

CRYONICS

Issue No. 23

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Editorial Matters

We would like to apologize for the confusion caused by our too brief statement last month concerning BACS' decision to cease paying for subscriptions to CRYONICS and THE IMMORTALIST as a routine part of BACS membership. This statement was in no way an attempt to criticize BACS for this action. BACS was faced with a number of difficult and pressing decisions to make. Some BACS members feel strongly that BACS should not routinely mail material to their membership without any editorial control or at least without preview capability. There is good legal reason for this policy. Without a disclaimer and the opportunity for a member not to purchase a publication, BACS is in the position of being liable for any statements or assertions made in it. In addition, BACS has been steadily losing money on memberships and wishes to eliminate this situation and balance the budget as quickly as possible. Making subscriptions to CRYONICS and THE IMMORTALIST optional will help them reduce their marginal costs.

We understand the problems BACS is facing in these legally and financially treacherous times. We did not mean to imply that we were faulting them. We only wished to point out that we have no control over BACS policy and that we are not responsible for increases in dues or for changes in how subscriptions are handled. However, we are grateful for the many kind words of support which have been sent by our readers. It is also important to point out that BACS has been equally supportive of CRYONICS for many months, and its decision to make subscriptions optional will only effect our publication as much as you readers allow it to. The take home message in all this is: SUBSCRIBE. You are unlikely to see a more clear-cut issue presented in these pages.

We neglected to thank Hugh Hixon, Jr. for finding the H.G. Wells speech which was excerpted in the last issue of CRYONICS.

In the past two months 28 copies of our booklet, Cryonics: Threshold to the Future, have been mailed to major public libraries around the United States. This has resulted in orders for over 30 additional copies from these libraries. There are people interested out there. Further mailings are planned. These are only being sent to major metropolitan libraries, however; so if you want this information in your local public library, you must send us \$1.00 and the library's address. The name of the head of reference or of the person in charge of science material will help speed things along.

Cryonics and Cryobiology: An Update

One has no rules,
Is not precise;
One rarely acts
The same way twice;
One spurns no device,
Practicing the art of the possible.

From "Evita." Lyrics by Tim Rice.

In July of 1981 a brief editorial piece appeared in CRYONICS documenting the preliminary encounter between the Society for Cryobiology and various cryonics groups. In the intervening months since that initial, somewhat hopeful encounter, much has happened. At the end of this June, the Society for Cryobiology will have their annual meeting in Houston, Texas. At that time there is a strong possibility that a formal policy regarding cryonics will be adopted by the Society. It is now apparent that we can expect nothing good or decent to result from that meeting.

In September of 1981 we received copies of a proposed policy draft treating the issue of "cadaver freezing." Several weeks later we were leaked a revised copy of this policy statement. Both of these initial drafts were authored, as we understand it, by Harold T. Meryman, President of the Society for Cryobiology and director of the American Red Cross Blood Research Laboratory in Bethesda, Maryland. Several weeks ago we received yet another revision of this policy statement. This version was authored by David Pegg, a prominent organ cryopreservation researcher and an influential member of the Society's Board of Governors. This policy statement is reproduced on the following pages. We believe that, after reading it, you will be convinced that the Society's leaders intend to stop at nothing to exclude cryonicists from membership in the Society on both a personal and institutional level.

We understand that the Society's Board of Governors has recently rewritten its bylaws and will now require an extensive curriculum vitae to be submitted documenting an applicant's research credentials in pure or applied cryobiology. The Society will also henceforth require that members "support and comply with the ethical standards and policies of the Society for Cryobiology." Such ethical standards and policies are not defined within the revised bylaws, but would presumably include such policy statements as the one on "cadaver freezing."

Information from reliable sources indicates that the Society's Board of Governors may be taking a devious and roundabout approach to their exclusion of cryonicists. We know from sources present at a recent meeting of the Board of Governors held at the Cosmos Club in Washington, D.C. that the issue of cryonics was heatedly discussed for several hours. Indeed, we have a copy of the agenda for that meeting, dated March 10, 1982, in which the issue of cryonics is slated for discussion and the following strategy is laid out: "I have the feeling that my initial drafts took positions that might well result in stimulating, rather than reducing, controversy. Perhaps the most effective approach will be to attempt to draw a clear line between what is science and therefore a Society concern and what is simply a mortuary practice of no concern to us. The issue is not a simple one. --H.T. Meryman." In other words, the Society's leaders hate the idea of cryonics, and they will twist the Society around any way they can to find words which will allow them to eject the "body freezers," even if they must ignore all principles of honesty and intellectual freedom necessary to the pursuit of scientific knowledge. We understand that the minutes of this meeting have been edited so that all discussion of cryonics is excluded. These edited minutes will be mailed to Society members along with copies of the proposed new bylaws. Sources within the Society have informed us that it is the intention of the Board of Governors to quietly pass the new bylaws and then directly take on the matter of cryonics and the relationship the Society for Cryobiology should have with cryonicists.

Last September, when we received copies of the first "cadaver freezing" policy draft, Michael Darwin (Federowicz) wrote to Meryman, offering him the opportunity to speak his mind directly to the membership of IABS and to other cryonicists around the country. Meryman responded, declining the invitation and stating that writing an article for CRYONICS would "contribute to the illusion that cadaver freezing is a scientific procedure." By further statements in his letter, we believe that the basis the Society's leaders will use to exclude us from membership in the Society will center on the objections that cryonics is not science, that it is not ethical, and that it is not good for anything anyway.

We do not have permission to print Meryman's letter; but we are including the text of Michael's answer to him, dated April 21. We believe from that you can infer much of what Meryman said. Also included is the text of the revised policy statement. We will report on further developments as we are able to find out about them.

Harold Meryman, M.D.
Cryobiological Laboratory
Red Cross Blood Research Lab
Old Georgetown Road
Bethesda, MD

Dear Dr. Meryman,

Due to the vagaries of the Postal Service, I only recently received your letter to me of October 2, 1981. Thank you for your response to my request. Your letter raises several interesting issues which I would like to respond to. Perhaps you will find my prose worth sharing with the other members of the Society for Cryobiology.

When you state that you see "body freezing today as an act of faith where science is as irrelevant as it is to reincarnation or to the Christian resurrection," you are wrong. Cryonics has nothing to do with revealed "truth" as both Christianity and reincarnation do. No cryonicists that I know of consider either Robert Ettinger or Ev Cooper to have, or to have had, some pipeline to supernatural truth. We cryonicists do not KNOW that cryonics will work. We are well aware that cryonics is optimistic speculation about the capabilities of

"I never lose sight of the fact that just being is fun."

-Katharine Hepburn

medical and biological science in the future. Cryonicists do not expect the medical and scientific discoveries necessary to reanimate patients now in suspension to materialize from thin air or to be presented to us on a silver platter by some deity. Quite the contrary, we are mindful of the fact that if we do not do something to improve the state of the art, the state of the art will not improve. We are not counting on gods or karma; we are counting on ourselves and on men and women much like ourselves to save our lives. Cryonics involves optimism and extrapolation. These things are a long way from faith. We have never claimed any certainty that our patients are going to be returned to life. We have no such certainty and no such faith. What we do believe is that there is some chance that they may be reanimated and we hope that they will. There is a tremendous difference between hoping someone will come back and having faith that they will.

Your statement that "cadaver freezing is not a scientific procedure" is laughable. I think a little comparison for perspective would be helpful at this point. Cryobiologists are trying to achieve kidney preservation via vitrification and freezing. In order to attempt kidney preservation they must ultimately freeze or vitrify kidneys. It is important to realize that when a cryobiologist freezes or vitrifies a kidney, he does not know with certainty that he will succeed. He may get a viable kidney out the other end of his procedure or he may get a mass of disrupted debris. That is the nature of experiment. Certainly most cryobiologists (with you as a possible exception) hope that when they vitrify or freeze a kidney, it will be recovered in a viable condition. The cryobiologist does not, however, have unquestioning belief that does not require proof or evidence; he does not have "faith" that the kidney will survive. What then is the difference between a cryobiologist and a cryonicist? When we freeze a human being, we are as uncertain of the outcome as is a cryobiologist when he freezes a kidney. Just like the cryobiologist, we too hope the experiment works; but we have no certainties, no unquestioning belief. In short, all of the elements of science are there: open-mindedness, the scientific method, and the basics of an experiment, which are a hypothesis based on facts and an experimental model which will answer the question one way or another. Granted, it is a very long term experiment with very high stakes, but still an experiment in the best tradition of science.

I think it is this last point, the point of the stakes being so high, that bothers you so much. You seem to be unable to understand that people are spending their money and their lives in pursuit of cryonics. And yet science is rife with examples of experiment where the stakes in emotion and human life were just as high. When Gerhard Domagk's little daughter lay dying of a strep infection, was his administration of sulfanilamide to her something other than a scientific

experiment? Sulfanilamide had worked against strep in mice but had never before been applied to humans. Personally, the stakes were very high to Domagk and he did what he had to do.

You have raised the issue of whether it is "right" to apply an unperfected technology such as cryonics. We have the unequivocal answer to that question. While we may not be able to know if what we are doing will work, we KNOW that what we are doing is right. We are in the same position as someone who begins CPR on a "lifeless" body they encounter, on the chance, perhaps on the outside chance, that cardiac arrest occurred a short enough time ago to allow for successful resuscitation. Notice that the rescuer does not make medical and ethical decisions about the victim. Such decisions are outside of his range of competence. He has no way of knowing with certainty what condition the victim is in and what chance the victim has of being restored not only to life but to health as well. In fact, there is only one way to tell what the odds of that are: wait and see. The rescuer's position here is to step in, apply technology that minimizes further deterioration of the victim, and get him to the most sophisticated medical facilities available in the hope that the professional medical personnel can reverse the cause of cardiac arrest and restore life and health. Notice also that the rescuer has no certainties about the outcome of the procedures he is carrying out. He can only hope that it will work and do the best job possible to insure that the victim has every chance. How does this differ from the position of a cryonicist? Since you admit in your letter that reanimation of humans frozen with contemporary techniques is a matter of probabilities rather than certainties, how does this differ from CPR? Is CPR not a scientific procedure but rather merely some act of faith like belief in Christian resurrection, just because the stakes are high, people are emotionally involved, and the outcome possible rather than certain?

I think perhaps that you have been away from clinical medicine too long. Much of medicine and certainly almost all of "high technology" medicine such as dialysis and surgery are gambles as far as the patient is concerned. Dialysis is certainly one area where the outcome for the majority of patients is not exactly desirable. There can be little argument that for diabetics on dialysis the odds of buying even a modest amount of reasonable quality life are very, very poor. Yet, even though it is not perfected, the treatment is applied. There is much precedent for what we are doing.

Even if we accept your argument that cryonics is not science but merely another high technology endeavor, by what reason does the Society exclude us from membership? Harris Manufacturing Company, Cryogenic Systems, Inc., and Minnesota Valley Engineering are Corporate members of the Society for Cryobiology. Are you going to take the position that high

vacuum technology or compressor manufacturing are "science," but that cryonics is just a "technically demanding empirical procedure?" These organizations are also clearly "technical" rather than "scientific" in nature. How is it that the Society allows their participation as Corporate members and excludes others because they are not involved in "science?"

Finally, your contention that nothing can be learned from cryonics is baseless and absurd. Our first encounters with ocular dehydration were made in human glycerol perfusions. Our work with humans has enabled us to determine that glycerol will equilibrate with human brains--an observation which may be of importance in attempts to cryopreserve human CNS material for transplantation. We are learning a great deal about the physiology of cryoprotective perfusion of the intact animal and human. We are ready and willing to share this information as well as further information from animal experimentation which we are currently conducting. All of these are things we are learning directly or indirectly as a result of freezing clinically-dead human beings. I should also point out that several outstanding cryobiologists have entered the field solely and completely because of their motivation to further cryonic procedures. I think this also speaks strongly for our right to be admitted to the Society as both individual and corporate members.

I must say that I am not surprised that you did not respond to my offer for you to speak to cryonicists wearing whatever hat you chose--personal, professional, or otherwise. I notice that you are not nearly so reticent to express your views about "probabilities" to the popular press. I also find it disgusting that you are much more forthright in your views when drafting policies on "Cadaver Freezing" to be expressed as the position of the entire Society for Cryobiology. I feel it sad that a scientist of your calibre does not have the intellectual honesty to state his views openly in the clear light of day as an individual, but rather feels compelled to have the Society for Cryobiology to stand behind when making pronouncements about the probability of success of cryonics.

The time for decorum and good faith seem to be drawing to a close. Do not expect us to take exclusion from participation in the Society for Cryobiology with a shrug. We have every intention of pursuing this matter to completion. Perhaps only then will you begin to understand just what a serious business cryonics is and just what the concern of the Society for Cryobiology with cryonics is.

Sincerely,

Michael Darwin,
President
Institute for Advanced
Biological Studies, Inc.

The following are drafts of a proposed policy statement on "cadaver freezing" to be issued by the Society for Cryobiology. We understand that the first two drafts were authored by Dr. Harold Meryman. The third revision is authored by Dr. David Pegg.

POLICY DRAFT: CADAVER FREEZING

The Board of Governors of the Society for Cryobiology has received inquiries regarding the policy of the Society toward individuals and organizations engaged in the long-term, low temperature storage of human cadavers in anticipation of eventual reanimation.

The Board recognizes and respects the well-established freedom of individuals to hold and express their own opinions and to act, within lawful limits, according to their beliefs. Preferences regarding the disposition of the dead are clearly a matter of personal belief and, therefore, inappropriate subjects of Society policy.

The Board also recognizes that the goals of cryobiology include not only achieving an understanding of freezing injury and its avoidance but also applying this knowledge to the preservation of cells, tissues, organs and organisms. A future achievement may well be successful mammalian cryopreservation. However complex the social consequences of such a development might be, this is no basis for discouraging research in cryobiology. The cryopreservation of biological systems remains a legitimate scientific endeavor which the Society for Cryobiology is chartered to support.

Current understanding in cryobiology is at best fragmentary. Many cells and tissues are refractory to cryopreservation by the best available techniques. There is no confirmed report of successful cryopreservation of an intact animal organ. It can be stated unequivocally that mammalian cryopreservation cannot be achieved by current technology.

Nonetheless, certain organizations and individuals are advocating that persons be frozen subsequent to death on the premise that science may ultimately develop the capability both to reverse the injury of freezing and to revive the cadaver. The Board does not choose to involve itself in a discussion of the degree of remoteness of this possibility. The Board does, however, take the position that cadaver freezing is not science. Freezing and indefinitely storing a cadaver is not an experimental procedure from which anything can be learned. The knowledge necessary for the revival of whole animals following freezing and for reviving the dead will come not by freezing cadavers but from conscientious and patient research in cryobiology, biology, chemistry and medicine. The sole motivation for freezing cadavers today is the remote hope on

the part of individuals that this may be a means of avoiding death. It is an exercise of faith, not of science. Furthermore, to encourage individuals to invest many tens of thousands of dollars in post-mortem freezing with the implication of ultimate reanimation borders more on fraud than either faith or science.

The Board finds human cadaver freezing to be at this time a practice devoid of scientific or social value and inconsistent with the ethical and scientific standards of the Society. The Board recommends to the Society that membership be denied to organizations or individuals actively engaged in this practice.

4 September 1981

PROPOSED STATEMENT

The Board of Governors of the Society for Cryobiology has received inquiries regarding the policies of the Society towards the Cryonics Society, the Life Extension Society and other groups whose objectives include the cryopreservation of the human body.

The Board recognizes and respects the well established freedom of individuals to hold their own opinions regarding death and their right to select such tactics as they may choose to deal with it. That any individual should consider cryopreservation as an alternative to conventional death is a matter of personal belief rather than science and is no more a matter for Society concern than any other individual faith or philosophy.

On the other hand, in light of current scientific understanding of freezing injury to cells and tissues, even in the presence of cryopreservatives, the Board finds unequivocally that the prospects for reanimation of a cryopreserved human, particularly a legally dead human, are zero. The Board also finds specious the argument that science can ultimately find a way to reverse both freezing injury and the cause of death. We believe that the prospects for the physical and mental reanimation of humans frozen by current technology are nil.

The Board recommends to the Society that it adopt an absolute and unequivocal position in opposition to the current practice of human body freezing. In particular, we deplore the practice of cryopreservation for hire which, in view of the implied promise of eventual reanimation, we consider an act more of fraud than of faith.

Membership in the Society for Cryobiology shall be denied

to organizations or individuals actively endorsing or engaging in the practice of human body freezing.

(If the Board approves this policy, it should be ratified by the membership at the next meeting.)

SUGGESTED REVISION OF STATEMENT ON BODY FREEZING

DAVID PEGG 31/3/82

The Board of Governors of the Society for Cryo-Biology has received enquiries regarding policies of the Society towards the Cryogenic Society, the Life Extension Society and other groups whose objectives include the cryopreservation of the human body.

The Board recognizes and respects the freedom of individuals to hold their own opinions regarding death and their right to select such procedures as they may choose to deal with it. That any individual should consider freezing as an alternative to burial or cremation is a matter of personal belief rather than science and is no more a matter for Society concern than any other individual faith or philosophy.

However, some cryonics groups do not restrict themselves to the view that freezing is an alternative to burial or cremation. They also state or strongly imply that there is a finite possibility that the frozen corpse could some day be reanimated. This view is properly subject to scientific judgement. The Board of the Society for Cryo-Biology finds that there is no adequate experimental basis for this belief, and in the light of current scientific understanding of freezing injury to cells and tissues, even in the presence of cryo-preserved, it is the Board's scientific judgement that the prospects for re-animation of a frozen human, particularly a legally dead human, are infinitesimally low. Accordingly, we oppose and deplore the practice of human body freezing for hire which in view of the implied promise of eventual re-animation, we consider to be at best an act of scientifically unfounded optimism, and at worst an act of fraud.

Science Reports by Thomas Donaldson, Ph.D.

DIRECT CHEMICAL TESTS OF THE ACTIVITY OF ANTIOXIDANTS

Among the various theories of aging the notion that some general symptoms of degeneration in aging may come from damage by free radicals to critical cell parts has behind it a good deal of experimental support and some real prospect of relatively early application. Even though this application will still leave us quite far from immortality it would still be most welcome as a

first approximation to that. In order to apply this theory, of course, we require to have a large variety of nontoxic drugs which will act to inhibit free radical damage to whatever critical cell parts commonly suffer such damage; and we need to have much more efficient methods than the lifespan test on animals for finding such drugs.

A recent pair of papers in MECHANISMS OF AGING AND DEVELOPMENT (17 (1981) 283) by RD Lippman et al describes a new method of testing for antioxidant drugs in living cells and some of the results of this testing. Lippman et al have published an earlier paper on the same subject in EXPERIMENTAL GERONTOLOGY (15 (1980) 339), and these more recent papers confirm and extend previous results. The method, in brief, consists of use of a nontoxic chemical within the cell which would luminesce in the presence of free radicals, particularly the superoxide radical (O_2^-). This chemical probe therefore allows us to test for the amount of superoxide radicals present during the normal metabolism of the cell. If the cells tested also receive antioxidant drugs, the degree to which these drugs inhibit the activity of superoxide radicals can be measured DIRECTLY IN THE LIVING CELLS. We therefore need no longer rely upon the mere theoretical presumption that a chemical, known to act as an antioxidant in, say, butter, would do the same in a living cell.

Free radicals might damage cells in a large variety of possible places: the outer cell membrane, the nuclear membrane, the nucleus itself, the mitochondria, or the lysosomes. Of these, the mitochondria and the lysosomes would perhaps be the leading candidates for locations of damage critical to aging. The mitochondria are exactly the locations where cells burn their fuel to produce ATP, their energy storage and transmission chemical, and where we would expect many free radicals to exist normally. The lysosomes are small organelles where cells digest waste matter: cell parts which are defective and which the cell is breaking down to produce new cell parts out of their constituents and also foreign particles. Lysosomes contain enzymes capable of damaging many cell parts, and any antioxidant damage to their membranes would cause a leakage which would itself cause even more damage.

In their earlier paper, Lippman et al tested a variety of antioxidant drugs, such as BHT, procaine, vitamin E, ribonucleic acid, and a mixture of antioxidants under development for commercial administration in Sweden called ACF. They tested these substances for their possible ability to inhibit free radicals in the mitochondria of their test cells, human glial cells; in these more recent papers they use the same test to study antioxidant drugs for their effect upon the lysosomes of their test cells. Of the various candidate antioxidants, they found that BHT was most effective, with free radical levels at only 20% of controls. Other possible substances were less effective although they still decreased free radical levels: for instance, procaine only caused a reduction to 36% of controls. (It may be that procaine acts upon quite different cellular or brain processes in its action upon aging).

If we accept the theory that at least some of the damage attendant upon aging comes from free radical damage, direct in vivo tests of the sort which Lippman et al have pioneered should prove very useful indeed. We would hope for an increase in the (already relatively large) activity in this field to characterise the extent to which antioxidants might prolong our lifespan and further use of this luminescence technique to not merely confirm that known drugs have an antioxidant activity but also discover new drugs which may be more effective or less toxic.

CELL AGING AND THE HORMONAL ENVIRONMENT

Almost all cryonicists will recall the very interesting experiments of David Harrison, in which he showed that blood-forming cells could be transplanted from mouse to mouse for up to 6 times the normal lifespan of mice; and that by implication aging at the level of the cell had at best an indirect influence on the total lifespan of mammals (Harrison, DE J. GERONTOLOGY 30 (1975) 279). Cell lines transplanted according to Harrison's technique will eventually die off; although they apparently last for several years beyond the time that an equivalent cell culture would last. As yet we don't know why such cells die off, whether there may be any relation between this eventual failure and the aging of the animal, and what there may be in , which preserves or destroys them. What we DO know, however, is that answers to these questions might tell us a lot about aging: they would clarify exactly what changes may be involved in hormonal aging and also in cellular aging if indeed cellular aging takes place.

To study this problem more closely, we have needed work relating the environment of these blood-forming cells to their capacity to grow and multiply. A recent paper in MECHANISMS OF AGING AND DEVELOPMENT (17 (1981) 289) by Kim Mathews and D. Crouse has begun the study of interrelations between the bloodforming cells and the other cells of the bone marrow both in aging and young mice. It is these marrow cells which form the immediate environment of transplanted hematopoietic cells (blood-forming cells); Mathews and Crouse made a cell culture of such cells and then introduced into these cell cultures the actual bloodforming cells themselves. They made cultures of the marrow cells from both young and old mice, introducing into them hematopoietic cells from both young and old mice. They then studied the growth of the blood-forming cells from these different environments.

Mathews and Crouse found some very clear differences between hematopoietic cells cultured in a young environment versus those cultured in an old environment, although surprisingly these differences were not of a kind we might have expected. As it turns out, blood-forming cells cultured in an OLD environment seemed to grow FASTER than those cultured in the young environment. However the types of cells produced in the old environment did clearly differ from those produced in the young environment; aged environments contained fewer lymphoid cells and a moderate increase in the number of cells of one type, the megakaryocytes. Furthermore, the old environments produced a greater variability in numbers as between different cultures.

The cells of the megakaryocyte type will definitely fail to grow in a normal young environment (Williams, N et al BLOOD 51 (1978) 245). Furthermore, if young bloodforming cells are transplanted into old mice, they will produce a significantly greater number of megakaryocytes (ML Davis PROC SOC EXP BIOL MED 137 (1971) 1452). The eventual exhaustion of a transplanted cell culture may have something to do with this production of megakaryocytes, as may hormonal changes in the aging mice also. Mathews and Crouse speculate about possible other changes but so far their ideas are speculations only.

It would be of considerable interest, though also of great experimental difficulty, to attempt a duplication in vitro of the experiments of Harrison. The normal cellular environment clearly differs from the environment of a cell culture in which most of the work on cell lifespans has been done. We may hope that Mathews and Crouse pursue this work with a view to clarifying possible hormonal effects on cell lifespans.

BIG PRIZE ANNOUNCED! YOU TOO CAN WIN LIFETIME FAME!

I Thomas Donaldson have once more received the duty and privelege of acting as a Guest Editor of CRYONICS for September 1982. In this capacity I shall propose NOW the theme of the September issue of CRYONICS and what you can do to win my distinguished prize.

The theme of the September issue will be A PROBLEM OF CRYONICS AND A SOLUTION TO IT. As we all know, cryonics has many problems; for the September issue of CRYONICS I shall be seeking articles which do two things:

1. Propound and explain ONE problem which as cryonicists we face, either individually or collectively.
2. Propose a practical SOLUTION to this problem.

I will not be interested in articles which do only one of the above. We all know how many problems we face and its not really at all interesting to hear about these problems in isolation. If we wanted to hear about such problems, we could do so easily merely by consulting any one of the many NONCRYNICISTS we have around us in all directions. On the other hand, not everyone is agreed as to what these problems may be, and neither is it interesting to hear someone explain a proposed solution to a problem which some of us may doubt really exists in the first place.

As any reader can guess, there are degrees of quality to articles which might do both 1. and 2. A problem is a GOOD problem if it gets to the heart of the matter without dealing with peripheral issues, if it PLAINLY or CLEARLY a problem (at least after the author of the article has explained it), and if it has a solution which is somehow WITHIN REACH (while the problem of reviving suspended patients is certainly a problem of cryonics, its solution is not presently within reach, and an exposition of this problem would not interest me greatly).

A SOLUTION, on the other hand, is a GOOD solution if it can be practically implemented with the resources at hand in our present REAL situation, if it will significantly resolve the problem considered (as opposed to merely dulling the pain), and if it shows clear likelihood of being actually successful. To discover solutions which do not fit these criteria, you need merely consult the pronouncements of politicians in the daily press.

Judgement of the quality of a problem and its solution will of course be subjective. My own problems and their solutions, for instance, are judged by me to supremely fit all criteria discussed. Furthermore, the different criteria are contrary to one another in the first place, so that an author must balance them off, one against the other: we can't expect a perfect solution to a perfect problem. However I have felt that it would be useful to see an issue of CRYONICS devoted to our problems WITH PROPOSED SOLUTIONS and want to make this the theme of the September issue.

As an INCENTIVE to authors to get them to write and send in their cryonics problems and solutions, I am proposing a GRAND PRIZE for that article which I THOMAS DONALDSON consider to present the BEST choice of both problem and

solution, together. My judgement will be FINAL. The winner of this contest will receive the magnificent

HARALD T. MARRYMAN MEMORIAL CRYONICS PRIZE

which will consist of a beautiful ENGRAVED CERTIFICATE attesting to its author's intelligence and good sense.

All entries must be received by 21 August 1982 at PO Box 18, O'Connor, ACT 2601, AUSTRALIA, labelled CRYONICS PRIZE. I shall announce the winner in the September issue in which I shall print the best submissions received.

MAY 1982

ALCOR LIFE EXTENSION FOUNDATION

JULY-AUGUST 1982 MEETING CALENDAR

P.O. BOX 312 • GLENDALE, CA. 91209 • (213) 956-6042

ALCOR meetings are usually held on the first Sunday of the month. Guests are welcome. Unless otherwise noted, the time of day for meetings is:

1:00 PM - ALCOR Investment Club
3:00 PM - Regular ALCOR meeting

The JULY meeting will be in conjunction with the meeting of the Institute for Cryobiological Extension at:

(SUN, 11 JULY 1982) Cryovita Laboratories
 4030 N. Palm #304
 Fullerton, CA 92635
 Tel: (714) 879-0414
 or (213) 386-2285

DIRECTIONS: From the West, take Interstate 5 (Santa Ana Fwy) to Hwy 90 (Imperial Hwy) and go East 10-11 miles to Palm (East of Harbor). From the East, take Hwy 57 (Orange Fwy) to Hwy 90, and go West 2-3 miles to Palm. Go North on Palm into the industrial park and turn right at the first street. Turn right at the last intersection. #304 is the 2nd unit facing the lane on the West side.

The AUGUST meeting will be at the home of:

(SUN, 1 AUG 1982) Reg and Nancy Thatcher
 364 Milford St.
 Glendale, CA 91203
 Tel: (213) 246-2266

DIRECTIONS: Take the Ventura Fwy (Hwy 134) to Glendale and exit South on Brand Blvd. Go South on Brand a few blocks to Milford St. Go West on Milford to 364. The entrance opens onto the courtyard on the ground floor.

HOT ICE, A Play About Cryonics Meant All in Fun

Immortalists with a sense of humor in these troubled times for cryonics would have done well to have seen a performance of the recent theatrical offering, HOT ICE, produced by a group called Pacific Current at Studio Rhinoceros Theatre in San Francisco. A parody of a 1941 James Cagney film called White Heat, the two-hour tale gives any cryonicist with an appreciation of crassness, corn, dirty jokes and tongue-in-cheek satire a good opportunity to laugh at antics brought forth by things to which he is accustomed. This article is not a bona fide play review as much as a report on a collection of individuals---"normal people," although maybe not, because I would call them artists---who took more than a casual glance at us from outside our sphere of effort. Even though basically just trying to make me laugh, they did underscore some of the major aspects of being a cryonicist.

HOT ICE posits the Euthanasia Police Force (the fascist good guys) against the underground Cryogenics Foundation (the underdog bad guys) when young and sexy Ramona Malone seeks help to recover her would-be legacy from the "cryo-criminals" and thaw out her late husband in the process. It seems her favorite huge diamond necklace is "the ice that's gonna keep the ole boy frozen." She and Euthanasia Policeman Buck Armstrong (a real man!) take out after Max Mortimer, president of the Cryogenics Foundation, his mother Moms Mortimer, and his "mistress" Bunny Beswick. They and other members of the cast work their way throughout the evening to one of two climactic fightouts (take your pick) deep within the Secret Cryonic Storage Vault somewhere South of Market, never missing the chance to exhibit vulgarity and bad taste all the while.

Notable is the evidence that playwright Charles Ludlam actually knew something or took the trouble to learn something about cryonics. Talk is made of perfusing bodies with glycerol, heparin and Ringer's solution. The Secret Vault is laden with Egyptian artifact bric-a-brac, and the Malones are said to have met in the Egyptian Room at the deYoung Museum. Somewhere in there the legend of the Pheonix is also related.

Views of what it's like to be in cryonics or to live with a cryonicist are present, too. Bunny joins the mates of many cryonicists I know when she laments to Max, "You want to avoid death, but you are spending your whole life in a tomb!... Why don't you go down and live at the morgue instead of making a morgue out of our home?" Max later confides, "People hate me because I'm different from them. They don't understand me.... I belong in another age." Connoisseur of self-pity that I am, I was gratified to see that someone else could imagine what we go through and the feelings we experience.

Buzz Bense, who did an excellent job as director, was kind enough to show me a copy of the script. It's apparent that Charles Ludlam wrote the play in the late 60's; details such as bodies being wrapped in aluminum foil and cooled in ice and salt, then placed in "forever flasks" date it to the seasoned immortalist. The original locations in the script are actually on Long Island and in New York City. Quite possibly Saul Kent or Curtis Henderson or others around them might be the true originators of a few of the lines in the play. The rhetoric onstage is obviously lifted from early cryonics literature, with a satirical twist here and there. But the humor injected into our rhetoric is never vicious.

The humor is meant merely to shock and amuse. For example, Bunny was played by a man in a blonde wig and black lace woman's underwear and with

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Southern California Open House to Replace Conference Plans

While several people expressed supportive interest in a Southern California cryonics conference in September, we did not feel the interest or climate at this time warranted such an undertaking. However, we do feel it is very important for Northern and Southern California people to meet, even if informally, and have a chance to survey the changes that have gone on at Cryovita and adjust to the new layout and surroundings.

In order to facilitate such a meeting of minds IABS, Alcor, and Cryovita will host an open house of an informal nature. This open house will be held on the weekend following Labor Day (Sept. 10th, 11th and 12th). This weekend was chosen in order to accomodate the Northern California people who wish to make the drive on a less traffic clogged day. The preliminary schedule calls for a reception on Friday evening at the home of Marcelon Johnson in Huntington Beach and a tour of Cryovita's facilities on Saturday morning. Another get-together is planned for Saturday evening with a general meeting of IABS, Alcor and perhaps BACS on Sunday morning.

A more definite schedule of times and locations will be published in the near future. Marcelon Johnson has been extremely gracious in opening her home to us, and has also stated that she has limited accomodation for those wishing to bring sleeping bags. Other sleeping bag accomodations (on a very limited basis) will be available with other cryonicists around Los Angeles. Anyone wishing information about such informal accomodations should contact Mike Darwin at the phone number and address given below. We will have a list of local motels and their rates in a forthcoming issue of CRYONICS. Please, be thinking about whether you would like to come. Registration of intent to come will be required.

Anyone wishing to render assistance with respect to food or other preparations should also contact Mike Darwin at

406 W. Imperial Highway #303
Brea, California 92621
(714) 879-0414 or (714) 990-6551

We are looking forward to seeing you in September!

New Bay Area Cryonics Society Suspension Paperwork

Northern California attorney James Bianchi has recently completed the core documents for the new Bay Area Cryonics Society (BACS) suspension paperwork. We recently obtained a copy of these forms and have reviewed them in cursory fashion. The new paperwork represents a huge outlay of effort on Mr. Bianchi's part, and further represents a radical departure from any previous method of legal provision for cryonic suspension.

The new suspension documents were generated as a result of the California Attorney General's opinion stating that the Uniform Anatomical Gift Act does not cover the donation of human remains to a cryonics group for suspension purposes. Since all previous approaches for suspension arrangements relied on the UAGA, the Attorney General's opinion raises serious question about the soundness of all suspension arrangements executed in California.

Basically, what the core BACS documents consist of is:

- 1) Testamentary Directions for the Disposition of Human Remains
- 2) Declaration of Trust
- 3) Consent documents for the individual's family members, attorney, physician and executor

The first document which is the Testamentary Directions is basically an International Will. California law specifies that any directions in a will regarding the disposition of human remains shall be carried out immediately regardless of the other provisions of the will. (California Health and Safety Code Section 7100 (e).) What this means is that even if financial or other provisions of a will are found invalid or are contested, the provisions regarding disposition of the individual's remains must be carried out and carried out at once. We see only minor problems with this document as it is currently structured.

The second and perhaps most important document in the package is the Declaration of Trust. Unfortunately, this instrument has a number of what we believe, in our preliminary reading of it, to be very serious problems. First of all, this instrument is attempting to qualify as a charitable trust. In order to do this Bianchi has included statements such as :

"Trustee is to decline to act under this trust, and to direct interment if the human remains have become so seriously deteriorated that, in the Trustee's judgement, requiring the cryonics services requested or similar alternative services, would provide little scientific or educational value in accordance with the purpose of this trust."

This kind of qualifying statement, which is repeated in various forms throughout the document is probably going to be unacceptable to many cryonicists who have already made arrangements. Clearly, the majority of people already involved in cryonics would not consider allowing someone else, no matter how benevolent or informed, to make a judgement ostensibly based on "scientific and educational objectives" about whether to proceed with their suspension.

In any event, several later provisions of the trust raise serious questions about the validity of the instrument as a charitable trust in the first place. Section 10.3 of the Trust Document includes a provision which states:

"Should the human remains be revived to the extent described in article 10.0, and s/he is legally capable of handling his/r affairs, and if such human remains are those of the Settlor of this trust, the Settlor may elect to continue the trust as sole Beneficiary, or direct the trust terminate and the trust estate revert to the Settlor."

The above clause would seem to invalidate any claims as to the charitable nature of the trust since the ultimate beneficiary

of the trust is the "person" being maintained by it. This is a tricky question. In the past, both IABS and the Cryonics Institute have been told that tax exemption via the charitable and scientific route would not be granted if contracts for individual members for services were issued with separate accounts being maintained.

Perhaps a much more serious question about this instrument is the issue of a perpetuity. A perpetuity in its simplest terms is a trust or other financial or legal mechanism which is designed to conserve the estate of a dead person for an indefinitely long period of time. United States law is quite specific on the matter of perpetuities and forbids them under virtually all circumstances. Current law limits the duration of testamentary trusts to the life in being of the trustee at the time the trust becomes active plus a period of time not to exceed 21 years. Attempting to give rights and benefits to a charitable trust to a "dead" person raises the question of a perpetuity. Bianchi seems to have anticipated this difficulty with Article 11.0 which is a perpetuities saving clause designed to convert the document to a standard testamentary trust. This arrangement seems to us unlikely to satisfy many cryonicists since the duration of suspension may greatly exceed life in being plus 21 years.

Leaving these seemingly serious difficulties aside, there are a number of problems with vagueness of language which should be easy to resolve with more work. Perhaps the only other point to be made about the document is that it attempts to be all things to all people. Clearly, a middle aged man with a wife and children is going to need radically different trust arrangements than an elderly single woman with no dependants or relatives.

Copies of the ancillary affidavits such as the Relative's Affidavit were not available for inspection at the time of this review.

To summarize, the BACS paperwork is an interesting new approach to the problem of suspension arrangements. We understand that nearly \$2,000 has been spent so far in generating these documents. Unfortunately, a number of critical questions about this approach remain unanswered; the most serious of which are whether the trust will qualify with IRS as charitable and whether it violates the law against perpetuities. We can't help but wonder if the best approach isn't a new approach from the ground up.

OFF THE WALL STREET JOURNAL Covers Cryonics

A clever spoof of the Wall Street Journal contains an article which may be of interest to some cryonicists. In an article entitled: "Frozen Executives Avoid Hard Times; New Cryonics Ensures Solid Future" the Journal informs us of the existence of yet another cryonics company. The firm is identified as Execu-Freeze Corp. of Rockville, Maryland. The Journal reports that: "In the face of mounting corporate failures and the recession, businessmen enthusiastic about the long-term benefits of Reagan Administration policies are taking leaves of absence, many up to five years. What's making it possible is executive cryonics, the process of freezing the executive body into a state of suspended animation that can last up to ten years without causing lasting physical damage." Execu-Freeze's president Robert Stevens is quoted as saying "It's the perfect combination of supply side economics and modern technology.

Reaganomics is eventually going to pay off in a big way, so why suffer through this painful period of adjustment?"

In sharp contrast to Trans Time's lengthy and technically difficult procedure, Execu-Freeze's preparations consist of "...draining the blood from the cryonites and replacing it with 20-year-old Courvoiser. Patients are then lulled into a deep, happy coma as they listen to recordings of Ronald Reagan's famous General Electric free enterprize speeches, taped during the 1950's."

President Reagan is reported to be very enthusiastic about the plan and has "installed 15 cryonics capsules on his Pacific Pallisades ranch, and is said to be eager to become a cryonite after the upcoming round of congressional elections."

The Journal goes on to report that the plan is, however not free from opposition; "House majority leader Tip O'Neil recently proposed legislation now known on Capitol Hill as the "antifreeze amendment." The amendment would cut all revival research and divert the funds to the building of a John F. Kennedy souvenir flatware library in Mr. O'Neil's home district. "Those fat cats can thaw out on their own without taxpayer money," Mr. O'Neil is quoted as saying.

We congratulate the Off the Wall Street Journal on their clever and inventive news coverage. We would also like to thank Anna Schoppenhorst for bringing the article to our attention. Unfortunately, we do not know exactly when the article appeared as the copy provided us bears no date.

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heavy black chest hair to match. The presence of a drag queen shouldn't surprise, however, considering all the other off-the-wall things in the play and since Studio Rhinoceros is a gay-oriented theatre group to begin with. Nothing else in the play suggests same-sex relationships.

Some readers will find it hard to appreciate a work such as this, but despite your tastes it certainly does no harm. (Offend? Yes. Harm? No.) I would wish, for instance, for a thousand plays such as HOT ICE before seeing us treated again by such a hack as that reporter at OMNI magazine.

- Al Lopp

"How old would you be if you didn't know how old you was?"

-Satchel Paige

INSTITUTE FOR ADVANCED
BIOLOGICAL STUDIES, INC.
4030 North Palm #304
Fullerton, CA 92635

TO: