

# CRYONICS

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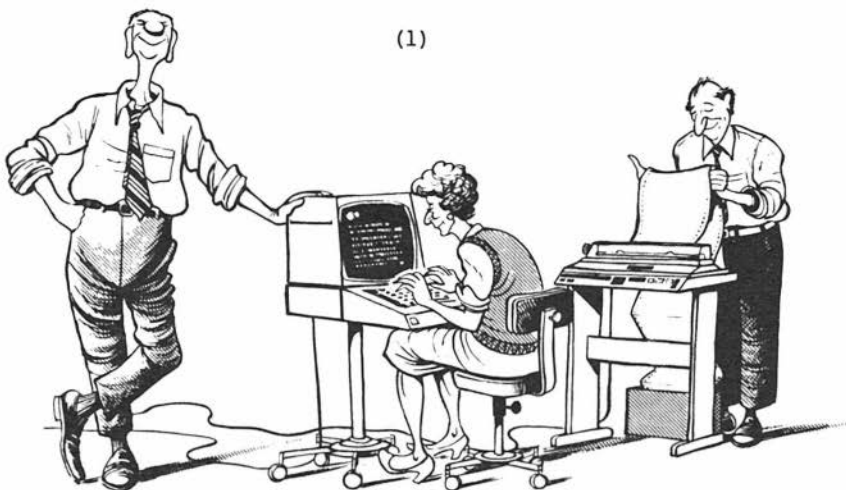
ISSUE # 61

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## Editorial Matters

We have received a number of comments and a few criticisms from readers about the "Bay Area Update Column" which is supplied by the Bay Area Cryonics Society. Several readers have complained about ALCOR "acting as a vehicle for a for-profit corporation's (Trans Time's) stock offering" and one reader was incensed over the propriety of BACS president Jack Zinn "searching for money making enterprizes...particularly the poor taste suggestion of managing a brothel..."

We should probably have placed a note of explanation on the column from the start noting that the column is run essentially "as is" and is done so as a news service to both Northern and Southern California cryonicists. We have tried to provide a cross-section of views and opinion in CRYONICS. We recognize that some editorial standards of good taste and prudent judgement must govern this effort. Several ALCOR members have pointed out that BACS does not share in the production costs of CRYONICS, nor does it purchase CRYONICS for its members or for promotional purposes. The editors of CRYONICS are feeling increasing pressure (from both fellow ALCOR Board members and several Suspension Members) to redress this imbalance.

## MVE SALE COMPLETED

In the June issue of CRYONICS we reported on the possibility of a pending sale of both MVE Cryogenics and Union Carbide's Cryogenic Products "Division". An MVE company spokesman stated that the sale of MVE has been completed and that Beatrice Foods has finally divested itself of MVE. A buyout by a private group consisting of Merrill Lynch Capital Markets, Lovejoy Partners of Oakbrook, Illinois and MVE management was concluded on March 1st, 1985.

The sale of Union Carbide's cryogenic equipment production facilities to Harsco Corporation of Camp Hill, PA is expected to be finalized within a few months.

**MVE**  
*Cryogenics*®

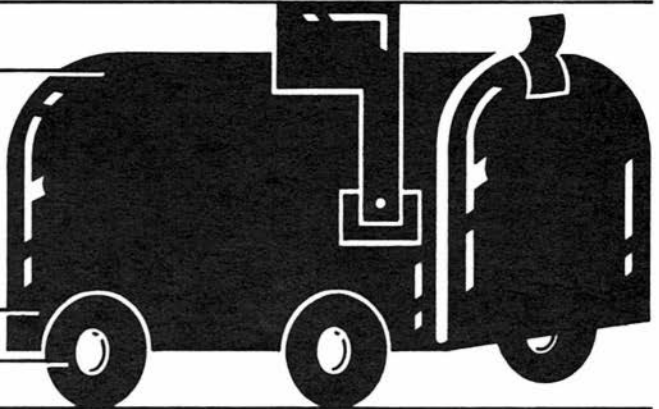
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***Letters to The  
Editors***

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Dear Sirs:

Amongst the interesting articles in your June issue, I read one about aging clocks (by Thomas Donaldson — Ed.). Although I know very little about biology, I cannot help but wonder whether the following arguments suggest that there can be no aging clock.

All parts of the human body are subject to damage by illness. For example, there is an illness that prevents people from passing through puberty. Nevertheless, these people still age and die.

If there was a specific part of the human body that causes aging, then an illness that damages this part would mean that the individual concerned would not age. Considering the vast population of the world, the fact that no such condition has been reported suggests either that there is no such "aging center", or that it is not attacked by illness.

Progeria or accelerated aging does not count, as it would be an illness that improves the function of the hypothetical aging mechanism. I know of no illness that is beneficial. A virus or bacterium that heightens intelligence, improves hearing or eyesight or strengthens limbs does not occur in nature, although an artificial one may one day be made.

If an aging clock is found, it must be unique in being the only part of the body that is not damaged by disease. The existence of such a part in the human body and the fact that this particular part has this distinction would be a very strong argument that the universe is an artifact with an intelligent designer. The only alternative argument would be that the human species has evolved aging as a racial evolutionary advantage, but in competition with what?

Sincerely,  
John de Rivaz  
Cornwall, UK

Both of the editors of CRYONICS agree with you. We don't think aging clocks are very likely either, or that they are a very fertile area for investigation. Aging in vertebrates seems to proceed much like aging in

automobiles: structures are laid down for which there is no provision for maintenance and they wear out with an amazing degree of predictability (the curve for the "maximum" and "mean" lifespan of automobiles and people look amazingly alike). However, it is true that a good many genes become inactive or "turned off" as a result of developmental milestones. Finding a way to inhibit or reverse such shutdowns (i.e., providing absent maintenance instructions) could greatly extend lifespan. Perhaps Donaldson is searching for a relationship between circadian or clocking rhythms and such inhibitory developmental milestones? In any event, we agree his meaning is at best unclear and we would appreciate a defense or further explanation of the notion of "aging clocks" by Dr. Donaldson.

Dear CRYONICS Editors:

After writing my letter which appeared in the June '85 CRYONICS criticizing the hamster research being performed by several Northern California researchers, I have gotten criticized myself by several cryonicists. The criticism I tend to pay the most attention to (hence this letter) is that regardless of the validity or invalidity of my points, they were improperly presented and the main effect they will have is simply to erode whatever cooperative feelings exist between the Northern and Southern California groups. This is not the desired result of my comments, and the following remarks are made in an effort to correct as much as possible any errors I made, and clarify a few points I have been misunderstood on.

- \*\* My original criticisms were not presented first to Drs. Segall and Waitz and their fellow workers before being sent to CRYONICS. Several have pointed out to me that in this instance this would have been more acceptable protocol, and for this oversight I must apologize.
- \*\* My original letter failed to mention that I regard some of Dr. Segall's previous work, particularly his tryptophan-deficiency studies, as valuable and quite excellent and that the criticisms of the quality of his research is limited specifically to the hamster work being discussed.
- \*\* The timing of the appearance of my letter with the Lake Tahoe Life Extension Festival was totally coincidental and something which I have come to regard as unfortunate. However, the Festival did give me an excellent opportunity to become more informed about the nature of the hamster work. My current views are somewhat different from those expressed in my letter. I still have serious reservations about the quality of the work, but I will not discuss them here.
- \*\* All viewpoints in my original letter are entirely my own.

In a private letter to Dr. Segall I have explained that my main concerns are the evaluations that scientists outside of cryonics give our research efforts. Now more recently I hear reports of scientists outside cryonics who are totally prejudiced against us regardless of the quality of our scientific endeavors. (I'm sure CRYONICS will cover CRYO '85 elsewhere, so my explaining here would be redundant.) This surprises me, vastly disappoints me, and I suppose makes the previous dialogue seem somewhat less crucial in this regard.

Very truly yours,  
 Allen J. Lopp  
 Cerritos, CA

## **COCOON: The First Immortalist Movie Splashes Across The Screen**



by Mike Darwin

"But what's fresh, funny and moving about COCOON, which bounces along to a big-band beat, is the collision of these otherworldly beings, who have never been exposed to death and decay, with the all too worldly and fading flesh of the aged human heroes. This is a science fiction comedy about old age and impending death; about the ravages of nature and the opportunity, as one character puts it, of reshuffling the deck that nature has dealt."

—David Ansen, NEWSWEEK

GO AND SEE IT!

Nothing is harder for me to review well than a movie which sweeps me off my feet with excitement. Part of the problem is knowing where to start when every aspect of the film is a winner. Such is the case with Ron Howard's latest, and I believe, best effort to date, COCOON.

The first thing to say about COCOON is: **Go and see it!** Even if you've seen it once already, go and see it again. This is one of the **very few** times when I've walked out of a theatre where I can say I was glad to see the makers of the film get my money. I must also say that I enjoyed the film the second time I saw it even more than the first.

At this point you may be wondering what this picture is all about, why I think it is the first immortalist (maybe even cryonicist) movie and why I think you should run right out and see it. After all, in the past I've been accused of being able to find cryonics and immortalism in a child's prayer. With

COCOON, there is no need to speculate on hidden meaning or subtle messages. The person(s) responsible for this film have put immortalism right out front and their message is clear: old age and death are terrible things and we should avoid them, **even if it means giving up the kind of life we have now and stepping forward into an unknown and fundamentally different kind of existence.** To see this assertion in a major film is nothing short of amazing, to see it in an emotionally riveting, carefully crafted, engaging, and appealing motion picture is not merely amazing, it's a miracle!

#### THE NITTY GRITTY

I knew I was in for something fundamentally different as soon as the movie opened. The camera takes in scene after scene of a Florida retirement village. Everywhere there is sagging flesh and the promise of death and decay. It is a shocking, almost lurid opening in these days of motion pictures where no one over 20 is allowed to appear on camera except as background material. Before we are five minutes into the movie we have "met" our three central characters (all well over 50 ) and have seen them confront the death of a fellow resident who is being graphically and unsuccessfully resuscitated. I realize that this doesn't sound like a pleasant opening for a movie. What is amazing is that this is not really the focus of COCOON, and somehow, in spite of the tremendously negative and overpowering aspects of such scenes, director Ron Howard has managed to do the almost impossible and restrain them, prevent them from being overwhelming and use them to provide just the right emotional background on which to build the rest of the movie.

The three old-timers from the St. Petersburg retirement home who meet in the opening scene are played by consummate actors Hume Cronyn, Wilford Brimley and Don Ameche. All three men are confronting the personal reality of deteriorating health and the prospect of certain death. Indeed, the only spice and adventure left in their lives is sneaking into a poolhouse on a neighboring property which is sitting empty, for "illicit" swims in an unheated pool. But, their fun seems doomed to end when the house and pool are rented by three startlingly beautiful and extremely mysterious strangers. Of particular note here is actress Tahnee Welch (Raquel's daughter) who is physically one of the most appealing women I've ever seen on screen (and moviegoers are treated to some fairly revealing views), and who's open, vulnerable manner in COCOON makes her a star attraction.

The visitors turn out to be aliens who have come to retrieve comrades who have been lying in cocoons on the ocean floor for over 10,000 years! The aliens have come back out of love and dedication to rescue their colleagues who chose to "wait out" unfavorable conditions until help could be sent. These aliens, by the way, have never known death or old age personally; both those things have long been banished by their superior technology.

Cronyn, Brimley and Ameche decide to raise the stakes on their "adventure" and they continue to use the pool, despite the appearance of mysterious "rocks" (the cocoons of the film's title) on the bottom of the pool. They get more than the refreshing swim they bargained for. All three emerge from a frolick in the pool full of energy, vitality, and horniness they haven't felt since they were teenagers. They return home to spring rather substantial sexual surprises on their wives or girlfriends. Pretty quickly they each realize that whatever is in that pool is **good** for them. Cronyn, who is dying of cancer, suddenly finds



himself in remission and at that point all three realize they've stumbled onto the Fountain of Youth. Unfortunately, their access to the healing waters is cut off when the aliens discover their presence.

I've probably given too much of the plot away already. Without going into further detail about the specifics of the events which follow I think I can safely discuss the immortalist message and immortalist aspects of this film. Cronyn, Brimley and Ameche are **grateful** for what happens to them. They see it as a way out of the tragedy of their own impending deaths, and the deaths of those they love. There is one particularly poignant scene where Brimley is talking to his grandson about his decision to go on living, even if means accompanying the aliens away from earth on a journey that will last thousands of years, taking him away from everything he has known and loved in life—in other words, profoundly breaking his continuity with the present. In a touching dialogue with his grandson which takes place as they both stand fishing, Brimley nicely expresses what we as cryonicists have felt and known for a long, long time:

BRIMLEY: "I got a couple of things I need to talk with you about. I guess me and your Grandma are going away, David."

GRANDSON: "Where to, Grandpa?"

BRIMLEY: "Well, that's not important. What's important is that when we get where we're going we'll never be sick, we won't get any older and we'll never die."

GRANDSON: "You're joking me, right?"

BRIMLEY: "No."

GRANDSON: "Will I be able to visit you and Grandma?"

BRIMLEY: "No. And we wouldn't be able to visit you either, and that kinda bothers me... I wonder if they'll have fishin' holes there? There's some things they won't have. They won't have grandsons, they won't have baseball games, and they won't have hotdogs and they won't have that kind of stuff and I'm gonna miss 'em... Alright, cast it out there. I wish we could get a bite. I'd like to catch one more great big fish..."

Despite all the things they'll have to give up, despite the separation from friends and loved ones, these people **make the decision to take immortality**. There is no cop out here. No cliches. Just people, in love with life, carefully weighing the bittersweet alternatives and making the **right** decision.

In a scene which comes a little later Brimley and his wife, Maureen Stapleton, are talking over their decision to go and the following dialogue ensues:

BRIMLEY: "You havin' second thoughts?"

STAPLETON: "Yes."

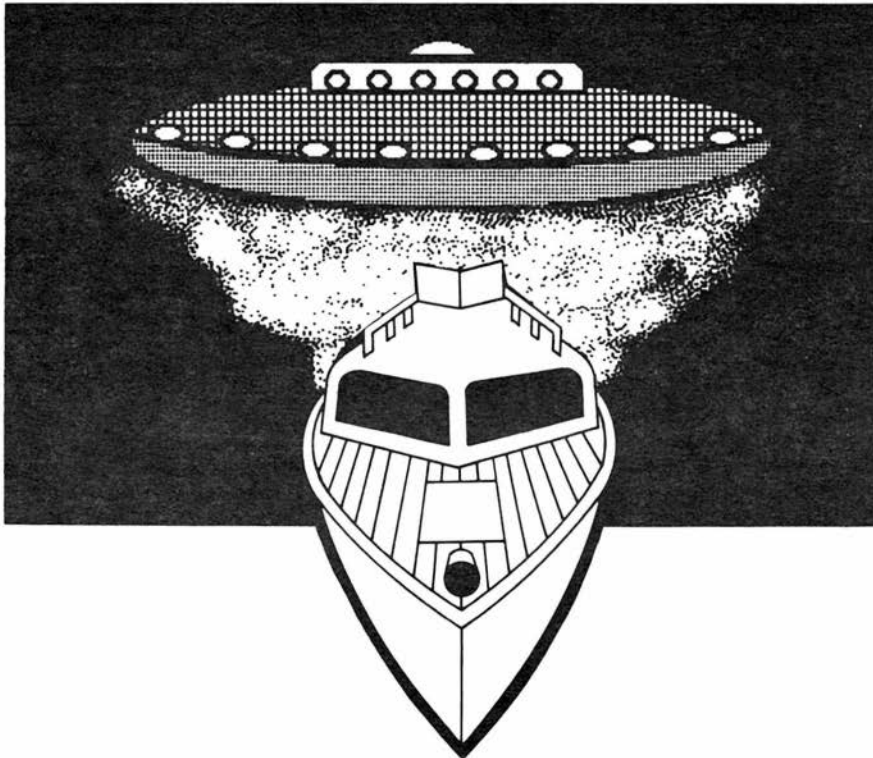
BRIMLEY: "So you think it's like Bernie said, we're cheating nature?"

STAPLETON: "Yes."

BRIMLEY: "Weeeell, I'll tell you something. The way nature's been treatin' us I don't mind cheatin' her a little."

That says it all. If you take this kind of philosophy and you couple it with tender, loving characterization, move it along briskly to a big band beat, throw in a few tasteful and charming dollops of extraterrestrial sex, add a rollicking chase scene or two and blend together with insight and sensitivity you have a tremendous success of a film. In fact, you have COCOON.

Ron Howard's treatment of his older characters shows a depth of understanding and respect nowhere else in evidence in the cinema today. The characters are treated as people, never patronized, never "used" to make a point. It is obvious that Howard understands older people well, and does not write them off as "subhuman garbage" as most of Hollywood has done. What is surprising is that he has achieved this masterful characterization without alienating anyone. I have seen COCOON several times now, each time with a larger and more enthusiastic audience (I had to skip several shows here because the theatre was sold out) and I can say that I have not seen a film in recent memory with a wider cross section of ages or types of people in attendance. And they loved it! Young or old, the audience was laughing, crying, clapping, and shouting in a fashion reminiscent of when E.T. was first screened. It was an incredible thrill to see people swept away with emotion and emerging teary-eyed from the theatre about an **immortalist movie**.





The big reasons why this movie works have been discussed above. But some of the smaller, subtler ones need talking about too. Immortality is presented here in a nonthreatening nonpreaching context. There are some conflicts, but there are no real "bad guys". Howard makes it clear that immortality is not for everyone, but he does it in an open, easy, noncombative way that doesn't break the thread of warmth, hope and kindness which pervades the film. By making immortality the "gift" of aliens he opts out of a lot of sticky ethical questions. On the other hand, for this, a kind of introductory film about immortality, it's probably just as well that he does. At first I anticipated I'd be very turned off by the "aliens bearing gifts" aspect of the film. But after seeing it, I'm convinced Howard made the right choice in order to more effectively get his message across. Those of us on the firing line would obviously have made a far different, far more detailed, probably far more combative and "hostile" film. Howard, with innocence and charm, keeps the story line simple and thus makes the choices seem more straightforward and attractive.

#### SUMMING UP

COCOON is a work of rare quality by any measure. Full of love, respect, and a profound sense of the worth of life, it is also amply blessed with flawlessly high production values (special effects by George Lucas' Industrial Light and Magic) and an immense reservoir of underutilized acting talent. Go and see this movie. Do it today. And send a thank-you note to Ron Howard. He richly deserves it.

## **Review of the 22nd Annual Meeting of the International Society for Cryobiology by Mike Darwin**

This year's International Society for Cryobiology meeting was held in Madison, Wisconsin on the University of Wisconsin campus. From the standpoint of both cryonicists and cryobiologists this added an extra dimension to the meeting which only becomes apparent with a little history. Some of our readers will no doubt remember that in February of this year ALCOR carried out a remote standby/total body washout of a member who deanimated at the University of Wisconsin Hospital. This local suspension had "primed" the Madison press to cover the cryobiology meeting with a slightly different angle in mind than simple reporting on the latest advance in red cell preservation.

It also primed the cryobiologists to be at their irritable worst. Without a doubt this was the tensest, most vituperative meeting between cryobiologists and cryonicists which has yet taken place. There was at least as much political action at this year's meeting as there was scientific action, and for this reason we are going to break our coverage of the meeting into a minimum of two parts. The first part will concentrate on the political and ethical issues raised at this year's meeting and the subsequent part(s) will deal with the scientific presentations.

Less than 24 hours before I left Los Angeles for the meeting, I received

calls from several Madison reporters. These reporters had also been in touch with Dr. Harold Meryman, former president of the Society and its resident spokesperson on cryonics. It seems the press had been given information about a potential conflict between cryobiologists and cryonicists by a **cryobiologist** inside the Society (the reasons for this individual acting in this fashion are not clear to us, but whatever the person's intentions, calling in the press set the stage for some interesting fireworks). Thus, when Dr. Meryman arrived in Madison he was already well aware that the issue of cryonics and its relationship to cryobiology was a local media issue.

The meeting opened on Tuesday, June 18th, quite appropriately with a sessions on ethics in cryobiology. Now, the first thing cryonicists should keep in mind is that what they mean by ethics and what we mean by ethics are often two different things. This session was chaired by John Baust (President-elect of the Society; he will assume the presidency in 2 years) and the opening session of the "ethical seminar" was a paper by Dr. Harold Meryman entitled "A Case Study: Absence of Regulations." We understood from the program and from conversations with the Program Chairman of the meeting, Dr. James Southard, that the ethical issues to

be discussed were those related to embryo and tissue banking. Cryonics was not on the agenda. This is not surprising since cryonics is the name none dare speak; in fact, cryobiologists refer to cryonics and cryonicists **only** as "body freezing and body freezers."

It thus came as a surprise when Dr. Meryman, seeing us sitting a scant five feet from him, chose to use as an example of how unfavorable regulation is brought on the example of the "lunatic fringe" as exemplified by none other than cryonicists. Dr. Meryman's generous implication was that until cryonics is put out of business, the whole of organ and tissue banking lies under a grim pall of restrictive and damaging government regulation. Dr. Meryman was quick to point out that he doesn't object to regulations, he just wants them to be the regulations he and his cohorts draft up. Cryonics, as you might guess, would presumably have no place in such a tidy and orderly world.



**Dr. Harold Meryman, former President of the Society for Cryobiology.**

**CRYO 85**

**Society for Cryobiology**

*22nd Annual Meeting*

June 18-21, 1985  
Madison, Wisconsin



With this nasty salvo launched, the Society meeting opened and got underway. At the end of the "ethical" session, Dr.

Paul Segall of BACS rose and responded to Dr. Meryman's attack. Paul was eloquent, concise and to the point. He pointed out that cryobiologists should not judge us by what they read in the NATIONAL ENQUIRER (a reference to a newspaper article Meryman quoted from) and that only by getting to know each other better could we hope to end the bitterness and animosity which exists between us. Paul's thoughtful response was met with a vitriolic attack from the session chairman, John Baust. Dr. Baust's outburst was met with one by Mike Darwin, which was considerably less conciliatory than Dr. Segall's, and more heated. Many of the cryobiologists present at the ethical session (and it was well attended) were openly contemptuous during Segall and Darwin's pleas for reasonableness. We were to learn that this was to be just the beginning of what was to be a long, unpleasant four days.

If cryonicists had been treated with reserve in the past, they were treated like Dr. Mengele during this meeting. In fact, one cryobiologist (John Baust) actually likened us to Nazi concentration camp experimenters and called for expulsion of all known cryonicists from the Society and a ban on our participation at any future meetings (Keep in mind that this charming soul, full of thoughtful reason as he is, is going to be **president** of the Society in two more years!). A number of cryobiologists who we had been on speaking terms with in the past (i.e., they would answer questions about their research work and acknowledge "hellos" in passing) refused to speak to us at all. Those that would speak were either terse or abusive.

It's important to point out that while the press probably set the stage for Meryman's unexpected tirade, it was not the real root of the problem. Each year the situation has grown more tense as cryonicists have had an increasing presence at the meetings. There has also been pressure

from the Southern California cryonicists in the form of submitted papers and abstracts documenting what even the Society has acknowledged as good quality research work. This has put the Society in the (to them) unthinkable position of having to listen to and perhaps publish work conducted by and for cryonicists! The Society feels that such acknowledgement is tantamount to an endorsement, or in the words of one cryobiologist, to "being tarred with the same brush" as a result of just the **presence** of cryonicists.

The principles of academic freedom demand that work of acceptable quality be given a forum and that it not be suppressed or tampered with. The problem is that cryobiologists see cryonics as grossly unethical. In their eyes we are misguided at best and monstrous, coldly calculating frauds at worst. Their dilemma is how to resolve the tension between academic freedom and ethical responsibility. Hence the "death camp doctor" analogy. Does the affiliation of the researchers override the responsibility of the research community to provide a forum for the free and open exchange of ideas? Or, as Baust put it, should the Society allow a Dr. Mengele to present his work (even his noncontroversial, nonimmoral work) considering his background and his affiliations?



**Dr. John Baust, President-Elect of the Society for Cryobiology, and a rabid anti-cryonicist.**

This is literally the degree to which many Society Governors and members are polarized over the issue of cryonics. It makes any kind of constructive rapport, cooperation, or compromise next to impossible: one doesn't compromise with monsters, one eliminates them.

Enter Dr. Stanley Leibo. Dr. Leibo is the current president of the Society. He is a thoughtful, honest, businesslike man who is deeply troubled by the intense polarization and hatred which exists between cryobiologists and cryonicists, and he does not appear to be pleased to be the unwitting inheritor of a long-standing and often bitter feud. He is also, we believe, deeply troubled by the ethical issues involved. We do not believe that Dr. Leibo sees cryonics as a "fraud" or cryonicists as "Nazis". On the Wednesday following the "ethics" session Dr. Leibo approached Jerry Leaf and I and began what was to be an approximately 2-hour discussion of the unpleasant situation between our respective groups. Dr. Leibo had obviously thought about the issues a lot, and whatever may be said about the morality of the proposals which follow, it was apparent to us that Dr. Leibo was genuinely troubled by the issues he was confronting and very forthright and honest. Our impression of him is that he is a man of integrity.

Dr. Leibo laid out the situation as he saw it. Many Society members are at quite extreme odds over cryonics. Tension is so great that violence, verbal or otherwise, is just beneath the surface. The Society has what it believes to be several legitimate concerns and as Dr. Leibo put it: "It's our backyard you're trying to play in, and we determine the rules. If you don't agree to play by the rules, you can't play in our backyard." Leibo had several proposals which he felt (speaking as an individual) would help smooth over things and allow our continued participation in the Society.

The "compromises" Dr. Leibo suggested can be summarized as follows:

1) The Society is extremely concerned about any association between cryonics and cryobiology in the mind of the public. The Society is also concerned that it not be used as a vehicle to "legitimize" cryonics. An example of this would be citing research done by cryonics organizations and presented at Society meetings or in CRYOBIOLOGY as being indicative of scientific credibility or Society support for cryonics. To this end, Dr. Leibo suggested that we be very careful in media work to emphasize the Society's position, and that we not use the Society or presentation of work to Society members as a promotional tool.



2) Work presented to the Society at meetings or by submission to CRYOBIOLOGY must be "conservative" cryobiology. In

**Current Society President Dr. Stanley Leibo (right) speaking with British organ preservationist Dr. David Pegg.**

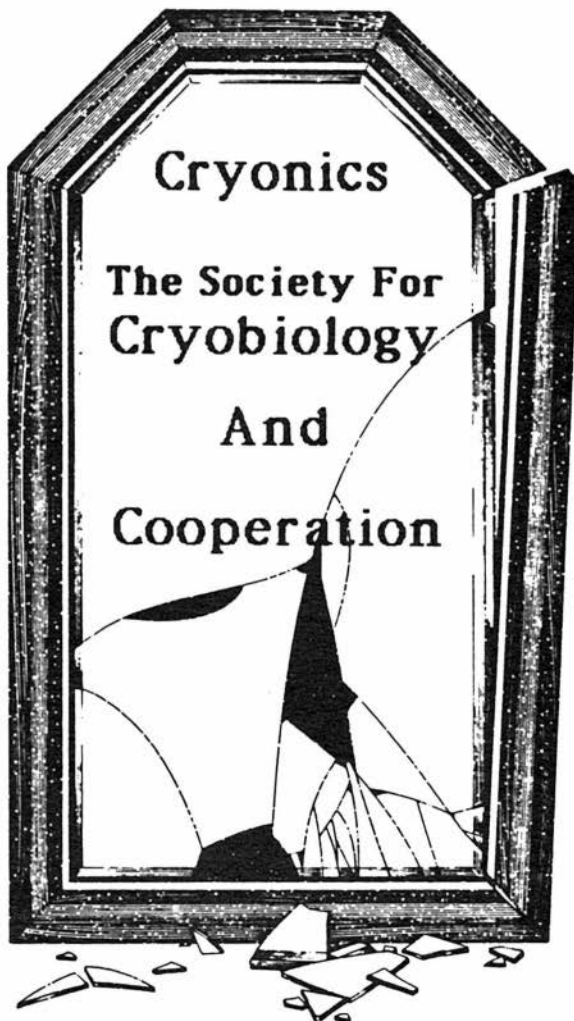
other words, it must not have any **direct** connection with freezing humans. Consequently, any data or findings achieved as a result of our human work must be redocumented in animals before presentation. Mathematical models, flow studies or other kinds of theoretical studies geared to humans will not be published unless they apply to simpler systems such as tissues or organs and are presented from that standpoint alone.

3) In order to insure that the Society not be associated with cryonics in any way, there must be no "institutional affiliation" on any research we submit for publication. Thus, work supported and conducted by ALCOR or other cryonics organizations must appear free of any affiliation with a cryonics organization. Papers and abstracts would be published with authors' names only.

We are not surprised at the first two requests, and in fact had pretty much inferred already that those were the "rules of the game". However, the third request seriously infringes on academic freedom and seriously distorts the **truth**. For, the fact is, a cryonics organization is the sponsor of the work. If we do not agree to these terms, publication of research work and participation in and perhaps even access to, future Society for Cryobiology meetings is unlikely.

After our conversation with Dr. Leibo, we asked an ALCOR member still in Los Angeles to poll the ALCOR Board of Directors and get a vote. Should we acquiesce to the informal demands made by Dr. Leibo (since these were likely to be the **minimum** required)? Should we consider taking other kinds of action? The Board, by a vote of five to four, felt we should agree to the demands. It was generally felt that:

Without acknowledging their **morality**, we have little to lose and at least something to gain by cooperating. If we weren't willing to compromise, then our access to the Society and the important reservoir of cryobiological information it represents is likely to be





curtailed, unless we wish to go through painful and expensive litigation. (With no assurance of a favorable outcome.) Additionally, alienation of researchers doing work of importance to us could make any court-determined victory a Pyrrhic one in any event.

Because of the extreme elements within the Society and its Board of Governors, it is unlikely that Leibo's compromises would be acceptable to the Society anyway. Should they turn out to be acceptable, ALCOR would at least have a limited ability to present research work in a critical forum where it can be subject to discussion, scrutiny, and advancement by scientific colleagues. The decision to accept Leibo's proposed compromises also puts cryonicists in the position having been willing to compromise.

If such an agreement is concluded between ALCOR and the Society for Cryobiology, it is inherently unstable. First, because ALCOR obviously does not speak for any other cryonics organization. (Although this is not obvious to the cryobiologists, who lump all cryonicists together as a monolithic **THEM**.) And second, because cryobiologists' perceptions of cryonics are largely determined by an uncontrollable unofficial third party, namely the Press. In circumstances where there is not regular and intimate contact between two contracting parties, the channeling of their communications through such a Byzantine medium as the press is certain to result in severe misunderstandings. Where the situation is hostile, the eventual result will probably be failure of the agreement.

We do not know what the response of the Society's Board of Governors will be to the suggested compromises. It will probably be a month or two before a decision is reached and we are informed of it. In view of the intense polarization of a significant number of Society Governors, a favorable decision seems unlikely. There are several Society Governors and members who feel badly about the way things are developing. One Society Governor approached me between sessions and expressed his apologies at the way we were being treated. He said he had "noticed the circle of silence and shunning" which surrounded us wherever we went, and that we must be awfully tired of being treated as issues rather than as people. Nevertheless, the Society as a whole remains strongly negative on the issue of cryonics, and some Governors and members have stated that they will walk out of the Society if cryonicists are allowed to participate. Such extremes do not admit of easy compromise.

Madison, Wisconsin CAPITAL TIMES June 21, 1985

## *Should cryobiology freeze out its futurists?*

By KAYE SCHULTZ  
Capital Times Staff Writer

The prospect of immortality has lured generations of aging explorers to pursue remedies from the Fountain of Youth to facelifts.

The idea that death can be outsmarted is particularly vexing to the Society of Cryobiology, an international group of scientists holding its annual conference in Madison this week.

While cryobiologists from around the world share their research on low-temperature preservation of human tissues and organs, they also face the inevitable question of how to

low-temperature work that many of their colleagues hesitate to call scientific. Some openly term it a "limatic fringe."

The followers of cryonics prefer to call themselves "ultimate revolutionaries," stationed somewhere on the outer fringes of the scientific world.

They have frozen grandmothers and, for a fee and advance arrangements, they will freeze you. There's no guarantee, but cryonicists believe a day will come when science finds a way to revive and regenerate bodies preserved at minus 320 degrees Fahrenheit in liquid nitrogen.

In cryonics, there is no such thing as what Johnson called "kind Nat" of retreat.

neering will soon yield the capability of making cell-sized machines to repair damaged cells and even regenerate a new body for an old brain.

Federowicz is one of two cryonics researchers presenting a paper at the society's conference. His topic is not body freezing, but the low-temperature (about 38 degrees) preservation and revival of dogs using perfusion agents, chemicals common to cryobiology research that effectively act as

Federowicz' research topic isn't that far-fetched, but his associations are, in the minds of many cryobiologists. His very presence on the conference agenda, along with that of a colleague involved in similar research with



To sum up, the Society for Cryobiology seems very intent upon greatly restricting or prohibiting participation in the Society by cryonicists. ALCOR has agreed to a number of distasteful and even academically "scurrilous" compromises in an attempt to retain access to the cryobiological expertise present at Society meetings and to share our own research work with peers. Only time will tell what the outcome of these maneuvers will be.

#### SCIENTIFIC PRESENTATIONS

The Society has for a long time been something of a scientific backwater, small and isolated from the scientific mainstream as the members who founded it aged. In the last several years, this situation has begun to change. The emergence of such researchers as Peter Steponkus and Gregory Fahy has reversed this trend to a significant degree. This year a further step was taken. Several sessions were chaired by Dr. Fahy, who invited a number of "outsiders" to make presentations. In particular:

Devitrification — Douglas MacFarlane

Nucleation — Donald Rasmussen

Biological Effects of Dimethyl Sulfoxide — Stanley Jacob

Effects of Cryoprotectants on Enzymes  
at Subzero Temperatures — Anthony Fink

Interactive Effects of Cryosolvents, Ionic, and Macromolecular  
Solute on Protein Structure at Low Temperature — Pierre Douzou

These researchers normally are concerned with events which are not routinely covered in cryobiology meetings. They are, however, of paramount importance to the understanding of the mechanisms of freezing damage and its avoidance. Hence, the presence of these outsiders, who normally work and publish in the larger forums of physical chemistry and biochemistry, is likely to have an impact on cryobiologists that is both dramatic and beneficial. Some of this work will be covered in future issues of CRYONICS. In the meantime, I simply state that Dr. Fahy is now having an effect on cryobiology beyond his own excellent experimental work.

Research papers by ALCOR and by the Bay Area Cryonics Society (BACS) and Biophysical Research and Development (BPRD) were presented at the meeting. The BACS/BPRD paper entitled "Improving Revival of Asanguineous Hypothermic Hamsters" was read from a steno notebook by Dr. Harry Waitz, contained little hard data and presented several poorly substantiated claims. Waitz's assertion that hamsters had been equilibrated with 0.3M glycerol (even after perfusion with only 6 ml of a solution of the **same** concentration) and the assertion that recovery of a heartbeat from  $-11^{\circ}\text{C}$  (the intrathoracic temperature was **not** measured and the heart was not visualized) in **one** animal did not appear to be well received. The audience's applause after the presentation seemed rather cool. Perhaps most rankling to both the cryobiologists and Southern California cryonicists was Waitz and Segall's assertion that their "success" with subzero cooling justified a headlong rush into whole animal, subzero experimentation aimed at preservation of **viability** without first solving many of the **known** difficulties which stand in the way of success in this area (such as the dis-

rupting effect of ice on cell-cell relationships and the toxicity of cryo-protective agents as they are concentrated during freezing).

Mike Darwin followed Waitz with ALCOR's paper entitled "Asanguineous Perfusion of Dogs at 5°C for 4 Hours With Long Term Survival". The ALCOR paper received a warm round of applause afterwards. A number of investigators, including most notably Mary Douglas of Meryman's lab, complimented the ALCOR investigators on their quality work. Compliments from Douglas are particularly noteworthy since both she and her colleague Dr. Meryman have a long history of hostility to cryonics.

The overall impression of this meeting of the Society for Cryobiology is that both cryobiology in general, and their relationship with cryonics in particular, appear to be moving into a new and different phase. While these changes will probably be exciting, the evolving relationship with cryonics promises to be both fragile and spiny.

## The Demented Lexicographer: a document bestowed upon

Richard P. Marsh



One dreary midnight — I was more or less napping over my word processor at the time — suddenly there came a tapping at my chamber door. I arose to let the tapper enter. . . enter whoever or whatever he, she, or it might be. After all, it could have been the lady in the apartment next door dropping by for a little midnight rapping or to borrow a cup of something or other. Or it could have been the postman, late on his appointed rounds, bent on delivering the latest issue of DUMPDEATH MAGAZINE (whose well-known motto is "You only live once, so stretch it out").

But when I opened the chamber door — nobody.

In the distance, I heard -- I think I heard (I can't be sure) -- a giggle. But I could see nothing unusual. A couple of trees moving restlessly in the wind and rain, a stray dog, a cruising taxicab.

Nothing special. Although the dog looked rather miserable. Just a typical midnight street scene.

But I saw on my stoop an envelope.

I picked it up. It was addressed to me. I opened it.

Inside was the fragment of a manuscript which appears below in its entirety. As you can see, it is an uncompleted, more or less scholarly document. Whoever wrote it (it was unsigned) seems to have a chaotic mind — the piece skips from item to item rather irrationally — and yet it has touches of good sense, which is why I have decided to share it with you. Perhaps you will find that it starts you thinking at one or two points, although here and there you might find it irritating. But that's the chance we take, isn't it, when we read unedited documents on life-and-death issues by anonymous scholars?

For The Giggler (that's what I call the author of this curious piece) has chosen to write about death itself — or, more accurately, the postponement and even the eventual elimination of death. Specifically, he, she, or it has apparently tried to compile a dictionary of terms useful in discussing the process of life extension, and particularly that subdivision of life extension called cryonics.

All readers of DUMPDEATH MAGAZINE magazine are familiar with the discipline and therefore might enjoy skimming this document left on my stoop by the demented lexicographer.

The unfinished character of this work is evident from the fact that, although it is allegedly a dictionary, it has not yet been alphabetized. Apparently, it is truly a "work in progress." The title — Towards a Cryonics Dictionary — and the absurd brevity of the piece reinforce this view.

If you are uncomfortable in the presence of disorder, you may prefer not to read this work. If, however, you abhor that Ultimate Disorder called Death, you may feel that all opinions about life extension have some value, and you may therefore be willing to risk exposing yourself to the opinions of the Giggler as he, she, or it expressed them in the following unedited manuscript:

.....

Towards a Cryonics Dictionary

CRYONIC SUSPENSION. An unpleasant method of storing people pronounced dead by a medical profession incapable of defining death. You are frozen in liquid nitrogen, stuffed upside down into a metal cylinder, and maintained for an indeterminate length of time in the perhaps vain hope of one day being thawed, resuscitated, cured of what killed you, rejuvenated, and happily integrated into whatever society may exist.

It is a terrible thing to have done to you, but it is infinitely superior to anything else. All other methods of bodily disposal guarantee immediate or ultimate destruction of the body — and therefore, presumably, the consciousness associated with it. Cryonics gives hope.

**GOD.** Variouslly defined as: (a) A benign old man with a long, white beard, magical powers, rigid morals, and a short temper. (b) The creative force in the universe, referred to by physicists as negative entropy, by Jungians as the archetype of the Self, by poets as Love, and by politicians as the party platform. (c) A force for good that pervades the universe. Theologian-novelist C. S. Lewis, exposed to that definition of God as a child, came to realize as a young adult that he had a picture of God as a kind of giant tapioca pudding. (d) The highest possibilities of human development. Although this concept of God is condemned by religious fundamentalists as humanistic, it is accepted by some cryonicists. Cryonics offers the only method presently available for — perhaps — living long enough to achieve these possibilities.

**AGNOSTIC.** A shruggist. A shruggist is a person who simply shrugs when asked presently unanswerable questions about ultimate reality. An agnostic or shruggist is the least dogmatic of people. He is fairly clear about what he doesn't know, but he makes no pronouncements about what can and cannot be known at some future time.

Many cryonicists are agnostics. They are not certain that cryonics will work, and they are not certain that it won't. They tend to feel, however, that it will. There are two reasons for their optimism: (a) Logic and evidence strongly support the probability that cryonic suspension will succeed. (b) They are pragmatists aware of the power of the self-fulfilling prophecy, which they choose to have going for them rather than against them.

**ATHEIST.** A person more dogmatic than an **AGNOSTIC** but less self-deluded than a **TRUE BELIEVER**. Some cryonicists are atheists. Some are agnostics. Some are true believers. All of them love life and think it is much nicer than death. In the world at large this is a minority opinion. (See: **STUPIDITY**.)

**CONSCIOUSNESS.** Can't be defined or measured because it has no limits. Therefore, it is unpopular as a subject with some scientists, who nonetheless are not eager to give it up, knowing that if they do they are through. It is sometimes contrasted with **BEHAVIOR**, which has limits and can be measured.

Consciousness has value. Behavior is worthless. Any act of human behavior (moving through space, calculating, etc.) can be performed better — potentially, at least — by an unconscious machine. So what? What difference does it make? None. Differences exist in some creature's consciousness. Where there is no consciousness, there is no difference.

But consciousness, as far as is known, is absolutely dependent on behavior. No behaving brain, no mind. No stomach peristalsis, no hunger. No manipulation of genitals, no sexual ecstasy. Cryonicists, knowing this, are extremely eager to keep alive permanently the behaving physical organism, and they have devised the only reasonable method to date for doing this.

If consciousness without a behaving body, states of mind without a brain, could be achieved, the body could be abandoned as unnecessary baggage. The evidence that this will be done is not great.

**DEATH.** The elimination of everything valued by human beings and probably by other creatures. Sought after as the fulfillment of life by some metaphysicists, thanatologists, and lunatics. Avoided with great ingenuity by cryonicists.

If there is a point of no return in the dying process, one microsecond after that point has been passed death is totally unimportant and not fearsome in the slightest. In fact, at no time is death per se fearsome. It is simply nonexistence, nothing. Nothing to be afraid of. What is terrible is DYING, being face-to-face with the imminent elimination of everything beautiful, marvelous and valuable in human experience.

Cryonicists have taken some of the sting out of dying by emphasizing that it is a gradual, not an all-or-none, process, and that it is not necessarily irreversible. Even eggs may some day be unscrambled by the appropriate technology, and the original cow may be reconstructed out of the temporary hamburger.

Just now, death is inevitable. What is not inevitable is that it will always be inevitable.



**KISSING.** A method of interpersonal communication which involves intimately juxtaposing two pairs of puckered lips, then separating them either more or less explosively so as to produce a characteristic high-pitched smacking sound or slowly, moistly, and lasciviously. Osculation. Said to produce a variety of pleasant sensations in the participants. According to a CBS radio broadcast on January 11, 1983, practitioners of the art live longer than abstainers and therefore it is of special interest to cryonicists and others interested in life-extension.

A CBS broadcast on January 12, 1983 (the day after the broadcast referred to above), revealed that ANGER and HOSTILITY, as measured by psychological testing, are associated with shortened life-spans. This produces a problem for cryonicists, who generally prefer kissing and extended lives but who recognize that the appropriate reaction to aging and death is not the allegedly "wise" acceptance frequently recommended but rather anger and even fury. Indeed some cryonicists go so far as to quote with undisguised approval the recommendation of poet Dylan Thomas: "Do not go gentle into that good night. Rage, rage against the dying of the light." Some go even further and suggest that such

rage be translated into biomedical research projects designed to defer or eliminate aging and death. The cryonicist must thus learn to distinguish between the life-shortening and the life-extending forms of anger.

STUPIDITY. A characteristic human quality found in great abundance in many people. At a conference on life extension sponsored by the Alcor Life Extension Foundation on March 11-12, 1978, novelist Robert Anton Wilson spoke thus of stupidity:

Voltaire said, "The only way to get any concept of what mathematicians mean by 'infinity' is to consider the extent of human stupidity." [Delighted laughter and applause.] It has always been the strongest force on this planet. Love, greed, rage, joy — these are comparatively minor things that seize people for a few minutes at a time or a few hours at a time. Stupidity is omnipresent and ubiquitous. [Laughter.] It's like the Thomist God — it's everywhere. As Schiller said, "Against stupidity the gods themselves struggle in vain." [Laughter again.]

Examples of human stupidity abound in the recorded responses of many people to the suggestion that they take seriously the (tentative) promise of physical immortality offered by cryonics. A few are listed below. Many more could have been supplied:

1. "I've had a good life. When my time comes, I'll be ready to go." (You must have had SOME life if you don't want more.)
2. "Dying is natural." (That makes it good?)
3. "I've decided to be reincarnated." (How convenient. By the way, ask the next Hindu you meet how he feels about reincarnation.)
4. "Cryonics is sacrilegious. God wants us to die." (Who is this 'God' person? When and where did he reveal his lethal little plan to you? Is he as savage as he sounds?)
5. "Cryonics might not work." (Correct.)
6. "I want to go to heaven when I die." (Who doesn't? But it's nice down here, too. And I know there is a 'down here'.)
7. "Cryonics is expensive." (You said it!)
8. "I want to achieve immortality through my children and my art." (Woody Allen considered the second of these possibilities and decided he'd rather achieve immortality by not dying. I have considered the first and decided that I love my children so much that I'd like to stay around to enjoy them.)
9. "Won't we be overcrowded?" (Might be, for a while, so why don't you conveniently die so that I can have your space while we develop the technology for coping with crowds. Meantime, please stop having all those children.)
10. "Cryonics is selfish." (Name one thing you do — any one thing — that isn't.)
11. "Life is hard work." (Yeah, but ain't it fun?)



12. "What if my soul gets trapped in my frozen body and I miss my chance at heaven." (You don't think much of God, do you?)

These are just a few examples of HUMAN STUPIDITY. You can think of more.

HEAVEN. (a) A probably imaginary geographical region where good people go after death to enjoy the eternal bliss of having everything done for them. G. B. Shaw, noting that only good people go there, decided that it would be intolerably boring and expressed the desire — through one of his characters in Don Juan in Hell — to go elsewhere. (b) A highly euphoric state sometimes achieved by people who have been successfully pulled through a knothole, or who have undertaken a program aimed at consciousness expansion, or who are just lucky. Referred to by Abraham Maslow as a "peak experience."

Heaven is sometimes called PARADISE. Robert C. W. Ettinger, considered by some to be "the father of cryonics," wrote in Man Into Superman that cryonicists may have lost their souls but gained Paradise. It seems a fair exchange.

HELL. Human stupidity.

In a work called Towards a Cryonics Dictionary, thousands of additional words need to be defined. Perhaps one day I shall complete this dictionary and define these words. Among them are these:

SPIRIT, FINANCIAL INVESTING, CHOLESTEROL, HOPE, THE HUMAN POTENTIAL, AEROBICS, DESPAIR, DOGGED DETERMINATION, RESEARCH, IMAGINATION, JOY, DEATH AND TRANSFIGURATION, LIQUID NITROGEN, LIVING WILL, THE WILLINGNESS TO LIVE.

There are many others.

But more of that some other time perhaps. In the meantime, there is just one more thing to say and that is...

Here the manuscript suddenly breaks off. What that "one more thing to say" is, I can only guess. What this Demented Lexicographer — this Giggler — had in mind, if indeed he, she, or it has a mind, is perhaps irrelevant. Maybe even dangerous. He (she? it?) seems rather stupid to me, and since he-she-it has defined HELL as human stupidity, the entity in question may be the Devil.

I'd best drop the subject.



## Bay Area Update

by Dick Marsh

Pity the poor newspaper columnist! He/she has to fill a column each day whether she has anything worth saying or not. I am lucky. I don't have to do that.

On the principle that a lull today means a storm tomorrow, big things must be brewing for Bay Area cryonics. We're in a lull, folks. But just wait until that storm hits. And when it does, I'll report it.

Meanwhile, I give you this (it's all good stuff, but there's not much of it):

### BACS Benefactor Trades Ideas With BACS President

Arizona business man/philanthropist David Pizer and BACS President Jack Zinn recently discussed mass media and mass mailing advertising techniques for promoting BACS memberships.

Mr. Pizer also — how shall I put it? — spoke about monetary support.

The wire between San Francisco and Arizona sang for more than an hour. Jack: "Just wait till BACS gets the phone bill."

### BACS' Intellectual Roster Grows

Attorney Saul Rubinger, a neighbor of Paul Segall's, has become an associate member of BACS. BACS now has a number of lawyers, two judges, and assorted dermatologists, biologists, teachers, and professors in its roster. All this brainpower can do no harm to BACS and may even signal to the general public that cryonics is attractive to at least some professionals.

### BACS Now in Building Directory

Go to the Flood Building on Market near Powell in San Francisco, where Jack Zinn has his law offices. Look at the building directory in the lobby. There it is, big as life: BAY AREA CRYONICS SOCIETY. An office in a Market Street skyscraper with a nameplate to prove it beats a hole in a back alley. Even if the office is shared with an attorney who happens to be the BACS President.

We're on our way up — via the elevator.

### More Book Sales to Catholics and non-Catholics

BACS has sold four or five more copies of Attorney Jim Bianchi's legal forms manual. These have gone to various academic institutions including the Catholic school Loyola Marymount of Los Angeles. Whether this is further evidence in support of the hypothesis discussed earlier in BAY AREA UPDATE that Catholics are peculiarly receptive to cryonics is a matter of opinion. Also a matter of opinion: whether Jack Zinn's gift of a copy to his alma mater,

Southern Methodist University, is an expression of sentimental attachment or just a spontaneous outburst of benevolence.

Good News from TRANS TIME

On the grounds that no news is good news, I can report that there is good news from Trans Time. I.e., no news. But look out. Probably next month I will throw one of those SUPERUPDATE columns at you bulging with TRANS TIME items.

Thanks to CRYONICS for Book and Media Tips

My thanks to Saul Kent and Mike Darwin for their respective reviews of the Woody Allen film The Purple Rose of Cairo and to Steve Bridge for his review of the Tom Robbins novel Jitterbug Perfume. I have seen the film and, although its connection with immortalism is tenuous, it is real and the film is a little gem. I am now happily immersed in the novel and I have the same wish for it that I have for my own life: I wish it would never end. It is utterly charming and altogether hilarious. (Not unlike my own life from a certain point of view.)

If only everybody would read the book they might begin to realize that living is better — ever so much better — than dying and to suspect that there is something that can be done about this fact. Some of newly awakened people this would produce might eventually go on to the realization that at this stage of civilization's development the single most powerful thing that can be done about extending one's life is to embrace cryonics.

Old Publicity Standbys

I recently repeated two publicity gimmicks previously discussed in BAY AREA UPDATE and recommended to readers of CRYONICS. I phoned two local radio talk shows during a name-your-own topic period and introduced the subject of cryonics. Both hosts were courteous enough, although how comprehending they were is uncertain.

Ray Taliaferro (KGO) listened for a couple of minutes but then had to cut me off because he was up against the news. However, when he came back on after the news, he briefly mentioned freezing again though perhaps just a tad sardonically.

Michael Krasny (also KGO) engaged me in dialogue for awhile, during which he asserted that freezing at death was an old dream and that there had been no progress in the field for fifty years. I quickly disabused him, partly by telling him that I had recently scratched the head of a dog who, a few days earlier, had been near the ice point — something new in history. He had no comment.

Later, when the two men were briefly on the air together during a program change, they traded remarks about freezing. I have no objection to the light tone they used. They are, after all, entertainers and a little breeziness was appropriate.

But I was slightly irritated by a subtle smugness in their voices. I have heard it many times before in the voices of people who know little about cryonics but who are quite sure about its limitations.

But at least cryonics was seriously discussed on two night-time radio shows which claim listeners in six or more Western states as well as parts of Canada and Mexico.

Anything preventing you from phoning your local talk show?



#### Oakland High Revisited

Last year I wrote about being a guest speaker on cryonics in teacher Judy Yaeger's class in "Death and Dying" at Oakland High School. This year I paid a return visit. Same stimulating mix of Black, Asian, and Caucasian students. Same eager but challenging questions. Same openmindedness. Absolutely no smugness. (Their culture hasn't yet taught them how to be smug — at least not about cryonics.) Same upbeat feeling when I left the campus after the talk.

Before I left, Miss Yaeger asked me if I would consider coming back next year. She seemed delighted when I said, "Yes. As often as you wish." She also seemed delighted when I promised to send her information about how to join BACS and how to attend the next BACS and/or TRANS TIME meeting.

Another professional on the way? Some more kids turned on to immortalism? Hope so.

#### The Big Item

The big item in this issue of UPDATE should be the June meeting of the Society for Cryobiology in Madison, Wisconsin, attended by Drs. Paul Segall, Harry Waitz, and Hal Sternberg from the Bay Area and Mike Darwin, Jerry Leaf, and Hugh Hixon from Southern California. Unfortunately, however, I have not been able to collect enough information before deadline time to give more than an impressionistic sketch. Perhaps I can have something more specific on this in the next issue of UPDATE, and presumably the Southern California people will have reported on it in some detail before then.

I gather that what happened is that cryonics took some flack from the establishment cryobiologists but that Paul Segall and others returned fire with sufficient accuracy and diplomacy that the day was saved. (More details next month, I hope.) So cryonics can still hold up its head in cryobiological circles.

An interesting footnote is that a pre-Conference interview with Art Quaife on the mathematics of research design pulled Paul Segall's chestnuts out of the fire in advance. Seems he had goofed a bit on the statistics of a research project he was scheduled to present to the Conference, but he had had the foresight to confer with Art, who is a highly trained mathematician. Art drew Paul's attention to a statistical flaw in the presentation of the project, which Paul forthwith corrected.

Nothing like having brilliant and helpful friends.

At the moment I can't say much more about the Madison Conference without

floundering in ambiguity. So that's that, until I get more hard information.

There is, however, one firm fact to report: Paul is scheduled to conduct a life extension sciences poster session at the American Aging Association (AGE) Conference scheduled for July 11th in New York's Sheridan Centre Hotel.

Long life to you all.

## **The 1985 Lake Tahoe Life Extension Festival**

### **A Review by Steve Bridge**



The fourth annual Festival was held May 24-27 at the Timbercove Lodge in South Lake Tahoe, California. Lake Tahoe provides some of the most beautiful scenery in the United States, and it is a perfect location to celebrate the joy of being (and staying) alive. The record 60 attendees (an increase of 21 over last year) included persons from Oregon, Arizona, Indiana, Maryland, several from Florida, and recent arrivals from Australia and England. Most of the top leaders and thinkers in cryonics were there, including Art Quaife, Jerry White, and Paul Segall from BACS/Trans Time, Mike Darwin and Jerry Leaf of ALCOR/Cryovita, Saul Kent from the Life Extension Foundation in Florida, frequent CRYONICS

contributor Thomas Donaldson (recently moved to the U.S. from Australia), molecular technology thinker Eric Drexler, and of course hosts Fred and Linda Chamberlain. I was even more impressed and excited by the quality of the new attendees, each of whom was reasonable, intelligent, and interesting. The right new people are becoming involved. The combination of knowledge, leadership, and enthusiasm displayed at this conference turned it into one of the best weekends of my life and gave me renewed confidence that cryonics could work not only technically but socially and administratively as well.

The business got started Friday afternoon with a board meeting of the Bay Area Cryonics Society. Most of the discussion concerned the same topics mentioned by Dick Marsh in the previous "Bay Area Update" (CRYONICS, June, 1985.) The big news at the BACS meeting was an announcement by Art Quaife, President of Trans Time, that Trans Time is offering for sale 5,000 shares of no par value common stock at \$15.00 per share. Proceeds from the sale will be used primarily to retire debts, provide working capital, prepare a detailed business plan, hire additional workers, and to participate in the Cryonics Building Fund, which has been established to purchase a cryonics facility in Northern California.

After the meeting, there was a large and excited reception at the clubhouse of Lakeland Village Condos. The clubhouse was right on the shore of Lake Tahoe and provided both a beautiful view and the perfect atmosphere for meeting many of the new conference attendees. Since I'm not a part of the regular California cryonics scene, it was exciting for me to meet some of the new ALCOR members such as Sherry Cosgrove, Brenda Peters, and Florida members Glenn, Mark, and David Tupler and Luigi Warren.

The Conference sessions on Saturday and Sunday were held at the Timbercove Lodge. ALCOR had a fine table display in the conference room, with free literature, recent issues of CRYONICS, and copies for sale of various publications, including the new suspension paperwork and a number of books donated by Frank and Cynthia Ujlaki and Fred and Linda Chamberlain. (Thank you!) This turned out to be a great idea, since we sold nearly all of the paperwork sets we had brought, plus several copies of other items. Eric Geislinger and Jane Talisman brought copies of Claustrophobia, and Trans Time put out copies of their new stock offering.



**More twisting roads?! (from left to right) Al Lopp, Luigi Warren, Mike Darwin, Gerri Rothacker, Scott Green and Frank Rothacker. A pit stop on the way up to the rafting station.**



These sessions were so packed with presentations that the audience barely had time for a breath between each one. I will try to give a short description and some of the flavor of each talk, but I cannot critically evaluate each or provide great details. If you want more, you should be attending these with us! (Incidentally, several of the presentations will be published in some form in the pages of CRYONICS over the next few issues.)



**A brief rest: everyone paused from the hard work of paddling for a bit of refreshment--and to empty out the soggy boat bottoms.**

Richard Marsh of BACS started the Saturday session with what might be described as a "Keynote Speech" called "High Tech/High Touch/Hibernation." The talk was an expansion of Dick's article "Why Keep on Living?" (CRYONICS, June, 1984) and discussed immortalism in the light of what Dick feels is the prime human goal—searching for the "peak experience," the highest possible human state of consciousness. It should be pointed out that Dick does not mean this in any kind of mystical religious way. Dick's rousing optimism set the right tone for the rest of the day's presentations.

Fred Chamberlain gave us liberal doses of humor and psychology in his discussion of "Life Extension and Personal Computers." Fred is interested in developing an interactive computer program which would evaluate an individual's lifestyle, interests, attitudes, etc. and then gently suggest changes in habits which might fill that person's immediate needs and suggest further areas for exploration. In the process of opening this person to new ideas, the program might be able to detect "latent life extensionism" and suggest something in that direction to the user. Fred is now in the beginning stages of examining personality and learning theories to learn how to set up such a program. One flaw in current theory he has noted is that no one has developed any models which consider the desire to avoid death in relation to personality. Fred hopes to develop some surveys which will be a step in this direction. (Apparently Fred found other people interested in this idea, since he got several offers of help during the conference.)

Jerry White of Trans Time then put on his English professor disguise and led us in a discussion of "deathist" quotes from some well-known authors, including several authors he greatly respects. He read quotes from John Fowles, Robinson Jeffers, Ayn Rand, Isaac Asimov, and C.S. Lewis. Jerry didn't take the easy route; he used only brilliant, eloquent writers as examples.

After lunch, we got into the heavy stuff. Jerry Leaf of Cryovita started out with a discussion of recent UCLA research on recovering patients from heart attacks. Approximately 70% of deaths from heart failure are due to coronary artery disease resulting in inadequate blood flow to the heart. Work at UCLA has shown that one class of these patients, those with sudden complete closure of a major coronary artery, will not regain function of the affected area, even though blood flow is restored by balloon angioplasty, streptokinase, or coronary artery bypass grafting. In fact, merely restoring the blood flow causes an "irreversible" injury by precipitating calcium inside injured cells. The laboratory of Dr. Gerald Buckberg, in the UCLA Division of Thoracic Surgery, has developed a solution to this injury. By controlling the cellular environment with low-calcium blood, mixed with high energy substrates during the initial re-establishment of blood flow, the injured area can be restored to immediate function. The preliminary results of patient trials at UCLA have shown these patients can leave the hospital in 5 days, after coronary artery bypass surgery, with normal function of the heart, compared to the certainty of failure for those patients not so treated.

Once again the definition of "myocardial death" has been redefined. This yet another illustration of the fact that much of what is passed off as death is really due to inappropriate action rather than any physiological limitation. This new treatment for heart patients has the potential to impact the survival of 250,000 people each year in the US.

Linda Chamberlain examined the cholesterol controversy in detail, and told of her own dietary problems. She had gone on an extreme low-fat, low-cholesterol diet but had heart problems, apparently because the diet ended up being a high sugar diet. Linda's examination of the major research in the field shows a definite correlation between blood levels of cholesterol and heart disease; however, not one study has shown that cholesterol in the diet creates higher levels of blood cholesterol. Apparently 90% of the cholesterol in the blood is manufactured by the liver, and high levels are related to genetic deficiencies, not to diet. Linda supports eating lots of eggs, which have never

been shown to cause heart problems; but she maintains that excessive sugar is the true killer. A very lively discussion followed Linda's talk.



Jerry White (with Art Quaife as silent partner) discussed the mathematics and physics of "Heat Flow in the Cryonic Suspension of Humans." Basically this was a much simplified discussion of a very technical paper. In all honesty, Jerry probably simplified this too much for the level of sophistication of this audience.



The final talk of the afternoon was given by featured guest speaker Eric Drexler, author of the forthcoming book, The Engines of Creation. Eric is one of a handful of creative technical people who are dealing with



**Stragglers: Al Lopp helps Mike Darwin (sitting) and Luigi Warren, the last ones to arrive, pull their boat ashore.**

the volume of a human cell will be developed to provide instructions for these machines. These machines could break crosslinks, repair damaged proteins and DNA, and thus even repair frozen cells. Therefore, cryonics should work.

In this manner Eric Drexler has led several people from nano-technology to cryonics, without ever confronting them with the more emotionally charged issues of death and immortality. While this approach might not work with everyone, it may provide rational entry into a number of scientific circles previously untouched by cryonics.

Regarding the request that people send in advance orders for The Engines of Creation to Eric's publisher, Doubleday, (CRYONICS, May, 1985): Dave Barbour, Eric's editor, was fired in a major editorial reshuffle. The new editor is Paul Aron, same address. Please send letters through him, with the suggestion that he forward them to the mail-order sales department and the publicity department.



the embryonic field of molecular engineering, sometimes referred to as "nanotechnology." The development of this technology will be crucial to attempts to repair and revive suspension patients in the future. The fact that Eric and his wife Christine Peterson have become interested in cryonics is one of the most promising happenings in a long time. Eric and Chris came to their interest in cryonics through an indirect approach which Eric now uses in his own talks.

He works from the premise that molecular machines (that is, machines which can directly manipulate individual molecules and atoms) are inevitable, probably sometime within the next fifty years. After all, natural molecular machines, such as enzymes, already exist and we will soon begin to design our own. This will allow us to assemble almost anything we want, atom by atom, from whatever substance we want. Molecular computers less than 1,000th

While the lodge staff set up for the evening banquet, many of us repaired to the bar downstairs, where I had some of the best conversation of the weekend. People were generally in a talkative mood, excited by the people they were meeting and by the talks they had heard. The banquet was only fair, but the lodge had made an effort to provide vegetarian meals for the many conferees requesting them.

The featured entertainment of the evening was a panel discussion on the nature of memory and

identity, featuring Mike Darwin of ALCOR, Eric Drexler, and Jerry White. Saul Kent moderated the session and kept things stirred up with questions like "Who are you?" and "Who do you want to become?"

Sunday morning was the time for some fairly technical research presentations. Jerry Leaf began at 8:00 a.m. with "An Overview of a Recent Alcor Suspension," a more technical look at the suspension reported in CRYONICS, April, 1985. This was the most thoroughly monitored suspension in history, including quality control checks of sterile technique for the first time. A detailed slide presentation was given, which included a large number of charts showing various chemical levels during perfusion and showed how a neuropreservation suspension was accomplished. The presentation was especially noteworthy for the amount of information which had been gathered and for the honesty displayed, including what errors had been made in the suspension.

Paul Segall of BACS and Biophysical Research and Development (BPRD) followed with "Strategies and Techniques in the Life Extension Sciences." He discussed problems with reporters and showed a videotape of a recent television interview with BACS and BPRD personnel which had not turned out the way cryonicists would like to see. He also detailed some of the areas of concern for life extension sciences during the next few years, with emphasis on interventive gerontology, suspended animation, and cloning. Paul also discussed the meaning and value of the hamster research being done by BPRD. This particular model is being used because 1) it is easy to use and techniques can be developed which will later allow the researchers to switch to rats, 2) hamsters are tough enough to allow the technique to be perfected, and 3) the basic techniques are now simple enough to use that they are "exportable", i.e., other researchers around the country can be trained to use them.



## Casualties. An assortment of icy-wet shoes and socks failing to dry in the California sun.

consciousness and living for at least a few hours.) They are just beginning to do sub-zero work with the hamsters, but initial results sound promising. They are using small amounts of glycerol in the perfusate for the sub-zero work, and one hamster regained heart beat (although not consciousness) after rewarming from -11 degrees centigrade. Harry also showed a videotape and slides of the procedure being used. Harry and Paul stated that they felt this research could lead in a straight line to true suspended animation. In the question period following, Michael Darwin questioned the assumptions made concerning the meaning

Harry Waitz of BPRD then gave an update on that hamster research. The researchers are now using glucose in the perfusion solution and are getting much higher survival rates. (In this particular set of experiments, "survival" means regaining

of the results. This led to the only heated debate of the conference. The controversy was not settled then and is likely to continue for a long time to come. Since BPRD is just beginning this new phase of experimentation, any specific details of the debate are best left out, pending further results.

Then it was ALCOR's and Cryovita's turn to show the results of their research. Jerry Leaf, Mike Darwin, and Hugh Hixon presented the results of the recently completed series of total body washout perfusions on dogs. ALCOR now has a perfusate which has been successfully tested to be physiologic (i.e., compatible with normal physiology) and which results in long-term survival of the subject animal when the animal is cooled down to 4 degrees centigrade and perfused for 4 hours. A total of seven experiments were done, with long term survival of the subject in six of those experiments. Some of the results of the individual perfusions have been presented in previous issues of CRYONICS (September and October, 1983; September, November, December, 1984; and February, March, May, 1985), and an overview article is expected sometime in the near future.

The most useful elements of this discussion were the many clear graphs which compared results in three of the experiments in the series. We were more easily able to understand the differences in each experiment this way. Probably the most important result of the project was the discovery that control of pH in the animals might be the main key for survival and rapid recovery. At the end of the talk, Dixie, one of the surviving animals, was introduced to the crowd, and she proceeded to wander around the room receiving much deserved attention from the attendees.

Mike Darwin and a professional cryobiologist who must remain anonymous in this publication then proceeded to evaluate the research project which examined freezing damage in cats. (The actual research was done by Mike, Jerry Leaf, and Hugh Hixon.) Both ischemic and non-ischemic subjects were perfused with glycerol, frozen, rewarmed, and examined for various levels of damage. Both light microscopy and electron microscopy were done, using several techniques. The slides and discussion of this research carried on through the lunch break, as many people ate lunch while remaining with the presentation. The results were sort of a "good news—bad news" story, with some structures in some tissues being apparently well-preserved, and with others being badly damaged. It has not yet been possible to establish whether or not such damage will be reversible by techniques such as those Eric Drexler and others have proposed.

The afternoon was devoted to news and commentary (and a bit of salesmanship) from the various cryonics and life extension organizations represented at the Festival. Jerry White told the history of Trans Time, followed by John Day, Paul Segall, and Art Quaife discussing current concerns and problems. Richard Marsh spoke about recent progress for Bay Area Cryonics Society. Mike Darwin related ALCOR progress of the past year or two and invited Steve Bridge to discuss the new ALCOR suspension paperwork and documentation.

The final presentation of the Festival was given by Saul Kent, as he continues his approach of getting people interested in cryonics via life extension. One massive project Saul is organizing is Project 2000, a coordinated plan to extend the human lifespan. (The Project is not connected with the Life Extension Foundation.) This is a 15-year plan and Saul intends to make sure that 90% of the funds collected for the project actually are spent on research. The project will probably support research in three promising areas:



1. Dietary restriction; but not just repeating previous experiments. Object will be to find out why this increases the lifespan in experimental animals.

2. Immune system repair and improvement, including chemicals such as thymosin and isoprinosine, and thymus gland transplants.

3. Genetic control of aging, including first-time detailed examinations of the aging theories related to the loss of protein synthesis and the "death hormone."

A promotional film for Project 2000 is now in progress. Saul expects that major publicity will begin around October or November of this year.

Saul is also planning a MAJOR conference called "Life Extension Breakthrough" at the Disneyland Hotel in Anaheim, California for next May, probably May 2, 3, and 4. The conference will feature major scientists giving presentations on life extension, anti-aging, cryonics, etc. Exact details will be announced soon.

Saul is not ignoring cryonics, however. He continues to aid ALCOR with research and administrative donations, and he is actively helping to locate and purchase a site for a permanent cryonics facility in Southern California.

While the "work" of the Festival ended here, there was still a lot of festivity yet to come. A number of people went to the Tony Orlando dinner show at Harrah's that evening, while at the same time another large number dined at Harrah's magnificent (and inexpensive!) buffet. Actually, it wasn't at "the same time." Those of us going to the buffet ended up sitting 2 1/2 hours in the bar waiting for the restaurant to figure out how to seat a party of 18. Next time we will be three parties of 6 — which is how we ended up sitting anyway.

Monday's activities were both more scenic and more athletic. The original program called for a lake cruise on the paddlewheeler Tahoe Queen; but unfortunately for us, the ship was engaged in a race across the lake and wasn't taking passengers. As a substitute, fifteen of us drove around Lake Tahoe to the Tuckahoe River and paddled rubber rafts downstream for three hours. The river was very low, so we had to really paddle, not just coast. I had a great time on the river, even with the inventive psychological tricks Fred Chamberlain used to keep me rowing straight (so he said, anyway). But after three hours, the restaurant and bar at the end of the trip was a welcome relief. Then we hustled over to a local stable (the same as last year's ride) to sit on some horses as they slowly strolled over the mountains. This year's ride became quite breezy and chilly; but the scenery was magnificent as always, and the steak dinner at the end of the ride was wonderful--except, no doubt, for the vegetarians along. They made do quite well, though, on the salad, sweet corn, and beans; and Mike Darwin always gets extra nourishment from being able to lecture on the disgusting and barbaric psychology of carnivores.

The real delight of this Festival was the companionship. The immortalists at Lake Tahoe were so full of life and intelligence that I had no trouble believing these people could live for centuries without boredom. The amazement and enthusiasm on the faces of some of the newest attendees was especially gratifying. This was my third Festival, and I finally have gotten to know most of the regulars. Still, I regret that there were several more people I did not have time to know more fully.



I wish to express my deepest thanks to Fred and Linda Chamberlain, who have done such a magnificent job of organizing this gathering each year and keeping it a festival and a celebration. Those of you who have never attended the Festival are missing not only a wonderful weekend, but also the friendship of two fine people.

Because of the "Life Extension Breakthrough" next May, the Lake Tahoe Festival will be moved to Labor Day Weekend. Fred and Linda Chamberlain inform us that the Festival will be essentially the same as it has been in the past: reception on Friday, August 29, papers on the 30th and 31st and a day of recreational activities on Monday, September 1st. I look forward to seeing you all there next year!

## Science Updates by Thomas Donaldson

### ENDORPHINS AND SPINAL INJURY

Recently in CRYONICS we reported evidence first discovered by A.I. Faden, T.P. Jacobs and others that the drug naloxone will greatly improve recovery from spinal injury (A.L. Faden et al, SCIENCE, 211, 493 (1981)). The drug naloxone acts to reverse the effects of morphine and other opiate drugs. The tremendous surge of addiction to opiate drugs over the past 20 years has caused scientists to study their effects very closely. This has led scientists to discover that our brains make their own forms of opiate chemicals. This probably accounts for the fact that opium or morphine can have their distinctive effects.

Faden et al reasoned that these natural opiate chemicals might cause some of the damage in spinal cord injury. They tried naloxone to counteract these chemicals. Naloxone actually helped.

However, that is not the end of the matter. Among other things, we now know that there are many different brain chemicals which resemble morphine; scientists have given them the collective name endorphins. Which of these actually causes the injury? Most hormones affect cells by attaching to special receptor chemicals in the cell membranes. Our cells contain many different kinds of receptor chemicals. Which of these responds to the endorphins when injury occurs?

If we had answers to such questions, we would know better how to treat these injuries. Naloxone, in particular, only helps if given in massive doses. These cause many other undesirable side effects. We would also have better evidence to support naloxone as a treatment.

Recently, Faden et al have published another paper (ANN NEUROLOGY, 17, 386 (1985)) exploring answers to these questions of the exact endorphins involved in injury and the receptors to which they attach.

Scientists know three different kinds of receptors to which endorphins

bind. They call these the mu, delta, and kappa receptors. They have found three different kinds of endorphins, each of which comes from one particular precursor chemical. Complications arise. Endorphins of each of these types will bind to more than one kind of receptor.

Faden et al therefore did experiments to trace out two different kinds of effects of injury. Which of these three types of endorphins gets released? Faden and his coworkers used immunological methods to test for their answers to this questions.

The class of opiate chemical which plays the greatest role in injury to the spinal cord is the dynorphins. When Faden et al injured the spinal cords of rats, they found that injured tissues released dynorphin but not the other endorphins. The more severely injured were the rats' spinal cords, the more dynorphin they released. Furthermore, dynorphin but not the other endorphins actually caused paralysis of the hindlimbs when they gave it to rats. Although they could detect the other three types of endorphins, these showed no particular relation to spinal injuries.

Furthermore, among all the endorphins, dynorphins binds most strongly to the kappa receptor. Naloxone, on the other hand, doesn't bind to the kappa receptors so well.

Faden et al also report a direct test of the hypothesis that dynorphin causes injury by binding to the kappa receptors. They have used an experimental drug (WIN 44, 441-3) which binds to the kappa receptors much more strongly than naloxone. This drug acted far more effectively than naloxone to prevent damage from spinal cord injury.

So far, no one knows the exact means by which dynorphin causes further injury to an injured spinal cord. Dynorphin does concentrate in the synapses both in injured and uninjured spinal cord neurons. Some speculations are that dynorphin causes changes in blood flow to the neurons. It may also change levels of free radicals, calcium, or glucose.

This work suggests a lot of hope about the future of repair to spinal cords. It's true that drugs like naloxone only act when used to treat an injury soon after it occurs. They don't therefore help us solve the much harder problem of repairing an injury long after it has happened. However, even means to mitigate spinal cord damage will mean a lot to those injured!

As for possible relations with brain injury and with drug regimens suitable for cryonic suspension, that question remains unstudied. However, it's very likely that endorphins do cause some degree of brain damage in after-injury to the brain, not just the spinal cord. The most direct effect of this new knowledge, of course, is simply that our understanding of brain and nervous tissue injury continues to increase. We have excellent prospects that many cases of brain damage will be curable in a few decades time.

#### A CLOSER STUDY OF LACTIC ACIDOSIS IN BRAIN DAMAGE

One metabolic change occurring in brain tissue deprived of blood flow is a rise in the level of lactic acid. Lactic acid causes injury when other tissues lack blood flow too; an important part of cryonic suspension itself consists of

controlling the acidity of the blood with the buffer sodium bicarbonate.

An interesting paper by several Swedish neurologists suggest that lactic acid levels in brain tissue after injury actually correlate better to recovery of these brains than does the ability of the tissues to restore their energy levels. Stig Rhencrona, I. Rosen, and M.L. Smith of the University Hospital of Lund report in EXPERIMENTAL NEUROLOGY (87, 458-473 (1985)) that rats just after brain injury could have the same levels of recovery of energy metabolism, but very different levels of final neurological recovery. The major variable consisted of brain lactic acid levels.

Their experiment was basically simple. They imposed different degrees of blood flow deprivation (ischemia) on brains of rats. This included total deprivation and various levels of partial ischemia. They controlled lactic acid levels by controlling glucose levels in the blood before ischemia. Both levels of ischemia and lactic acid levels independently affected recovery.

Rhencrona and his coworkers failed to take an activist attitude to these problems. It would have very much improved the value of their paper had they attempted to treat higher levels of brain lactic acid rather than simply correlate their levels with the ability of the brain to permanently recover.

Nevertheless, the facts discovered do emphasize how important it is for us to control acid levels in the blood. This is a relatively simple measure to take during suspension, and may considerably affect damage to the neurons.

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"I believe that man will not merely endure; he will prevail. He is immortal, not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance."

—William Faulkner

"Man is the only animal that laughs and weeps; for he is the only animal that is struck with the difference between what things are and what they ought to be."

—William Hazlitt

"Every great advance in natural knowledge has involved the absolute rejection of authority."

—Thomas H. Huxley

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