 23 [5] vs 48 [7] days per year, $p = 0.002$). Supplementation with a modest physiological amount of micronutrients improves immunity and decreases the risk of infection in old age.

Meydani M Evans WJ Handelman G Biddle L Fielding RA Meydani SN Burrill J Fiatarone MA Blumberg JB Cannon JG

Protective effect of vitamin E on exercise-induced oxidative damage in young and older adults.

Am J Physiol 1993 May;264(5 Pt 2):R992-8

The protective effect of vitamin E supplementation on exercise-induced oxidative damage was tested in 21 male volunteers. Nine young (22-29 yr) and 12 older (55-74 yr) sedentary male subjects participated in a double-blind protocol and received either 800 IU dl-alpha-tocopherol or a placebo daily. After 48 days, vitamin E supplementation significantly increased alpha-tocopherol in plasma and skeletal muscle. Subjects then performed a bout of eccentric exercise at 75% of their maximum heart rate by running down an inclined treadmill for 45 min. All vitamin E-supplemented subjects excreted less ($P < 0.05$) urinary thiobarbituric acid adducts after the exercise bout than placebo subjects at 12 days postexercise (35 and 18% above baseline in young and old supplemented groups, respectively, vs. 60 and 80% in young and old placebo groups, respectively). After exercise, the initial difference in alpha-tocopherol concentration of muscle between young placebo and vitamin E-supplemented groups was diminished and muscle lipid conjugated dienes tended to increase ($P = 0.09$) in placebo subjects. Placebo subjects had a significant decrease in major fatty acids of muscle biopsy taken immediately after exercise. When normalized for the hemoconcentration effects of exercise, the plasma concentration of vitamins E and C and uric acid showed no significant change. The alterations in fatty acid composition, vitamin E, and lipid conjugated dienes in muscle and in urinary lipid peroxides in controls after eccentric exercise are consistent with the concept that vitamin E provides protection against exercise-induced oxidative injury.

Wolfe MS Parks JS Morgan TM Rudel LL
Childhood consumption of dietary polyunsaturated fat lowers risk for coronary artery atherosclerosis in African green monkeys.

This study was designed to test the hypothesis that consumption of diets enriched in polyunsaturated fatty acids beginning at birth and continuing into young adulthood would lower the risk for atherosclerotic coronary heart disease early in life through their effects on plasma lipid and apolipoprotein concentrations while supporting good health and normal development. Accordingly, African green monkeys (n = 140) were raised on atherogenic diets (0.8 mg cholesterol per kcal) enriched with either saturated or n-6 polyunsaturated fatty acids. Breast milk from mothers fed the polyunsaturated fat diet became enriched in polyunsaturated fatty acids relative to the saturated group; thus, the period of nursing also reflected the dietary fatty acid shift. Age, gender, and dietary fat type independently affected plasma lipid and apolipoprotein concentrations. Age effects were similar for all lipid and lipoprotein variables; the concentrations were low immediately after birth, increased dramatically during the first 4-6 months of life, and then attained levels similar to those of adult animals by 2 years of age. Significant differences by gender were found such that females maintained lower total plasma cholesterol concentrations and higher high density lipoprotein (HDL) cholesterol and apolipoprotein (apo) A-I concentrations. Dietary fat effects were age dependent. Before weaning at 5 months of age, total plasma cholesterol and apoB concentrations were lower in animals consuming polyunsaturated fat, and this pattern was maintained into young adulthood. Lower concentrations of plasma triglycerides, HDL cholesterol, and apoA-I for polyunsaturated fat-fed animals were found only in the postweaning period (6-60 months of age). Since this pattern of response to dietary polyunsaturated fat in the juvenile animals was similar to that for adult animals fed these same diets in which there was less atherosclerosis and because subsequent studies have documented less coronary artery atherosclerosis in the polyunsaturated fat-fed juveniles, we conclude that early dietary intervention was beneficial in this group for lowering the risk of coronary artery atherosclerosis. The results in this primate model support the concept that intervention to modify coronary heart disease risk that is initiated early in childhood will have beneficial effects.

Paolisso G D'Amore A Di Maro G Galzerano D Tesouro P Varricchio M D'Onofrio F

Evidence for a relationship between free radicals and insulin action in the elderly.

Metabolism 1993 May;42(5):659-63

In forty healthy subjects with normal glucose tolerance divided by age into four groups (group A, subjects with mean age <

25 years [n = 10]; group B, subjects with mean age < 40 years [n = 9]; group C, subjects with mean age < 60 years [n = 11]; group D, subjects with mean age > 75 years [n = 10]) and were matched for body mass index (BMI), lean body mass (LBM), mean arterial blood pressure, and sedentary life style, we determined the plasma O₂-production, reduced to oxidized glutathione level ratio (GSH/GSSG), and plasma membrane microviscosity. Euglycemic hyperinsulinemic (1 mU/kg.min⁻¹ for 120 minutes) glucose clamp with simultaneous D-3-H glucose infusion and indirect calorimetry allowed determination of glucose turnover parameters and substrate oxidation. In the oldest group of subjects, a significant increase in plasma O₂-production and membrane microviscosity associated with a significant reduction in glucose disappearance rate (Rd), total body glucose disposal (TBGD), and nonoxidative glucose metabolism was found. In group D subjects (n = 10), all of these changes were correlated with one another. In a multiple regression analysis of the pooled data from all study subjects (n = 40), only plasma O₂-production levels displayed a statistically significant relation with TBGD and nonoxidative glucose metabolism. In conclusion, in aged patients a significant relationship between free radical production and insulin action seems to exist.

Juckett DA Rosenberg B
Correlation of human longevity oscillations with sunspot cycles.

Radiat Res 1993 Mar;133(3):312-20

An examination of past human mortality trends revealed that the mean longevity of birth cohorts from 1740 to 1900 for United States of America (U.S.) Congressional Representatives exhibited oscillations that coincided with the 9- to 12-year sunspot cycle. Cohort mean longevities were 2-3 years greater during times of low sunspot activity than at peak activity. This phenomenon was confirmed in data from members of the House of Commons of the United Kingdom Parliament and from University of Cambridge alumni. An additional longevity oscillation with a longer period was visible in the data and may also be related to sunspot cycles. The amplitude and frequency modulations in the longevity and sunspot oscillations aligned when a 20-year phase shift was incorporated. This shift requires the existence of a lag between solar changes and the affected birth cohorts. Several possible causes of the effect are discussed, in particular: radiation on primordial germ cells in developing embryos; influenza epidemics and pandemics; and weather. The size of the longevity oscillation requires that the solar effect must be considered in studies that examine longevity trends and risk estimation.

Ohashi H Tsukahara M Murano I Fujita K

Matsuura S Fukushima Y Kajii T
Premature aging and immunodeficiency: Mulvihill-Smith syndrome?

Am J Med Genet 1993 Mar 1;45(5):597-600

We report on a 30-year-old woman with premature aging, immunodeficiency, and other abnormalities. She had many manifestations of the Mulvihill-Smith syndrome, a disorder that has been described in 4 sporadic individuals, ranging in age from 4 to 17 years. The common manifestations include short stature, microcephaly, a senile face with an underdeveloped lower half, diminished facial subcutaneous fat, multiple pigmented nevi, sensorineural hearing loss, and a low IgG level. Our patient also had severe mental retardation, brachydactyly, severe T cell dysfunction, and suffered from severe verruca vulgaris and a chronic, active Epstein-Barr virus infection. The fact that her parents were first cousins suggests autosomal recessive inheritance of her disorder. Two alternative possibilities were considered: the disorder in the patient represents the Mulvihill-Smith syndrome with immune deficiency as a sign of its advanced stage, or a hitherto undescribed syndrome.

Sohal RS

The free radical hypothesis of aging: an appraisal of the current status

Aging (Milano) 1993 Feb;5(1):3-17

The objective of this review article is to assess the current status of the predictions of the free radical hypothesis of aging, highlighting some of the controversies surrounding the previous assumptions. Topics for discussion include: metabolic rate and aging, oxidative stress and molecular damage during aging, antioxidants and aging, antioxidant defenses and life spans of different species, and pro-oxidant generation and aging. On the basis of currently available evidence, it is concluded that the free radical hypothesis has neither been proven nor disproven. Some of the earlier assumptions such as that antioxidant intake increases life span, or antioxidant defenses decline with age, or antioxidant defenses are positively correlated with life spans of different species, or that longer life spans are associated with lower autoxidizability, are not clearly supportable. Similarly, the assumption that oxygen free radicals govern the rate of aging via the infliction of molecular damage lacks compelling support. Enough information to lift the free radical hypothesis above the level of speculation has not yet been amassed. Clearly, further studies, some of which specifically focus on disproving this hypothesis, are needed to confirm its veracity.

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Meetings & Announcements

Meeting Schedules

Alcor business meetings are usually held on the first Sunday of the month (July, Aug., & Sept.: 2nd Sunday). Guests are welcome. Unless otherwise noted, meetings start at 1 PM. For meeting directions, or if you get lost, call Alcor at (714) 736-1703 and page the technician on call.

The **SUN, SEPTEMBER 12** meeting will be at:
ALCOR
12327 Doherty St.
Riverside, CA 92503

Directions: Take the Riverside Freeway (State Hwy 91) east toward Riverside. Go through Corona, and get off at the McKinley St. exit. Go right (south) on McKinley. Turn left (east) on Sampson (1st stop light). Go about 1 mile along Sampson to Granite. Go left on Granite to its end, and turn right on Doherty. Go about 200 yards on Doherty and turn left into the industrial park just short of the street end. Alcor is the third building from the back, on the right.

The **SUN, OCTOBER 3** meeting will be at the home of:
Bill and Maggie Seidel
10627 Youngworth Rd.
Culver City, CA

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

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

The **SUN, AUGUST 8** meeting will be held at the home of:
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.

The **SUN SEPT 12** meeting will be a *Pool Party* at the home of:
Jim Stephenson.
3191 Mackall Way
Palo Alto
415-494-1234

Directions: Mackall Way is off Loma Verde, one block west of Middlefield. Jim's house is on the cul-de-sac at the end of Mackall. **Warning:** Jim's house is infant and toddler-hostile, and children are welcome only if they behave like adults.

The Southern California chapter of Alcor meets every other month in an informal setting in one of our member's homes. Our primary goals are to provide support and preparedness training for Alcor members. On August 15th we will meet at the home of Russell Cheny to meet the candidates running for election to the Board of Alcor in September. We are making arrangements with the Red Cross in Santa Monica, CA for any interested Alcor members to take Disaster Training. We will offer various other emergency training through the Red Cross in the future. Please call Maureen Genteman at (310) 450-0394 for further information.

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

Alcor Chicago is in the process of starting up. For meeting information and getting on the mailing list, contact Brenda Peters at (312) 587-7050, or: Huron Plaza, 30 E. Huron, Suite 4709, Chicago, IL 60611.

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

The *Alcor New York Group* meets on the third Sunday of each month at 2:00 PM. Ordinarily, the meeting is at 72nd Street Studios. The address is 131 West 72nd Street (New York), between Columbus and Broadway. Ask for the Alcor group. Subway stop: 72nd Street, on the 1, 2, or 3 trains. If you're in CT, NJ, or NY, call Curtis Henderson, at (516) 589-4256.

Meeting dates: **August 15, Sept 19, Oct 17, Nov 21.**

New York's members are working aggressively to build a solid emergency response capability. We have full state-of-the-art rescue equipment, and four Alcor Certified Techs and four State Certified EMTs.

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

Meeting dates: **Sept 19, Oct 17, Nov 14.**

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

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

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

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