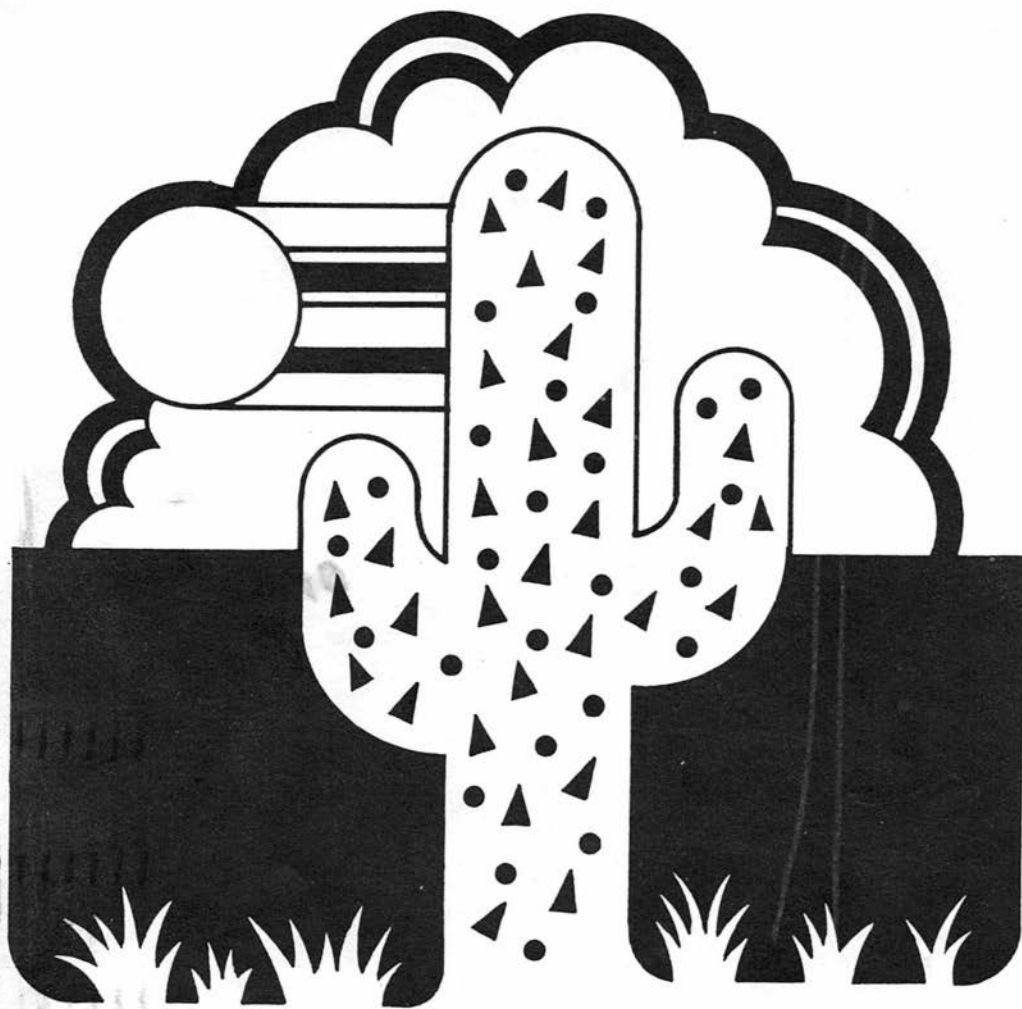


# Cryonics

October, 1987

Volume 8(10)



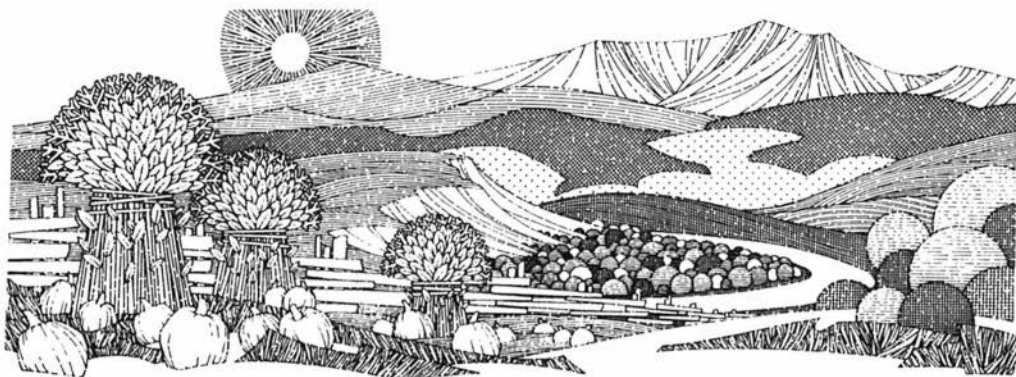
ALCOR At CactusCon

Volume 8(10)    October, 1987    Issue #87

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## SPECIAL NOTICE

If you are an ALCOR Suspension Member, you should now have a new ALCOR **Cryolink** Communications System necktag or bracelet. Your bracelet or necktag should have the new ALCOR phone number on it: (714)736-1703. If you **do not** have one of the Cryolink tags please contact ALCOR **immediately** so that one can be ordered for you.

The old ALCOR phone number, (714)738-5569, will be shut off after January 1, 1988.

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## EDITORIAL MATTERS

We have been running brief fiction pieces in CRYONICS for a number of months now. We've been astounded at the number of contributors and the volume of contributed material. While some of the contributions have been good, some bad, and some indifferent, one thing is clear: there's a strong desire on the part of a number of our readers to **write** fiction. The next question is, how strong is the desire on the part of our readers to read it?

We have received virtually no feedback from readers on the fiction pieces we've printed so far. So, we're asking for feedback now. Do you like the fiction that has appeared in CRYONICS over the past year or so? Do you want to see more of it? Do you have suggestions on the direction in which writers should go in exploring fictional themes related to cryonics and life extension? Would you like to see us drop fiction altogether?

Let us hear from you.

## Erratum

There is a misquote in the last (September) issue on p.2, in the paragraph by Stephen Bridge reprinted from **IABS Newsletter #1**, the first sentence should read:

**"We are offering you an opportunity you're likely to find in few other places — the chance to change the world."**

\* \* \* \* \*

## VITRIFICATION ON THE COVER



The cover of the August 29th issue of **SCIENCE NEWS** trumpets "The Big Chill Without Ice". The article is an in-depth look at the rapidly developing area of ice-free cryopreservation. Naturally, the article has quite a lot to say about the work of Dr. Gregory Fahy at the Red Cross Holland Laboratory in Rockville, MD. The prospects for ice-free, viable cryopreservation of whole mammalian organs is discussed and the article features a stunning photo from Dr. Fahy's lab of a vitrified kidney imbedded in vitreous solution at  $-140^{\circ}\text{C}$ . Next to the vitrified kidney in the photo is a chalky-white conventionally perfused and frozen kidney imbedded in vitreous solution.

Not only does the article acquaint the reader with the basic theory of vitrification and its potential for organ preservation, it discusses a wide range of research and commercial applications of vitrification which are underway right now.

**Rio Vista**, an agricultural embryo preservation firm in San Antonio, Texas, is already nearing commercial application of vitrification to cattle, pig, and other embryos. The advantage of vitrification over freezing is that no complex equipment is required to precisely control the cooling rate. The embryo can thus be recovered in the field, equilibrated in the vitrification solution and cooled by being plunged directly into liquid nitrogen. Since no ice forms, the rate at which cooling occurs is largely irrelevant.



# BEYOND THE CUTTING EDGE OF GOLD

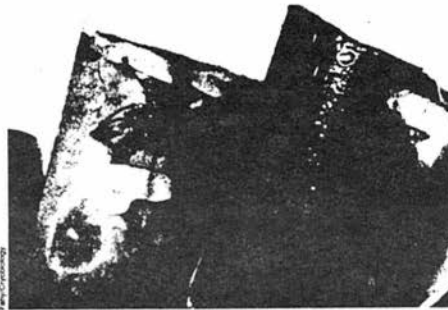
The way to freeze organs without ice may be clear as glass

By STEFI WEISBURD

**S**ome frogs freeze. They can be frozen hard as rock during the chill of winter and still leap back to life with the first spring thaw.

Nature has provided frogs, hundreds of insect species and other invertebrates with the ability to endure the ravages of freezing. We mammals, however, are another story. If we can't prevent ice crystals from forming in our cells, blood vessels and organs, the ice will do enormous damage. This fragility to frigidty hasn't hindered our survival, since we've invented down coats and other strategies to keep warm. But it has thrown cold water on the premier goal of cryobiology: to use the immobilizing effects of cold to indefinitely preserve biological materials, especially human organs that are donated for transplantation.

Cryobiologists have had some success in freezing, thawing and reviving some kinds of cells and tissues. But with conventional techniques, they're approaching a dead end in their attempts to cryopreserve anything nearly as complex as an organ. The problem has spurred a resurgence of interest in a technique called vitrification, which was first explored by biochemist R. Fahy in 1949.



A tale of two kidneys: Both of these rabbit kidneys have been cooled to  $-140^{\circ}\text{C}$ . The organ on the right was perfused and immersed in a solution that discourages the formation of ice. Researchers were indeed unable to find any evidence of ice when the vitrified kidney was subsequently split open with a hammer and chisel. The kidney on the left, however, was only immersed, not perfused, in a vitrification solution. It looks like a snowball because it has frozen and is riddled with ice.

cells and tissues routine] cryoprotective agents such as glycerol, cryman of the American Red "thought to act as antifreeze" (antilation Laboratory) "which may protect cell" told the Society "embra" "it meeting" "k we"

of excitement and optimism about solving fundamental practical and theoretical problems which have frustrated investigators since the 1600's, when Robert Boyle's first observations on the failure of most living systems to withstand cold were published.

Why are things injured from freezing and how do cells survive freezing with cryoprotectant? What causes "freezing" injury in cryoprotected systems? How do you preserve the wide range of cell types present in a multicellular organ or organism? Vitrification offers answers to all these questions. For the first time in 38 years, cryobiologists feel like they have a handle on cryoinjury and a fundamental and powerful new way to circumvent it.

Steffie Weisburd's article in **SCIENCE NEWS** (132(9), 138-141 (Aug 29, 1987)) captures that excitement and does justice to the rapidly emerging scientific and technical developments which are the cause of it. There is really only one downside to the **SCIENCE NEWS** article, and that is that Dr. Fahy was not given anything approaching the proper credit for his almost singlehanded development of the basic concepts and technology of vitrification. It is a sadly unacknowledged fact that all the hoopla and progress discussed in the article can be traced back to the dogged persistence and quiet genius of one man: Dr. Fahy.

Nevertheless the **SCIENCE NEWS** article is well worth reading and is

The article also discusses the work of a wide variety of other investigators on vitrification — work which demonstrates a strong interest and a broad base of interdisciplinary enthusiasm. Everyone from insect physiologists to electron microscopists to blood bankers is beginning to be excited about vitrification. This is very gratifying to see because it indicates that there is a renaissance of interest in cryobiology. In the space of just three years there has been a complete shift in the "mood" or attitude of cryobiologists: for the first time since the discovery of the cryoprotective effects of glycerol by Smith in 1949 there is a sense

available from ALCOR for copy and mailing charges (\$1.00).

\* \* \* \* \*

## THE END OF REJECTION?

For some time now it has been known that when the immune system is challenged, either by a bacterial or a viral onslaught, or by transplantation of foreign tissue, only a small fraction of the circulating immune cells respond to the challenge. In fact, only about 5% (or less) of the circulating T cells initially respond and become "activated". Once activated, they clone themselves prodigiously, chugging out millions of copies, each capable of assaulting the invader.

For years the question has been "What about the other 95% of the T cells? Are they capable of responding too? For several years now the answer to that question has been known and it appears to be "NO"! Thus, in practice if you kill off all of the 5% or so of T cells which activate during rejection you could establish permanent tolerance to the transplanted tissue or organ, freeing the patient permanently from the need to take immune-suppressing toxic chemicals.



Cyclosporin was a mild advance in this direction since it is especially effective at interfering with the immune response in a more "pointed" way, as opposed to the shotgun approach of drugs like cyclophosphamide and prednisone which simply shut down the immune system across the board.

But cyclosporin, a fungal byproduct, is no panacea. It is not nearly selective enough in suppressing the immune system, and thus leaves the patient open to serious infection. It is also very toxic to the kidneys, and so it must be used in combination with "shotgun" agents such as prednisone to minimize its toxicity. And it is also expensive, costing nearly \$8000 per patient per year. And because the patient's immune system is unnaturally suppressed there is the need for costly lab work to monitor progress and frequent and costly hospitalizations to treat potentially life threatening infections.

Now an alternative to all this is on the horizon. Several papers have appeared recently which document a new approach to immunosuppression. One which appeared in **SCIENCE** (July 17th issue) documents long term immunotolerance of pancreatic islet transplants in mice using a monoclonal antibody against the L3T4 molecule, the characteristic surface feature of the mouse T cell helper-inducer.

But by far the most impressive results have been achieved by Terry E. Strom and his colleagues at Beth Israel Hospital in Boston, MA. Their work was presented at the 10th International Congress of Nephrology, on July 26-31, in London, England. Strom has developed a "magic bullet" against the fatal 5% of T cells which are capable of responding to a given graft. He has achieved this by making an antibody to the Interlukin 2 (IL2) High Affinity Receptor, which

is present only on activated T cells. The antibody which Strom makes is not just an ordinary antibody. If you block the IL2 site with an antibody you only stop rejection from occurring so long as the antibody is present. Since the antibody itself is foreign protein, the body will usually mount a defense against it and produce antibodies to neutralize it.

What is really needed is some way to kill off permanently all T cells capable of making antibodies to graft tissue. Strom achieved this end by creating a special antibody molecule using recombinant DNA techniques, thus allowing the common bacterium *E. Coli* to produce endless quantities of the agent. What he did was to replace the cell-binding part of diphtheria toxin (a potent inhibitor of cell protein synthesis and a very toxic molecule) with the IL2 coding sequence -- the part of the IL2 molecule that latches onto the receptor site of the activated T cells.

The result was that activated T cells "ingest" the IL2-diphtheria toxin hybrid and are killed. If the hybrid is given shortly after a transplant is carried out, permanent tolerance without long term immunosuppression results. In layman's terms; transplantation without rejection.

One obvious and immediate implication of this technique is that the cost of transplantation will drop dramatically and the number of candidates will increase. Right now people over 55 are not considered candidates for transplantation because they lack the youthful reserve capacity required to tolerate immune suppression very well. Thus the end of rejection will mean a profound broadening of the scope of transplantation.

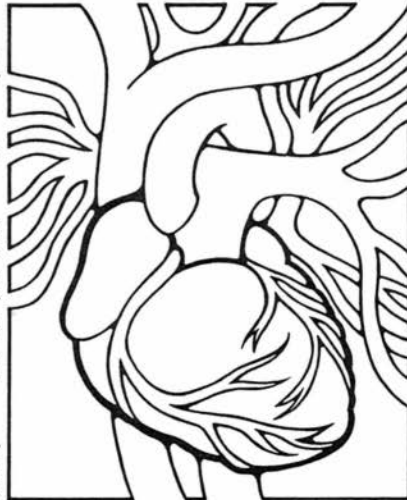
But there is another, more subtle effect that few people inside or outside the transplant community seem to understand. That effect is the broadening of the types of tissue that will be transplanted. Right now if you lose an arm or a hand or a leg you just have to tough it out. The risks of transplantation in the form of immunosuppression far outweigh the benefits of having an arm or a leg replaced. This will no longer be true. It will be possible to transplant limbs and other body parts not just for life saving purposes but for convenience or even for cosmetic purposes.

The demand for transplantable tissue, which is already in excess of the availability, will greatly increase.

What will happen? What will this mean for cryonics?

On one level it means increased pressure for workable long term tissue preservation techniques. On another it will mean immense pressure brought to bear to facilitate harvesting and recovery of all transplantable tissue. To what lengths will special interest groups and the government go in achieving these ends?

Perhaps the issue of mandatory motorcycle helmet laws and a large organization of patients needing organ transplants will serve

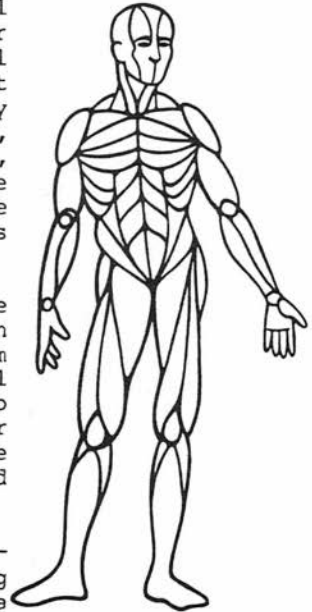


as an example. This organization has lobbied quietly and intensively to block helmet laws because their members receive the lion's share of transplants from motorcyclists without helmets who experience accidents! (This really happened!) Do not expect cryonics to be well accommodated in the scheme of things that will unfold.

Nor is it as far-fetched a possibility as you might think. Under existing law your body, once it is pronounced "dead", isn't owned by anyone -- not even your next of kin. Existing law only provides the right to control disposition. In California, the law already allows the coroner or medical examiner to remove tissue from autopsy victims for transplantation without consent of the next of kin. Up until now, a dead body has been a financial liability to the next of kin. This is no longer the case. Expect some very interesting legislative and legal battles in the next decade, as relatives, transplant candidates, the medical business, and government all fight it out over this newly valuable resource. We shudder at the legal possibilities that may be realized when the demand is high and we are considered as parts rather than people.

There is another scenario which is a little more hopeful. Depending upon how powerful these new generation antirejection techniques are the vital organ supply problem may be solved by the use of xenografts: transplants of animal organs and tissues into human hosts. The ability to completely and selectively inhibit rejection should allow for transplantation of at least simian organs, and perhaps bovine or porcine organs into human hosts. Such a development would go a long way toward ending the organ shortage.

However, an unfortunate side effect of successful xenografting might well be the elimination of the need for long term organ preservation techniques. It will be more than a little interesting to see how things unfold.



\* \* \* \* \*

## MEET MR. SLOAN

The letter began:

"Have you ever thought about the possible benefits that choosing suspension, rather than burial or cremation, might provide? We have and we'd like to introduce you to our suspension program.

"Different from cryonic suspension, which reportedly uses freezing, by means of liquid nitrogen, our suspension program uses modern materials and methods to provide long term preservation without freezing, in a manner that might be described as being somewhat similar to mummification done thousands of years ago..."

It ended:

"If you might be interested in this service, we'd like to meet with you to discuss it. The complete program costs \$575,000. To arrange for a no obligation discussion, please send in the enclosed card.

Thank You  
Robert I. Sloan and Associates  
P.O. Box 15751  
North Hollywood, CA 91615

Several of the staff here at ALCOR Southern California thought it was all a bad joke. If you read on, you'll see why.

There was no enclosed card, so we tried calling Mr. Sloan, who had requested an ALCOR information package some weeks earlier. The phone number he left at the time of his request was disconnected.

So, we wrote him for more information. Several weeks later we got a package of forms for "signing up", a fee schedule, and a description of services "offered". We hardly knew whether to laugh or to cry.

The format of the few authorizing forms included was apparently borrowed from ALCOR's -- in that it is a black, almost comedic parody. The description of the "Robert I. Sloan Suspension Program" on the information sheet enclosed was as ludicrous as it was amazing. Herewith we provide you with some samples (the numbers used are Sloan's):

1) Robert I. Sloan is not incorporated but might be at a later date. The name might also be changed.

2) Robert I. Sloan is the key person at this time but he cannot do it all by himself. The efforts of others will be very important in a wide variety of ways if success is to be possible, even in early phases.

5) The matter of continuation over time is a very important matter, but how to provide for continuation in the future, short term and long term, has not yet been completely worked out.

6) It is possible that Jewish Rabbis may become involved at some time in the future.

7) It is possible that your suspended remains may be kept in Israel.

8) Your suspended remains may be kept underground or in outer space, or somewhere else.



It goes downhill from there. One novel thing about Sloan's program is that he has a sliding fee scale up-front, based on what fraction of your income you are willing to pay him (for eternity, we might add) after you are revived! The Sloan Suspension Program Agreement contains little gems like:

"It is also agreed that only Robert I. Sloan can determine when self-support after revival is possible."

"It is also agreed that Robert I. Sloan shall have the full and complete right to determine how suspension shall be attempted."

The part of the contract that lays out the core relationship between the would-be suspendee and Mr. Sloan goes as follows:

"It is agreed that I will pay \$ \_\_\_\_\_ (U.S.) in advance to Robert I. Sloan to suspend my remains, to provide long term indefinite storage, and if possible, to provide one successful revival, and, if necessary, to provide support until self-support is possible. In addition, the restoration of youth and health if possible, is included."

Nowhere in any of the promotional material or forms sent was there any description of what exactly one gets for his or her half a million dollars plus. Is Mr. Sloan offering to freeze-dry you, chemically preserve you, or mummify you? Presumably this takes a personal meeting (as of this writing we've written to arrange one).

It is really hard to take something like this seriously. Sloan isn't interested in insurance, he wants CASH IN ADVANCE! Any biostasis "program" pursued this vacuously and incompetently is hard to imagine attracting even one client -- particularly at a price tag of \$575,000 (though there are cheaper options available which consist of storing cell sample packets).

But then you never know. In a world full of people willing to give huge sums of money into the likes of Bagwhan Ranjeesh, or Oral Roberts for that matter, who can say what's possible?

If you're a serious cryonicist, when you stop laughing at someone like Sloan a cold chill runs down your spine. Anyone who pursues biostasis with the level of thoughtlessness and carelessness so far exhibited by Sloan is probably capable of landing cryonics organizations in the legal soup along with him -- and doing it at a time when our resources are grossly inadequate to handle such a challenge.

A few years ago we would just have ignored Sloan. After Chatsworth that's not so easy. The sad thing is there isn't a damn thing we can do about it even though we will probably be tarred with the same brush if he creates serious legal difficulties or generates bad press. Mr. Sloan will not be the last bull to wander into the china shop of immortality via biostasis. As cryonics widens its credibility and becomes more successful there will doubtless be many others out there who latch onto the idea and distort it in one perverse way or another.

All we can do is get our internal ethical and technical standards in place and hope for the best.



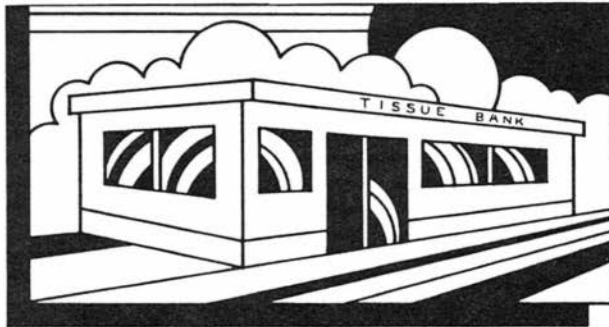
## AB 1952: IS ALCOR A TISSUE BANK?

On March 6th of this year AB 1952 was introduced into the California Assembly by State Assemblyman William Filante (R - San Raphael). Its purpose is to provide for licensing and regulation of tissue banks.

The measure is of some concern to ALCOR since there has been some question in the past as to whether or not cryonics organizations constitute a tissue bank or human tissue storage facility under the law. In the past this question was somewhat irrelevant since there was no provision in California law for licensing or regulation of tissue banks. All this is about to change.

Due to questionable and in some instances downright illegal activity on the part of some physicians, mortuaries, and individual morticians in removing organs from cadavers (either at or after autopsy or prior to cremation) and selling them, as well as to concerns about transmission of AIDS and other communicable diseases due to several "renegade", poorly run California sperm banks, regulation was deemed necessary. Filante's bill, which is designed to address that issue, passed the Assembly by a wide margin and is expected to pass the Senate and be signed into law shortly.

The law defines a tissue bank subject to regulation and licensing as a "any place, establishment, or institution that collects, processes, stores, or distributes tissue for transplantation in human beings." Specifically excluded are blood banks or any facility involved in the "collection, processing, or distribution of tissue for autopsy, biopsy, training, education, or for other medical or scientific research or investigation where transplantation of the tissue is not intended or reasonably foreseen."



We contacted one of AB 1952's architects, Dr. Charles Simms of Southern California Cryobank (a large sperm and tissue bank in Los Angeles) and asked him for his opinion on how this bill might relate to cryonics. He stated that in his opinion it in no way applied to cryonics facilities since the procedure is experimental and the purpose is not conventional transplantation.

It would however prevent ALCOR from offering other tissue preservation related services to members unless a license was secured. Detailed regulations governing tissue banks in California have not yet been drafted, but according to Dr. Simms, when the advisory committee to draft the regulations is selected by the legislature it is very likely that they will be using a modified version of the American Association of Tissue Bank's internal regulations. (Dr. Simms is expected to serve on the advisory committee and it is rumored that he may chair it.)

Once the regulations have been specified, ALCOR will have to decide if it

wishes to become licensed (or can afford to meet the requirement to qualify). Licensing will also be directly costly, with the state mandating an annual licensing fee of \$865.

One very positive thing about the bill from the standpoint of the tissue banks is that it defines processing and distribution of tissues for transplantation as a **service** rather than a product. This relieves the tissue bank of all product liability should the tissue fail or not perform as desired due to nonprocessing related problems (i.e., if the sperm a woman was inseminated with yielded a defective child, the bank could not be held liable for the failure of the sperm to perform as anticipated).

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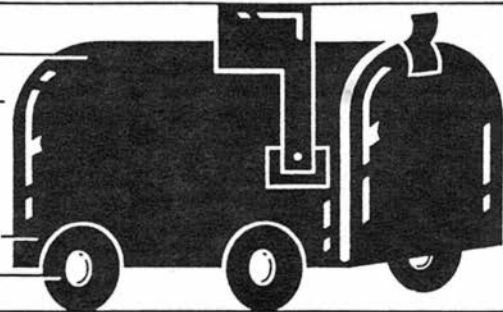
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*Letters to The  
Editors*

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Dear Editors:

I would like to respond to the articles "Max O'Connor Replies", by Max O'Connor, and "Identity And Resurrection", by Mike Perry, from the September issue of Cryonics.

First I would like to clarify a few peripheral elements:

(1) For us cryonicists, the concept of personal identity, through duplication or other methods, is of ultimate concern. Many cryonicists are betting their eternal lives on it. After all the hard work, careful planning, and large sacrifices it may boil down to: "Even if cryonics works, if the duplicate isn't you, then you're dead after all."

(2) I do not profess to be schooled in formal philosophy, so if my reasoning isn't academically precise and leans toward common logic, please bear with me.

(3) I have the greatest respect for Mike Perry and Max O'Connor and I am not adversely contesting their concepts, but asking them to explore their philosophies further in print so that we all may benefit. I confess I have no answers, only questions. I respect people like Mike and Max who bravely and sincerely offer possible answers.

(4) I know that when I perceive myself as having only one choice on a



particular issue, I will occasionally rationalize the values of that choice in a most positive way. Perhaps it is for this same reason that so many bright people in the past have rationalized a spiritual Heaven, etc... We have an obligation to ourselves to be sure we don't fall into this trap.

One thing I have trouble accepting is Max's premise near the bottom of the first paragraph where he states: "Your copy (you) does not have any memories of the last two weeks since the last update, but otherwise the new body and brain are identical to the original." It is assumed in this premise that the copy is you because it is merely identical to the original. I am not convinced this is correct, or perhaps do not fully understand it, and I would like to see Max explore this further.

One of the problems I have with the affirmative view of the "identical duplicate is you" theory is the meaning of the word "identical". I think in everyday language we often use the term "identical" as being the exact same physical thing, and in this case when we say "identical", we really mean two separate beings sharing identical thoughts or memories. Two separate things do not seem to be the same one thing to me. If we are to consider them humans, wouldn't the death of either be the death of one human?

Another problem I have is that when talking duplication, we always talk about "volunteering" to allow to have our memories copied and stored in a backup clone. (It seems that by volunteering to have your mind copied it makes it seem more reasonable that the duplicate is you.) The scenario continues that if we are killed, a clone, with a copy of our memories, is activated and we begin to live again or, perhaps, to continue to live.

What if our memories were copied against our will and then put in an evil clone, who had pilfered memories from lots of other people as well, and then we were murdered. Our mind has been stolen. Are we dead or are we alive in the clone?

Let's suppose that aliens have already copied your memories and have put them in a clone that you are not aware of. Imagining that this duplicate of you exists somewhere else, with your exact thoughts and memories, would not help you face a firing squad in the morning. If I could prove there are a billion duplicates of you running around somewhere in the universe at this very moment, would **you personally** still not want to live?

Mike Perry likens the human mind to a computer, with part being the software and part being the hardware. He then feels that if the information was on two separate pieces of software, the original and a duplicate, that the original could be destroyed and the mind would live on in the second piece because the information would survive. I think the mind issue is more complex. I envision that if these two separate pieces of software existed that they would both want to continue to exist and to destroy either one would be the same as a death. I feel a duplicate is not the original, but another separate and individual entity.

I would like to contest Mike's theory more, but I must confess that most of it is over my head. It seems that a lot of the problems are in the matter of semantics and/or the concept: that if a duplicate exists, then the original

won't mind dying. The theory seems to be saying: that if the original is alive then the duplicate is a duplicate, but through some process that I don't understand when the original is killed, the duplicate becomes the original.

I am an entity realist, I think the mind is a physical thing and a duplicate, (although it can be another mind), is not and can not be the original.

Sometimes by continued contemplation, exhaustive investigation and just plain familiarity we begin to understand and accept a new theory. But familiarity with a concept, in and of itself, does not mean the theory is correct. (Consider, for example, the concept of God.)

I hope Mike, Max, and others will continue to explore this fascinating and serious concept in further issues since it is so vital to a cryonicist.

My first choice is to go and come back as whole body, hoping to be able to chose from many physical options upon reanimation.

My next choice would be reactivation of my original brain with cloning of a new body.

If either of these were not possible, or it was known at a future time that these were primitive procedures, I would accept a total clone, (no original brain material), from my DNA, with my memories duplicated from my original brain.

If this were not possible I would accept a reconstruction from whatever information was available. Mike has some interesting ideas on this subject that I would like to see him explore further. Of course, my first, first choice is not to go at all, but...

Sincerely,  
David Pizer  
Phoenix, AZ

\* \* \* \* \*

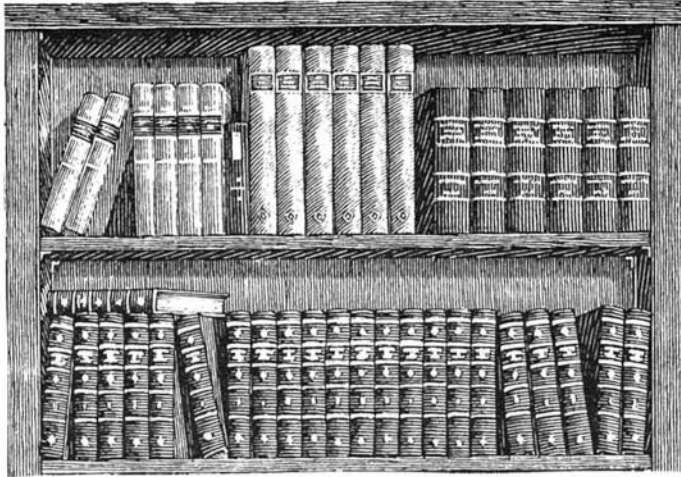
## **THE MAN WHO MISTOOK HIS WIFE FOR A HAT AND OTHER CLINICAL TALES**

by Dr. Oliver Sacks

### **Book Review by Cath Woof**

Recently in cryonics circles another book by Oliver Sacks was discussed: **Awakenings**. A parallel was drawn between the way the post-encephalitic Parkinsonian patients adapted to their "reawakening" and aspects of their personality before the manifestation of the disease. The discussions were compelling enough for me to seek out and buy the book.

I was not at all disappointed by the book -- it was a moving and well-written account of a new "treatment" for a severe disease. However, I was not



convinced that it was correct to draw a parallel between these patients and the revival and adaptation to the future world of cryonics patients. Their extreme pathology and severe institutionalization precluded adaptive responses which would be seen in the revival to full health of a cryonicist.

The book was so interesting that I bought another book by the same author, which I will review here.

There have been several articles in CRYONICS addressing the issue of identity. I have found these articles thoughtful, but somewhat abstract. While going some way to satisfying intellectual perceptions of identity, they completely missed out on striking a chord with the more emotional aspects of the problem. Max O'Connor's revived duplicate is OK from an intellectual point of view, but I would find little comfort from knowing this duplicate would exist were I faced with imminent death. I think (and it is always hard to know how one would react) that I would nevertheless FEEL that an outrage was being committed on my being. His article was very sure that the intellect can control one's emotions, and that we only need to get used to the idea of duplicates for them to become quite all right.

Which brings me to the book. It is compelling reading, being a neurologist's account of particularly striking cases from his career. I consider that many of the cases are relevant to the question of identity - they tell the stories of people who, due to pathology, have had various assaults on their identity, such as the severe, near-total loss of memory in Korsakov's syndrome, the distortion of body-image suffered by the man who could no longer recognize his own leg, or the perceptions of self, modified after treatment, of a patient with Tourette's syndrome.

In his account of "The Lost Mariner", a man with Korsakov's syndrome, Dr. Sacks directly touches on the question of what we are. This man had no memories beyond 1945, and initially Dr. Sacks wondered whether he had ceased to exist as a person, until he saw him in church exhibiting a deep emotional response to worship. He questioned whether the loss of memory *per se* would result in the loss of identity, mentioning senile patients who nevertheless preserved a quality he described as "the sense of the life lived before". This sense of the life lived before seems in some way not to be connected with a simple collection of memories and it is interesting that one can lose one and not the other. This fact I consider central to the problem of identity.

A couple of years ago, I had the misfortune to watch over a period of years the death of a child from sub-acute sclerosing panencephalitis (a rare

complication of measles which manifests itself years after the initial infection and gradually destroys the affected child's brain). This girl retained some memory (people, places) but very little of what would be termed the higher faculties - reason, problem solving, and so on. As the disease progressed she gradually lost the power of speech. One of the last things she said using real words, which she said repeatedly for a week, was "Can I have myself, now?" Whether this was a random utterance or expressed some profound feeling that she was losing herself or her identity I'll never know, but the possibility, which seems more likely now I have read Dr. Sacks' book, remains that she did, indeed, **feel** the actual loss of her identity. Would the existence of a duplicate have provided any comfort? -- she could not know it.

This may sound like a tautology, but perhaps the sense of identity is a continuing emotion we have, i.e., the sense of identity is just that, the sense of identity, like a sense of anger, or love for a person. Love for a person is not simply a collection of memories about that person, but involves some higher integration of thought, memory, and feeling. This notion of identity as a kind of integrating emotion at least satisfies my perception of how I would react to my duplicate's being revived following my death. Max O'Connor would accuse me of being irrational, but my point is that the sense of identity is irrational, or, at least, emotional, and there may be strong biological "rational" arguments for why that is so.

We are programmed for survival, and any threat to us arouses strong reactions on an emotional level. We cannot dismiss these as merely being irrational and therefore of no account. Perhaps identity is that which feels threatened by loss or death. My reaction to endless abstractions about whether such and such a type of duplicate is me or not me is "What is the point?" Clearly the people making these hypotheses feel threatened, or concerned, else why the fascination with the question? Why the need for the comfort of another's agreement with their views? Why the dislike of the so-called irrationality of those of us who are not totally satisfied with the survival of a duplicate? Frankly I consider that much of what has been written is overly abstract, emphasizes the intellectual aspects of our being and fails to address issues raised by our biological inheritance in the matter of survival.

(Max, I know how I will feel towards your duplicate, should I know that it is a duplicate. Now you are Max. The new Max will be Max as well, but I think I will have a curiosity about your mental functioning and for a while will test you against your former self. You are more than your own self-perception - other people can contribute to the definition of your identity. How would you FEEL if we all decided that this duplicate wasn't you?).

I will not digress here into the discussion of the oft-presumed irrationality of the emotions, or otherwise. Suffice it to say that emotional responses do not always keep pace with our intellectual learning or technology, but nevertheless are a part of ourselves, and a fundamental part. I am not convinced they are so easily manipulated by abstract reasoning, rather the reverse. Interestingly, a mad person may not know he is mad, but certainly knows he is angry, and can attempt to explain the anger in terms of his own distorted thinking. The articles on identity do the opposite. They seem logical, but come across as emotionally distorted. They don't "ring true". (It is odd how in describing the emotions we often resort to musical analogies).

Dr. Sacks' book will go some way to redress these deficiencies. I contend that neurology will ultimately have a lot more to say to us on the question of identity than philosophy, but then I am a prejudiced biologist.

(On another level, the tales in this book of patients with extraordinary and specialized abilities can tell us what our brains can be capable of, and suggest future possibilities).

At any rate, this is a worthwhile book, intellectually stimulating, emotionally sensitive ... and well-written.

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## A Report On Westercon 40 (Oakland, California, 4th of July Weekend) by Thomas Donaldson

For those who are not science fiction readers, a "Con" or convention is a big get-together of science fiction fans. There was one in Oakland on the 4th of July weekend this year.

Few science fiction readers or fans would say that they were seriously considering what the future would be like whenever they read or discussed science fiction. Since the world has been extensively explored, we have to find a place to put fantasyland, and the future seems as good as any. Westercon was basically a gigantic party, and serious talk isn't really what we expect from a party.

There were lots of fun things there. There were readings of the "Sword of Argon", which is possibly the worst fantasy ever written, the tale of Grignr the Ecordian, with a heavy reward tacked over his head, and his heroine, she of the lithe, opaque nose, and protruding breasts. There was a real company called "The Weapon Shops of Isher", with the motto "The finest energy weapons in the known universe"...they sold beautifully made, (nonfunctional) ray guns.

But as for the real, serious future, there was a bit of that too. There was a panel on "Life Extension", with a real live cryonicist (Roger Gregory) on the panel. There were also five cryonicists in the audience. Roger introduced himself by saying that he believed the problem would be solved in 30 years, and had signed up as a form of insurance. He said that the activists in cryonics were fanatics (thanks, Roger!) who believed they would have to be frozen. But he had arranged to be frozen, as insurance. There was a lady who announced to all that she was a deep pessimist, etc. There was a Steven Barnes, who was into the milder forms of life extension (eating right, exercising, taking care of





your body). When Steve Barnes introduced himself he made slighting reference to being frozen by "nongs smoking dope" (I don't believe he really thought there would be some of these people actually present!).

The discussion was much more favorable than I had expected. There was nobody who was really against the idea. Perhaps because I'm one of the fanatics I felt that most of the people there weren't actually against it, if anything they were for it, but in a wishy-washy, liberal kind of way. So it wasn't at all a matter of any fiery debate.

In fact, even though they were much in the minority, the cryonicists dominated the discussion. Keith Henson, of course, was passing out leaflets to everyone there, **and** participating in the discussion. Cath Woolf heckled Steve Barnes, which may have been novel in a Con.

Maybe we lit a fire under some of these people, or at least raised their temperature a little.

Unfortunately, nobody attended another panel scheduled simultaneously with that one, on "Future Medicine". It was probably dismal. I and Cath Woolf attended a panel on Thursday on "Better living through biochemistry" (genetic modification of human beings) which fell very flat (at least to us as cryonicists). The main topic was that of engineered human beings, i.e., how one body of people might engineer **another** race or group. Genetics was what would be **done to** experimental subjects, not what we would do to **ourselves** (until I finally became impatient and raised the question). The major improvements that the panelists could think of were, in order: improved eyesight, less naivete, and improved memory.

I just kept quiet at that. I wanted to see what they would say.

I also attended a discussion of artificial intelligence. This was interesting because the arguments against Minsky and AI hype were being heard, loud and clear. But I felt it was a bit disappointing.

First, there was too much discussion of making computers which were of human or superior intelligence. That's probably not what would happen, anyway. To be fair, Gregory Benford did point out that making artificial human beings was pointless and the really interesting things happen when we make alien intelligences which are **not** imitation human beings and would **NOT** pass a Turing test. But there was still too much interest in the artificial human, and little exploration of the vistas which Benford's remark opened up.

Second, there was too much attention to the value human beings may have once everything we do can be done better by a machine. It was the same old thing again, people looking to the universe or to others to justify their existence, rather than looking to themselves.

Was it worth going? Yes. I got to meet and speak to friends. Perhaps we spread around a little bit of imagination. Are science fiction readers any more likely than others to listen to cryonics? I can't say...so few people want to listen. But we did get a **hearing**, which is more than usually happens.

## Alcor at Cactuscon by Alcor Staff



For the last two years ALCOR activists have been presenting concepts of nanotechnology and cryonics to Science Fiction Fandom. This year the traditional Labor Day get-together for North America was in Phoenix, conveniently within driving range of ALCOR facilities in Riverside.

SF Fandom is big business. The last WorldCon held in Los Angeles drew about 10,000 people. This one was smaller, with 4-5,000 attending. Because of the relatively favorable response from Fandom in previous years, the ALCOR staff decided to see what results we could get from a large-scale presence, and called for those who could to show up. ALCOR members responded with their usual enthusiasm -- some 17% of the the suspension membership was involved.

ALCOR obtained a 10 by 20 foot booth in the high-traffic dealers room, and a large hospitality suite in the party hotel. We talked to people about cryonics from midmorning till 2 AM three days in a row. It was an exhausting, but rewarding, experience. Several thousand pieces of cryonics literature were given out or sold, ranging from catchy slogans about cryonics on 2 by 4 inch pieces of colored paper, to a box of Eric Drexler's **Engines of Creation** (which we sold out, probably due to the **Analog** editorial). The few remaining special

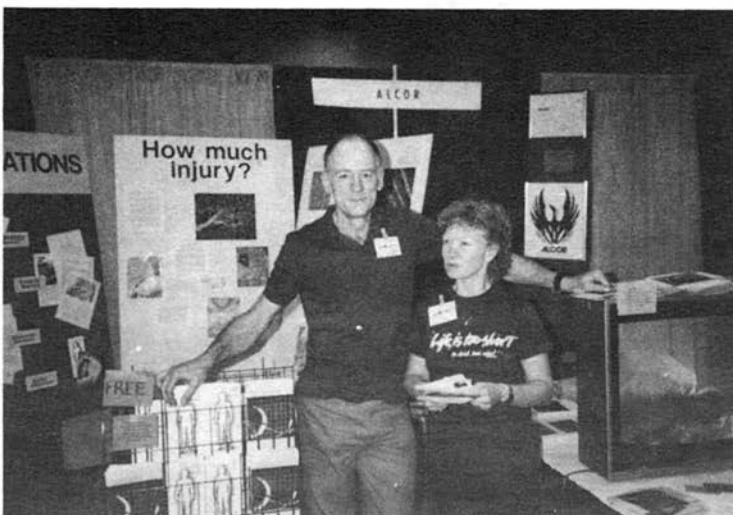


brochures made for this project will be folded into this issue (don't be surprised if you don't get one).

The booth furnishings included the large, detailed posters originally built for Futureworld '83 (and updated several times since), and a large TV monitor borrowed from Bill Seidel. Bill created a special silent video of the last suspension for the occasion. Camera angles and special

The Alcor booth: 20 feet of education and information.

effects made the presentation riveting while being in the best of taste, a remarkable achievement! Fred and Linda Chamberlain brought the Big Dipper star map which shows the star Alcor. They were continually active in passing out literature and talking to those that came within capture range of the booth. Jerry Leaf stayed in pager range over the holiday, and Al Lopp and Arthur McCombs took over essential details at the Riverside



Fred and Linda Chamberlain with some of their handiwork in the background.

facility. This released Hugh Hixon to plaster the con with notices (typical example: "Make Travel Arrangements For A Con 500 Years From Now — ALCOR") and Mike Darwin to be his usual articulate self while talking to those who wanted more detail about ALCOR or cryonics. Mike could usually be found at one of the posters, in explaining mode.

Brenda Peters Combest, Steve Bridge, and Bill Seidel were often out in front of the booth, vectoring the seriously curious to Mike. Brenda got into the spirit of the occasion, out-doing even her usual charm when she dressed up for the masquerade evening. Keith Henson usually avoided the crush around the booth and ranged between the hotel and the civic center, pressing literature into hundreds of hands. Our new member from Tucson, David Brandt-Erichsen, was hand-



Brenda Combest passes out some literature.

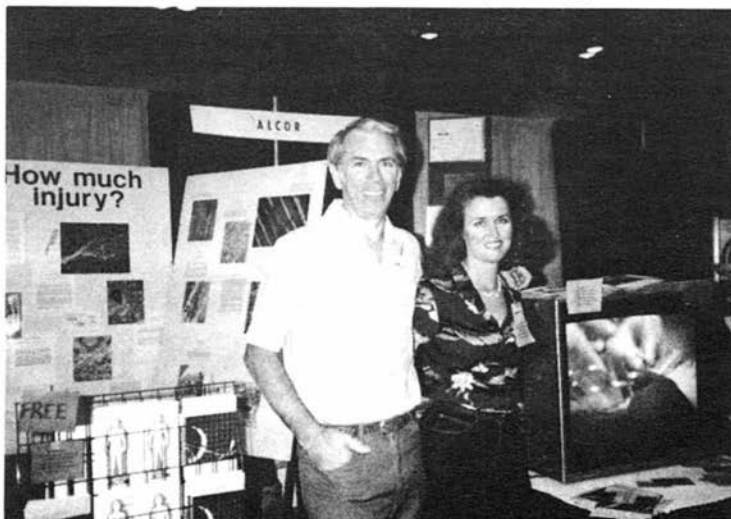




Keith Henson (left) working the crowd. Linda Chamberlain and Hugh Hixon chat in the foreground (right).

ALCOR in Phoenix -- vitally needed, since almost half the suspension team was at the con.

Most of the ALCOR members at CactusCon were long-time SF readers, so it was a special treat to talk to a number of SF authors, including Harry Stine and Hal Clement. Hal (Harry Stubbs) Clement is one of the hardest of the "hard" science fiction authors. In 1950 he wrote **Needle**, whose principal character was "The Hunter." Hunter is both a prototype for intelligent cell repair



Bill Seidel and Candy Nash at the Alcor booth.

ed his bracelet, and went to work with Brenda, Steve, and Bill when his duties as an officer of the National Space Society (formerly L5 Society) permitted. Bret Paul Bellmore, a member in process, not only helped out, but finished his paperwork at the con.

Two booths down, Venturists Dave Fizer and Mike Perry softened up passers-by for the ALCOR group. Dave also arranged for pager service for

suspension team was at the con. Most of the ALCOR members at CactusCon were long-time SF readers, so it was a special treat to talk to a number of SF authors, including Harry Stine and Hal Clement. Hal (Harry Stubbs) Clement is one of the hardest of the "hard" science fiction authors. In 1950 he wrote **Needle**, whose principal character was "The Hunter." Hunter is both a prototype for intelligent cell repair machines and one of the most alien aliens to have appeared in SF.

In the evenings we closed the booth and opened the suite. Munchies and soda pop were consumed in prodigious quantities. Bheer (fanish spelling) disappeared at a much slower rate, since serious matters were at hand. Most of our guests were people we had met at the booth who wanted more one-on-one discussion

about cryonics or related topics. Many of them saw the videotape created by Bill Seidel and Candy Nash of interviews made at the dedication. The vital task of munchie creation and management was handled by Angalee Shepard and Candy Nash, who did a marvelous job, drafting Steve Bridge at times to help haul in ice and drinks. Candy also took the pictures for this article.

A number of cryonic sympathizers helped create a good atmosphere for serious discussion: Mark Voelker, Eric Hill, Jack Kirwan, and Ken Morse from Tucson; Hugh Daniel and Mike McClary from Ann Arbor, and Jim Davidson from Houston. Our sincere thanks to all of you, and to any we may have missed.

How did we do?

According to Mike, we were taken much more seriously than the last time a group of cryonicists went to a similar SF con in 1979. The better acceptance may partly be due to the length of time the cryonics idea has been around. It may partly be due to the length of time ALCOR has been around, and the solid physical presence we have both in physical plant and number of people in suspension. It may also be related to activities of members in previous years in getting this community used to the concepts.

It is hard to tell how many suspension members we will eventually gain from these efforts. Among the general public, the ratio is about one in a million. Among the space people (L5 Society and related) the ratio is about one in a thousand. But the SF community is one of the places from which new ideas (memes) spread to the rest of the population. It is strange to think of cryonics, now over 20 years old, as a new idea, but an idea as radical as cryonics may stay new for a long time. In any case, we had a good time, and came away feeling we had accomplished something. Our sincere thanks to all of you who were involved.

(Our next project may be at the Space Development Conference next May in Denver.)

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## Nongs Smoking Dope by Mike Darwin

**"The thing you have to realize is that for some people, being considered a sex object is a big step up."**

-- Steve Bridge, commenting on some of the people encountered by ALCOR volunteers at CactusCon.

Elsewhere in this issue are two very fine articles about ALCOR's continued incursion into the science fiction community. One is by Keith Henson about ALCOR's promotional and educational efforts at CactusCon in Phoenix, Arizona

(the North American Science Fiction Convention) and the other is about ALCCR's similar efforts at Westercon, which was held in the Bay Area a few months earlier. I'll leave the details and the straight-laced reporting to Keith Henson and Thomas Donaldson, the two stalwarts most responsible for our successful efforts in Phoenix and Oakland respectively.

What I want to do here is reflect a little on changing times and just laugh a bit about some of what happened at the cons and what is happening with cryonics in general.

An awful lot of you folks out there at the other end of this magazine have no idea what a crazy, wonderful business cryonics can be. Like any revolutionary idea and movement, it sometimes has a surreal air to it, even to those of us who are deeply involved and who have come to take its more surreal aspects totally for granted. The upshot is that you get to meet some **very** interesting people. The advantage to things like CactusCon and Westercon is that they help us troopers to see things through a fresh perspective. They let us go out and brandish our memes (as Keith would say) in the marketplace. It can be a fascinating experience.

I'll confess at the start I wasn't looking forward to going to Phoenix. I didn't want to go for a whole lot of reasons; some of 'em good, some of 'em bad. Phoenix is the first American city that seems to have specialized in taking the very worst of both western and eastern cities and combining them. Situated in a blast furnace, the core of the city is typical 1960's urban ghetto. Not that the suburban residents have failed to do their share for the quality of life in Phoenix: they have overirrigated, oversprayed, and overbuilt to the point that they now have a ragweed problem to rival that of Indianapolis (where I'm from) and a smog problem which is on it's way to rivaling Riverside (where I now live). Since I have severe hay fever and an aversion to smog, it's difficult for me to get worked up over travelling to a place which simulates the outer reaches of hell and adds in the promise of respiratory arrest due to toxic exposure.



My eyes started dripping and I started sneezing as soon as I got off the plane, and I promptly swallowed two anti-histamines. I spent the weekend in a **very** quiet state (compared to my usual self) heavily loaded with snout drying agents.

Nevertheless, Phoenix was kind to ALCCR. The oven thermostat was turned down, the people were convivial, and my estimation of the city rose 100% over the course of my four day stay. A big part of my improved mood from the beginning to the end of my trip was how the con went -- specifically how ALCCR and cryonics fared there.

Meet the fans.

ALCOR's experience with science fiction fandom has been long and largely unprofitable. We have launched major promotional efforts at cons in the past and come up not only empty, but assaulted -- verbally and sometimes almost physically. People who don't know much about science fiction fandom and science fiction writers often express amazement that cryonics is not received with open arms. After all, aren't all these people devil-may-care nonconformists who are concerned primarily about the future?

No way! Many SF folks (although not all of them, by a long shot) are in reality concerned about **thinking** about alternate futures and **talking** about alternate futures -- not creating them or living in them. Most of them are concerned with ways to escape from reality, not extend the amount of time they have to deal with it. They are in many ways outcasts who want nothing more desperately than to belong. Such people are in reality the ultimate conformists.

Why this should be so is painfully obvious if you have ever attended a "con". An awful lot of the people present at such gatherings are social outcasts and misfits of one sort or another. As one non-ALCOR attendee was heard to say: "I think the average weight of a person attending this con is about 300 pounds." But obesity isn't the only thing that will make you a social outcast these days or shunt you toward "escape" literature. As one ALCOR volunteer who was new to cons observed: "I've seen more of the halt, the lame, the deformed, and the just plain **weird** than I would expect to see at an Oral Roberts prayer breakfast."



"My God, they're actually freezing people!"

Scantly clad girls abounded everywhere. But there was a catch. Brenda Combest was telling me about the reaction of a group of street construction workers as a young woman who was wearing nothing but three teacup sized, strategically placed pieces of fur walked by. "Was she attractive?" I asked? Brenda paused thoughtfully for a moment and then replied diplomatically: "Well maybe, if you were Jabba the Hut."

Nor were the range of defects confined to bodies. There were some pretty raunchy minds there as well -- all out of proportion to what you'd expect to find in any other crowd of what constitutes the "general public". Some of these folks were just plain nasty, probably because they simply lack the social skills and restraints most "normal" people consider essential. This produced some great one-liners from ALCOR personnel. After one passerby sneered viciously at an offer of free ALCCR literature saying: "I



"Yes, but where does the soul go."

Certainly the contrast between people at a con and people at a gathering that embraces a wider cross section of the community such as Future World Expo or the Life Extension Breakthrough Conference was noted by all who worked at both kinds of gatherings.

But the con was hardly only such funny downsides. Far from it. There were lots of reasons for feeling good about the experience. One of the things that both cheered and impressed me was the tremendous teamwork and spirit that permeated the ALCOR effort. I was especially impressed because it wasn't coming from me, or Jerry Leaf, or Hugh Hixon. It was coming from Keith Henson, Bill Seidel, Candy Nash, the Chamberlains, Angalee Shepherd, Steve Bridge, Brenda Combest..., in all, 14 ALCOR Suspension Members. The booth was fantastic, the Chamberlain's T-shirts were great, and Angalee's and Candy Nash's catering efforts gave us reputation as the best-catered room party at the convention.

However, it wasn't just the action of the ALCOR team without goading or prodding from me or others at the top (or more to the point without those of us at the "top" doing all the work!). It was the reception we got at the con. Now at this point you're probably saying to yourself, "well, if **that's** the kind of people who attend science fiction conventions, who cares how you were received!"

don't need **that!**", Fred Chamberlain promptly retorted, "That's quite a statement from a pile of dust!"

At one point a similarly ill-tempered lady took some literature from Bill Seidel and over her shoulder as she walked away cast back some demeaning remark. Bill promptly strolled after her, told her that our literature was for special people with open minds, and since she wasn't one of them he'd just take the material back. With an open-mouthed gape the woman complied!

After a few days at a con, you realize that it really isn't surprising to see someone who hasn't the faintest idea how to interact with other humans civilly wearing a tail or carrying around a large sword — it's appropriate! In fact, what we found was that the more outlandish and inhuman the costume (particularly authority-oriented ones) the more screwed up the person wearing it was likely to be. I believe it was Bill Seidel who said he just got to the point where he hardly bothered with people dressed up in Nazi uniforms or animal suits.



And if that were the whole story you'd be right. But, you see, I've only told you half the story. Misfits of all kinds attend SF conventions and not all of them are losers. It's a strange situation, really. Any unusual or revolutionary idea, or one which lies outside the norm, not only attracts the worst of humanity -- it also attracts the best. And that's the upside; there were plenty of good people present at CactusCon, and what was particularly gratifying about our efforts there is that ALCOR seemed to have attracted a disproportionate number of them. But before I go into how and why we were able to do that I'd like to digress a moment and tell another relevant tale that will help to set the stage.

As noted in Thomas Donaldson's account of Westercon, science fiction writer Steve Barnes made a remark about cryonics during a panel discussion in which he participated to the effect that we were "a bunch of nongs smoking dope" (presumably in contrast to Mr. Barnes and the average SF fan -- who by contrast represent the apogee of focused mental effort and responsibility). Barnes was heckled by cryonicists in the audience. At CactusCon he chanced onto the ALCOR booth and began a long, wandering diatribe against cryonics pointed at Keith Henson. I came into this "discussion" at the tale's end -- it was the tale's end because Keith and I ended it by driving Barnes into the ground on every point he was trying to make. Most people shut up when they're losing. Barnes was no exception.

They were stupid points, really. Technically he didn't have the faintest idea what he was talking about and when he was disabused of such notions he then accused me of going about cryonics all wrong by failing to appeal to people's emotions. I told him: a) He couldn't have it both ways (i.e., we're technically wrong so it won't work, and once he concedes we are technically on firm ground, then he says that arguing from a technical standpoint constitutes incompetence, since cryonics could only be sold emotionally); b) Building warm, fuzzy social scenarios to market cryonics was more his job than mine (I'm busy enough trying to offer quality services without spinning emotional yarns about cryonics); and, c) If he thought cryonics was a workable technology, he should realize the moral implications, shut up with his mindless grousing, and get on with the business of promoting it "emotionally", which is his bag, not mine. In short, he walked away a lot quieter than when he came. He also came back the next day to buy a copy of **Engines of Creation**. Since the clarity of Eric Drexler's thoughts is already established, this should be an interesting test of Mr. Barnes' intelligence, imagination, and writing ability.

It was much the same story every time we locked horns with one of these guys (writers or opinion leaders). We won. We beat them to a pulp. I was on a panel about the future of medicine with a physician and SF writer named Faul (I don't recall his last name. And I'm not interested in either his services or his writing.). After going on for 10 minutes and saying absolutely



A Physician's view of tomorrow's medicine:  
More of what we have already, only bigger.

NOTHING about the future of medicine and a lot about TODAY'S medicine that was wrong, I tore him to shreds -- and the audience loved it. Here was a guy who knew nothing about experimental regeneration of the spinal cord and who categorically stated that spinal nerves can't sprout new axonal processes (they do! -- but they end up blocked by scar tissue and inflammatory reaction at the cord injury site) or that rejection will not be "overcome for decades. if ever..." His idea of a "big breakthrough" was wider use of transplantation...

But there were few takers for such suicide missions. Over and over again we heard people saying "Yeah, you know cryonics will probably work." "Nothing to lose, everything to gain..." Why the change in attitude? A large part of it is due to the penetration of the idea of nanotechnology into the SF population. Many people at the con had read Eric Drexler's *Engines of Creation*, and were far more sanguine about the workability of cryonics. Others got their opinions from the opinion makers -- but the results were much the same.

Another part of it is that ALCOR has been around for a long while now. We didn't give up and go away. Our arguments are better. The evidence is better. We're a hell of a lot more aggressive and we've got more people out there who are in the know, who are championing our position, and who are respected opinion makers themselves.



The Alcor Room Party at Cactuscon

The three-night ALCOR room party showed this better than anything. We had very high quality people show up at our room party. While there were the usual share of creeps and bombasts, there was something else, something we've never seen before: Serious, high quality people who were asking questions not at us but of us. Questions like "What kind of protection would I have if I signed up and I continue to live in Detroit." Positive, thoughtful questions which demonstrated a personal interest. Not the usual garbage about power failures or where you'll put all the frozen people. And there were NO cute jokes.

Something amazing happened at CactusCon. The attitude of the SF community has begun to change. And it has changed at the top, amongst the people who **make the opinions** rather than those who just hold them. It wasn't the people in fur suits or medieval armor who had changed their minds (they are much too far down the intellectual food chain to have gotten the message yet). Rather, it was people like Stanley Schmidt (Editor of *Analog*, long known as "the science fiction magazine with the bolts and rivets."), Mark Voelker (an STM-nanotechnology researcher from Tucson), and Harry Stine (a rocket engineer since the early '50's, and a writer of science fiction in which the engineering aspects are taken seriously) who were acknowledging the possibility, if not the

probability of cryonics.

I do not want to paint the picture that everyone at the top of the SF community all of sudden loves cryonics. Far from it. But, as Thomas Donaldson said in effect elsewhere in this issue: "They're no longer dismissing us out of hand. We're at least getting a hearing".

In fact, far from complete acceptance, I confidently predict a backlash. Cryonics is a polarizing idea. Once it is understood, it forces people to take action and to take a moral position. Most people **hate** doing that. They avoid doing it all costs -- even if it means huge amounts of effort wasted in avoiding doing it!

The point is that the tide has turned, however slightly, however imperceptibly. And it has turned in a community that pumps out memes to the masses and shapes how they think about the future.

CactusCon and ALCOR's presence there made it **very clear** who the "nongs smoking dope" were. It wasn't ALCOR people who were wandering around with glazed eyes in rubber suits. Watching the ALCOR people in action at CactusCon and contrasting them with many of the other attendees (Mr. Barnes included) left me little doubt about who the "nongs smoking dope" were.

And it wasn't us.

## Other SF News

The November issue of **Analog** (which came out the day CactusCon opened) contains two items of interest. The editorial is a review and unabashed endorsement of **Engines of Creation: ". . . belongs on the most accessible shelf of the working library of anyone who wants to write science fiction."** **Analog** Editor Stanley Schmidt goes on to say, "One of the main reasons I am advising science fiction writers to read Drexler's book is to shock them into seeing just how quaintly timid most of their projections really are -- and where they **should** be working, if they are going to do science fiction's job of scouting ahead of reality."

The issue also has a long letter from Keith Henson about cryonics which includes the ALCOR address and phone number. Our thanks to Keith for the letter, and to Stanley Schmidt for both the editorial and for printing Keith's letter.

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**The very first act of a will endowed with freedom should be to sustain belief in the freedom itself.**

--William James



# How Not To Die Like That:

## Reducing Your Risk of Autopsy

by Mike Darwin and Steve Harris

### Introduction

Unconscious scenarios of the future. We live and die by these mental models of the world that sit there inside our heads. They wait, unspeaking and unevoked, in almost every mind. Quietly and with tremendous power they guide our lives and shape our actions. And though they sit below the level of the conscious mind most of the time, they can be easily called forth if one bothers to think about it; and once brought to the surface of the conscious mind they can be examined, questioned, and, if necessary, reshaped.

One such scenario -- a potentially critical one -- is how you envision that you will, or might, deanimate. What is the picture that is taking shape inside your head now as you think about this possibility? Are you in a hospital bed surrounded by friends and loved ones? Are you wasted from some slow cancer or weakened from the pneumonia of the aged? How do you think you will deanimate? Is it in a tangle of crumpled metal and slivered glass? Is it of a stroke in a restaurant while relaxing after dinner -- or suddenly, of a heart attack while shoveling snow?

To most people such scenarios mean little. For them, the stalling of the heart and the stopping of the mind are terminal, irreversible events. They mean death, inescapable and final.

But this is not the case with cryonicists. For us, where medicine gives up is where our efforts just begin. And whether we like it or not, how we deanimate is very much an issue that should concern us, for it can mean the difference between life and death: The difference between a smooth and well executed suspension and a brutal and senseless autopsy.

For it is a currently inescapable fact that we are surrounded by a world full of savages who have yet to learn that their definitions of "hopeless", "irreversible", and "dead" are as flawed and wrong as their medicine is primitive and inadequate.

So what can we do to protect ourselves? How can we avoid running afoul of "the system"? How can we avoid ending up in the coroner's morgue? The first step is to examine our "scenario" for deanimating and determine how realistic it is. Do we have risks in our lives which could make slow, controlled deanimation unlikely or even an impossibility? The second step is to build a realistic scenario based on an objective evaluation of our risks. The final step is to determine ways to reduce those risks by modifying our behavior and then to act in those ways.



The article which follows isn't exactly exciting reading. In some spots it's downright wooden. It is also not nearly as comprehensive as it could be. We apologize for that. Nevertheless we urge you to read it carefully. If nothing else it may cause you to carefully reassess your life and make some changes to increase the probability that your "deanimation scenario" will unfold as you want it to.

## Assessing Your Risks

The ten leading causes of death in the United States today are given in Table 1. Of these ten leading causes, four of them, stroke, accidents, suicide, and homicide, carry with them a very significant risk of autopsy.

The purpose of this article is to examine all of the causes of deanimation which carry significant risk of autopsy and to point out ways to shift your risk away from these modes of deanimating.

In most cases assessing your risk and deciding what sort of effort you wish to exert to decrease it will be fairly straightforward. Obviously if you

are a police officer your risk of death by homicide is considerably greater than if you are a retired grandmother. And if you spend all your time in your automobile, your risk of dying by accident is considerably greater than if you are a shut-in who is bedbound. For most of the conditions which are defined as "Deaths Reportable to the Coroner", you will be able to rather quickly gauge your risk -- at least qualitatively if not quantitatively.

However, in the case of heart disease and stroke -- the leading causes of sudden, unexpected deanimation -- deciding where you fall on the spectrum of probabilities will not be so easy. In the second part of this article we will be providing a short test for assessing your risk of arteriosclerotic disease (the primary underlying cause of stroke and heart attack). You will be able to use this test to help you decide if you need to get a more detailed risk assessment, such as a stress test and echocardiogram.

Even if you score well on the test, if you are over 40 we think it would be a good idea for you to have these tests anyway. They are noninvasive, reasonably reliable, and very safe. Most important, they can help you to very accurately assess your risk of deanimating from arteriosclerotic disease (heart attack and stroke) and intervene early to shift your risk away from these modes of deanimation.

## Intervening

As we've indicated, the purpose of this article isn't just to help you find out what your deanimation will likely result from. It's to help you shift your risk away from these modes of checking out. And that's the really good news in this article: most of the sudden, unpredictable ways of deanimating that carry a high probability of autopsy and a virtual certainty of a suboptimum suspension are avoidable. Even heart disease. Even stroke.

## The Downside

Of course, there's a price to be paid for doing this. In shifting your risk away from sudden modes of deanimation you will necessarily correspondingly increase your risk of experiencing slow modes of deanimation such as cancer, kidney failure, pneumonia, and Alzheimer's disease. From a subjective point of view these will be pretty unpleasant ways to deanimate. Frankly, you will probably live longer this life cycle if you don't die of atherosclerosis related disease or an accident, but you will probably "die" a lot more slowly and perhaps painfully. It's important that you understand that. You will, in

## TABLE 1

### The Ten Leading Causes of Death In The United States\*

- 1) Heart Disease
- 2) Cancer
- 3) Stroke
- 4) Accidents
- 5) Lung Disease
- 6) Pneumonia
- 7) Diabetes
- 8) Suicide
- 9) Homicide
- 10) AIDS

\*Source: U.S. Department of Health and Human Services

effect, be trading the possibility of a relatively quick, painless "death" for some extra years of life (and perhaps health) and increased probability of a high quality suspension. That's a trade the authors think well worthwhile, but only you can be the judge of that for yourself.

So, consider carefully. Remember that antibiotics and public health measures (sanitation, vaccines, etc.) have greatly reduced the burden of infectious diseases -- but they have also resulted in nursing homes and large populations of elderly and infirm people. Until medicine "matures" and becomes capable of treating illness at the molecular level, overcoming specific causes of mortality will only shift the risk of deanimating from one mode to another.

## The Autopsy

Before we go much further it would probably help to explain just exactly what an autopsy consists of, how and why it is carried out, and why it is such a bad thing to have happen to you if you're a cryonicist. Because cryonics has never become integrated into medicine (as properly it should be) suspension patients are mistakenly classified as "dead" and treated as such. In practice what this means is that suspension patients are vulnerable to procedures no living (or potentially living) human being would ever be subjected to. Imagine someone ordering a person in cardiac arrest NOT to be resuscitated so that the cause of cardiac arrest could be definitively determined by postmortem dissection! Or, imagine a critically injured patient being rolled off to the operating room to have lethal dissection of his or her brain in order to recover a bullet and convict the assailant who pulled the trigger!

Unfortunately, because today's medicine mistakenly classes suspension patients as "cadavers", they are treated as "remains" or debris rather than as seriously ill people facing an uncertain prognosis. This means that they can be subjected to "postmortem" dissection to establish the cause of death. This dissection procedure is known as an autopsy and consists of opening all body cavities and removing most or all of the internal organs. Once removed from the body, the organs are usually weighed and sectioned; i.e., cut into coarse slices about 5 mm to 10 mm thick. There is no special effort to control temperature during this procedure and the pathologist who conducts the autopsy is under no obligation to cooperate with cryonics personnel in any way. The brain is similarly removed and sectioned and parts of it may be retained for examination and study at the pathologist's discretion. After the procedure is completed, the organs, including the brain, are poured from a kick pail on the floor (into which they have been dropped during the procedure) into a viscera bag which is then returned to the abdomen of the "cadaver".

## Why?

At the most basic level, autopsies are performed to establish the cause of death. This is important for a variety of reasons. In medicine the autopsy has historically been a very powerful research and quality control tool. The cause of death is often not what the attending physician thinks it is, and it provides a physician and/or researcher with the opportunity to get detailed, invasive feedback from his patient in ways that would be impossible were the patient alive. As such it has been an invaluable tool in the development and

practice of medicine. However, medical autopsies do not present much risk for cryonicists, since with proper paperwork executed in advance of deanimation they should be completely avoidable.

A medicolegal autopsy is another matter. This is an autopsy mandated by the law in the person of the coroner. The medicolegal autopsy is carried out to establish the cause of death in order to rule out accident, homicide, suicide, or communicable disease. Often the reasons for this are obvious, such as the need to gather evidence to apprehend and convict a killer. Sometimes the reasons are more subtle: such as to settle an insurance claim or divide an estate. In example, if John Doe is hit by an auto driven by Mary Smith, did the accident kill John Doe? Or, was John Doe already "dead" of a heart attack from an unrelated cause before he entered the intersection? Absurd? Maybe, but such things happen more often than you might expect. Insurance companies will often request autopsies to establish if death was accidental (A man falls from a ladder and dies: Did he fall because he had a lethal stroke, and thus die of "natural causes?; Or did he die from the fall?) in order to determine whether to pay on double indemnity clauses or to assign blame. And of course in matters relating to inheritance, determining the time and mode of death can be critical -- at least from the standpoint of the next of kin or others who are trying to collect the loot.

## Ruined Chances?

Regardless of the reason for which it is carried out, a suspension patient whose brain is subjected to such investigative mishandling is in serious trouble. Introduction of cryoprotective agent is problematic at best, and long time delays between the start of deanimation and the beginning of proper cooling will have further degraded (and perhaps eliminated) the patient's chances to be repaired and revived with memories reasonably intact.

## How Much Damage?

A critical question is "how much structure remains in a human brain after an autopsy?" This is something ALCOR has had the opportunity to investigate first-hand in a few isolated instances (fortunately not through the loss of ALCOR suspension patients!). In the case that was most relevant to cryonics, we had the opportunity to examine brain tissue taken from a middle-aged accident victim (struck by an automobile while stepping into the street) about 48 hours after deanimation. He was maintained under refrigeration until autopsied. As expected, there was a great deal of structure left, particularly on the light microscopy level. But there was also a tremendous amount of autolysis (cell breakdown) and many areas of the cerebral cortex that were reduced to the level of unrecognizable "debris" at both the light and electron microscopy levels.

In assessing the results of this study it seems reasonable to conclude that a substantial and very significant amount of personal identity is likely to be lost under such circumstances. A more complete evaluation of this question will hopefully be forthcoming in a future article devoted exclusively to evaluating the degree of damage associated with postmortem time delays.

## The Risk Categories

Table 2 shows the list of conditions and circumstances under which a coroner may order an autopsy in Riverside County, California. This list will vary from county to county and state to state. We urge you to contact your local coroner to obtain a copy of the list for your area (each county will have such a list of "Reportable Deaths to the Coroner" available to the public upon request). When you get it, send a copy along to ALCOR for your file.

Sometimes coroners can be "negotiated" with: They can sometimes be persuaded to limit the extent of postmortem dissection, starting their search for the cause of death in areas that are less critical such as the abdomen and thorax and examining the brain as a last resort. On two occasions in ALCOR's dealings with them, when coroners have had to remove the brain they have confined brain examination to an external inspection and have refrained from sectioning the brain.

While it may seem a very strange thing to do, establishing a personal rapport with your local coroner may be beneficial. Recently we received an information request from a county coroner who had been contacted by one of our members with serious health problems who lives in an Eastern seaboard state. The coroner was very interested in cryonics and expressed a desire to know more so that he could avoid a head-on collision with us in the future. Acquainting your coroner's office with the idea of cryonics and making yourself known to him or her on a personal basis may be very useful -- if the coroner is reasonable and approachable. To this end it is probably advisable to sound out your coroner in a general way about cryonics and evaluate his personality and level of intellectual curiosity before charging in full tilt. Establishing a bad relationship with your local coroner isn't exactly a good idea either...

In any event, it is important to know what modes of deanimation will land you in the coroner's morgue with a tag on your toe and a time on the docket for a "postmortem examination"! That's important information to know because awareness of the so-called "reportable deaths" can potentially help you to avoid deanimating from one of them. And that's really what the rest of this article is all about -- how to avoid dying like that -- and to a lesser extent what can be done to help you if you do end up in a "reportable death" category.

## Low Risks

A first glance at Table 2 usually leads a cryonicist to acute fear followed by acute depression. In reality, the picture isn't as bleak as it looks. The first thing to keep in mind is that 80% of all deaths in the United States (and most developed Western countries) are slow (cheers!), with at least two weeks advance notice available. Of the roughly 2.4 million people who died in the U.S. last year, only about 500,000 died "suddenly".

The second thing to keep in mind is that most violent deaths quickly sort out into subcategories of predisposing factors which are likely to exclude most ALCOR members. Let's take a look at the list of reportable deaths in Table 2 and examine them more or less individually. We've divided the classes of reportable "death" into three broad categories; low risk, medium risk, and high risk, based on our understanding of current ALCCR membership demographics and the risk of these modes of death for the population at large.



## TABLE 2

REPORTABLE DEATHS TO THE CORONER  
County of Riverside

1. **Unattended deaths.** (No physician in attendance or during the continued absence of the attending physician).

This includes all deaths which occur without the attendance of a physician. The Coroner's Office will proceed to conduct an investigation of the death. If during or after the investigation, it is ascertained that the death is due to natural causes and if there is an attending physician who is qualified and willing, the Coroner will waive the case to the attending physician for his certification and signature and the custody of the body will be retained by the family for removal to a private mortuary of the family's choice. In order to qualify, the attending physician must have professionally seen the decedent during the 20 days prior to death. (See number 2 below).

Deaths under these circumstances or similar events should first be called to the attention of the Coroner's Office. If the decedent has no medical history, the death is processed as a coroner's case.

A patient in a hospital is always considered as being in attendance.

Cases where the physician is unavailable for reasons of a vacation or when attending conventions, etc., the Coroner's Office should be called.

It is not necessary that the physician attend the patient for a period of 24 hours prior to death in order to sign the death certificate. On **natural deaths**, a physician may be qualified to sign a death certificate, provided he attended the patient for a sufficient time to properly diagnose the case and subsequent cause of death. If he only saw the patient for a matter of minutes but was able to determine the cause, he can certify the death and sign the certificate. If a hospital has an administrative policy of reporting cases to the Coroner when a patient dies within 24 hours after admittance, the Coroner's Office will discuss the case with the attending physician, however, may not accept the case for investigation.

2. **Wherein the deceased has not been attended by a physician in the 20 days prior to death.**

The word attended means that the patient must have been professionally seen by the physician. A telephone conversation between the physician and patient is not considered in attendance.

After the events and circumstances at the time of death are investigated by the Coroner's Office, the Coroner or his Deputy may order an autopsy or may consult with one qualified and licensed to practice medicine and determine the cause of death, providing such information affords clear grounds to establish the correct medical cause of death. For example: a heart condition and the patient dies at home. The doctor may give the cause of death from his knowledge of the patient with the Coroner signing the certificate. Another example would be: a rest home patient who is routinely seen once a month, but would die at a time when the doctor had not attended him during the prior 20 days. Cooperation and consultation between the physician and the Coroner's Office may provide the cause; however, if the doctor's prior knowledge of the subject could not be applied to the death, then an autopsy would be performed by the Coroner's Office.

3. **Physician unable to state the cause of death.** (Unwillingness does not apply.)

This would apply to a hospital, for example, where the prior knowledge of the deceased and knowledge gained while deceased was a patient at the hospital would not be sufficient to give the cause of death. This is strictly a matter of knowledge of the subject's condition.

4. **Known or suspected homicide.** (self-explanatory)  
5. **Known or suspected suicide.** (self-explanatory)  
6. **Involving any criminal action or suspicion of a criminal act.**

This would cover deaths under such circumstances as to afford a reasonable ground to suspect that the death was caused by the criminal act of another.

7. **Related to or following known or suspected self-induced or criminal abortion.** (self-explanatory)  
8. **Associated with a known or alleged rape or crime against nature.** (self-explanatory)  
9. **Following an accident or injury.** (Primary or contributory.) Deaths known or suspected as resulting in whole or in part from or related to accident or injury, either old or recent.

This section covers a lot of ground and the key word is **following** an injury or accident; traffic, at home, at work, etc.

It would include such cases as where an elderly person would fall at home incurring a fracture of his hip, then taken to the hospital, confined to bed and would later die of bronchopneumonia or any other natural cause. On the basis, that had the individual not fallen and fractured his femur with the fatal consequences therefrom, he, it must be assumed, would still be alive despite various infirmities. There are certain cases obviously where, because of the time lapse between the injury and the death, that a great deal of difficulty ensues when one attempts to determine whether the death be attributable to the injury or whether it be a natural one in the aged person. A simple "rule of thumb method" is to carefully investigate this type of case in respect to the clinical course; for example, if the fracture occurred three months ago and the individual is now returned to ambulation even in a limited sense and he dies suddenly, it would be a fair statement to list such a death as a natural rather than an accidental one relating to the previous treatment. It is not necessary that the fracture be directly related to the immediate terminal cause of death. If it contributed to a degree, it may be shown as a significant condition contributing but not related to the terminal condition. If it is felt that the fracture did contribute, the Coroner's Office must make an investigation into the facts about how the injury occurred. The actual wording for the cause of death will either be determined by consultation with the physician or by an autopsy.

**Spontaneous Pathological fractures** do not need to be evaluated by the Coroner.

Cases where the patient is comatose throughout the period of physician's attendance, whether at home or in the hospital should be evaluated carefully. If diagnosed as resulting from a natural condition, such as a cerebral vascular accident, then the case

does not need to be reported to the Coroner; however, if it is unknown or if a possible injury is suspected, the death should be referred to the Coroner for decision.

10. **Drowning, fire, hanging, gunshot, stabbing, cutting, starvation, exposure, alcoholism, drug addiction, strangulation or aspiration.**

(Parts of this section are self-explanatory.) In respect to the question of certifying a death from **aspiration**, whether it be accidental or not, is one of the most difficult problems in the field of forensic pathology. **Aspiration pneumonias** may be treated as a natural death, and therefore proper for the private physician to sign the death certificate provided that the antecedent medical conditions does not warrant making it a coroner's case. **Aspiration of foreign objects** should be referred to the Coroner's Office. **Aspiration of stomach contents** if from disease, for example: as in terminal states such as in carcinoma of stomach, should be treated as natural causes. All **questionable aspiration cases** should be referred to the Coroner.

Exposure in the section includes heat prostration.

11. **Accidental poisoning.** (Food, chemical, drug, therapeutic agents). (self-explanatory)  
12. **Occupational diseases or occupational hazards.**

Examples would be: **Silicosis** and other pneumoconiosis; **radiation** resulting from x-ray equipment; and **injuries** produced by changes in **atmospheric pressure** such as with aviation or with deep underground tunnels or in deep sea diving (Caisson Disease).

13. **Known or suspected contagious disease and constituting a public hazard.**

Normally, those cases confined to a hospital no longer are constituting a public hazard and therefore would not be reportable to the Coroner.

If there was not sufficient time to diagnose and confirm a case in the hospital, then the death should be referred to the Coroner for decision.

All other deaths from a contagious disease will be handled by the Coroner's Office.

14. **All deaths in operating rooms and all deaths where a patient has not fully recovered from an anesthetic, whether in surgery, recovery or elsewhere.**

This mainly applies to surgical operation performed for the purpose of alleviating or correcting natural disease conditions and does not include illegal abortions of any type. **Illegal operations**, or operations performed because of complications following traumatic injury. (Traumatic injury cases are covered in Section 9). Post operative deaths should be reported to the Coroner's Office for evaluation and discussion. Lacking a cause of death such as in idiosyncrasy to an anesthetic agent, the Coroner's Office will usually "waive" the case to the attending physician for his certification and signature.

15. **In prison or while under sentence.** (self-explanatory)

16. **All deaths of unidentified persons.**

Where a physician can qualify and certify the cause of death, the death of an unidentified person may not require a coroner's investigation as indicated in the previous comments; however, the case should be referred to the coroner so an attempt can be made to identify the remains and proper interment made as provided by the Health and Safety Code.

Accordingly, we have devoted relatively little attention to methods for avoiding the low risk causes of death (like homicide and suicide) and quite a bit more to methods for avoiding the medium and high risk possibilities. By far the most important and challenging part of this article will appear next month, and will deal almost exclusively with how to avoid death from heart attack and stroke, respectively the first and third leading cause of death in the U.S (and the leading causes of unexpected, uncontrolled deanimation).

## Homicide

Homicide accounts for 1.2% of all deaths in the United States, claiming 27,500 lives per year. Among caucasians, 77% of all homicides occur in males. The risk of homicide for blacks is 37.3 per 100,000, (for black males it is 64.8 per 100,000!), for whites 6.6 per 100,000 (for white males 10.4 per 100,000) and for all others 32.4 per 100,000. Most murders are crime related and involve gang activity and/or drugs. If you are not a member of an urban minority group or otherwise involved in drug or crime related activity, your risk of dying from homicide is very low. Looking at it simplimindedly, over a 100 year time course your risk of dying from homicide if you are a caucasian is roughly 1%.



## Friendly Murders

Many murders which do not fall into the broad class defined as crime related are nevertheless predictable. If you are in a marriage or business situation where you are confronted with explosive or ill tempered people with little emotional control and/or a history of violence, terminate the relationship or resolve the matter in some constructive way (such as effective psychiatric help for one or both parties). Any close

interpersonal relationship characterized by prolonged discord, deep resentment, and uncontrolled emotional outbursts of a violent or potentially violent nature exposes you to some risk of violent, sudden death. Get out of such a situation if you are in one.

Assessing your risk in such a situation is surprisingly easy in principle but often very difficult in practice. Typically in such situations there are many "dry runs" or "close calls" for murder which should have provided warning. The tragedy is that often the parties involved lack the objectivity to see it! Avoid relationships, working or personal, with individuals who are violent and emotionally labile. When this is unavoidable, choose nonconfrontational modes of resolving conflicts -- if necessary by ceding psychological "advantage" to quell emotional storms.



## Job Related Murders

Certain jobs carry an inordinately high risk of deanimation by homicide. Police officers come to mind as an obvious example. But there are others which are less obvious and which perhaps carry an even greater risk, such as convenience store cashier on the night or evening shift, or service station attendant on the graveyard shift. Several years ago a cryonicist was assaulted, brutally beaten, and seriously injured while working in a convenience store which sold beer and wine. His refusal to sell alcoholic beverages to minors resulted in an altercation and a serious beating. We also know of at least one person in suspension now who as a clerk was the murder victim of a holdup. Avoid such jobs, and if you must take such employment, give strong consideration to taking a good firearms use class (they are available for a modest fee from better gun stores and firing ranges) and keeping a weapon with you at work (even in violation of your employer's regulations if necessary). There have been several cases in Los Angeles recently of convenience store clerks both wounding and killing assailants who not only robbed the store but ordered the clerks to lie on the floor while brandishing a shotgun at them in apparent preparation for an execution-style disposition of "witnesses". In short, "it is better to be judged by 12 than carried by 6."



## Hitch Hiking

Don't. It is especially unwise to be a hitchhiker. Perhaps no other behavior can expose a young, middle class person to the risk of homicide as easily. Picking up hitchhikers is a particularly risky way to look for either sex or conversation partners. Install a cassette deck and listen to talking books if you feel the need for stimulating conversation.

## Suicide

**Suicide** is also a risk which is confined to a sharply defined minority, mostly to teenagers and the elderly. In the elderly it is usually a more or less rational response to deteriorating health without the prospect of recovery or other alternatives for escape. Cryonicists should be more or less immune to this kind of suicide since other alternatives are available. If you feel suicidal for any reason, turn to ALCOR first. Virtually all suicide victims are autopsied and autopsied completely.

## Others

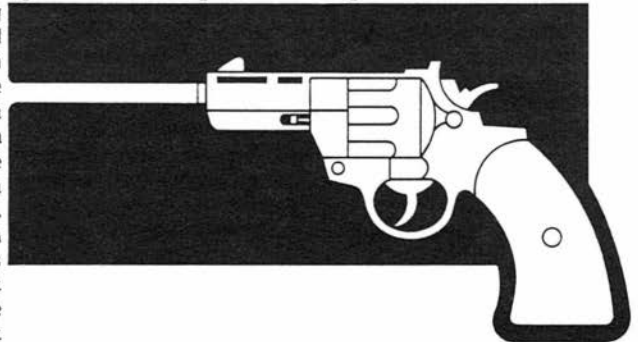
**Deaths In Prison, Involving Criminal Acts, and Deaths of Unidentified Persons** would seem to exclude most cryonicists, as would **Deaths Related to or Involving Self-Induced or Criminal Abortion.**

**Rape** where the victim is killed is very rare and is most often associated with one of the risk factors discussed under homicide. If you are young, single, and female, knowing the person you are dating and being careful not to engage in casual, promiscuous sexual encounters is an important part of protecting against death in this way. Never go out or go home with a man unless you know something about him and others in your life know something about him; such as a name, address, phone number, and so on. Never put yourself in a vulnerable position with a man unless you know him reasonably well. In particular avoid seemingly "innocent" situations such as going from a bar to a restaurant with someone you've just met. Establish a baseline of performance and accountability with men before putting your life in their hands.

In the unfortunate event you do find yourself in a rape situation, you may wish to pursue a course of action somewhat different than you would if you were not a cryonicist. If you are "killed", rapid discovery of your body is obviously to your advantage. While this is an ugly mental calculation to have to perform, you may have little choice.

We know of one cryonicist who was confronted with a situation where an assailant attempted to move her from an "inconvenient" location (an urban setting) to a rural one. With cryonics arrangements in mind she acted to force a confrontation, feeling it better to deanimate in a setting where she had some reasonable chance of being found promptly (or at all!) than in an isolated rural one. She also felt that fighting was a superior psychological (and tactical) position to pursue. Violent death may result in either case, but making it happen on your terms rather than on his may still give you some chance of being found and being placed into suspension. In the aforementioned case the confrontation resulted in a resolution of the situation without violence.

It is a sad fact that most victims of fatal rape docilely allow themselves to be led into situations where the odds were hopelessly stacked against them. Early resistance and violent confrontation with the assailant might well have improved their chances (and not just from a cryonics standpoint, either). One other thing: an astonishing fraction of rapes and rape/murders happen to women living alone during the course of a burglary. If you are a woman living alone or with other women, our advice above regarding learning to use a firearm is doubly appropriate. Your weapon need not be a pistol. When someone is breaking through your window at 2 AM, there are few more comforting things to have at



hard than a shotgun while you dial 911.

Of the 17 causes of reportable deaths in Riverside County, seven are violent or violence related and are of extremely low probability for the average cryonicist to experience. Of course if you are in one of these risk groups you should consider trying to get out of it. If you live in a crime-ridden neighborhood you should move from it as soon as possible and develop defensive survival skills in the meantime; avoid going out at night, travel with friends, get into the habit of notifying friends and family of your whereabouts regularly. In short, learn to live defensively.



to 3/4ths) of occupational respiratory diseases result from a combination of workplace exposure and smoking! The message here is obvious: don't smoke!

Also, keep in mind that just because a mode of deanimation is "reportable" doesn't mean that the coroner will mandate an autopsy. If death was from an occupation-related disease and the agonal course was well charted and clearly due to occupation-related illness, the coroner may waive rights to autopsy. Nevertheless, it pays to be safe rather than sorry.

#### **Known or suspected contagious disease and constituting a public hazard.**

The simplest advice we can offer here is don't get one! In the western world there are few of these diseases left. Examples would be hepatitis A, hepatitis E, and hepatitis (Non A, Non B), as well as tuberculosis. In such cases an autopsy may not be as likely, but the coroner may well mandate embalming of the remains or cremation in order to protect public health. Certainly interstate transport of unembalmed remains where an infectious agent is involved would be strictly prohibited. Thus if you think you have an infectious agent such as tuberculosis or AIDS which could cause you to deanimate we strongly recommend

**Deaths due to occupational diseases or hazards.** Our best advice here is to pick an occupation which does not expose you to such risks. Being a fireman, a coal miner, or an asbestos worker is probably not a very good career to pursue if you are a cryonicist. Alternatively, if you must work in a field which carries with it the risk of occupational disease or hazards, be very careful to use protective equipment. In almost every hazardous occupation protective equipment and procedures are available which greatly minimize if not completely eliminate the risk of illness or injury. Most chronic occupational diseases are of a respiratory nature and can be protected against by using proper protective equipment. It is also worth noting that the vast majority (some estimates indicate that as much as 2/3rds

you move to the greater Los Angeles area as soon as possible to avoid the strict rules imposed at the state level to prevent movement of unembalmed, infectious human remains.

## Regulatory Risks

Until very recently only the coroner's office could embalm or handle the remains of persons dying from an infectious disease of any kind in Riverside County. This absurd regulation was recently overturned, ironically enough due to AIDS. With the increasing number of AIDS cases it became both costly and logistically impossible for the coroner's mortician to embalm all AIDS cases. Add to this the fact that the regulation made no sense: morticians are sent to school and licensed by the state primarily for the purpose of disinfecting bodies and carrying out public health measures to prevent the transmission of infectious disease! This is a classic example of a "hysteria law or regulation" which is irrational and which could seriously impact a suspension patient's chances. Are there such regulations or laws in your area?

Many people think of AIDS as being a disease that will expose them to the risk of autopsy. Early on in the epidemic this was true, and in some areas it may still be the case. However in Los Angeles, Orange, and Riverside Counties AIDS has been dropped from the list of deaths reportable to the coroner, and in most areas pathologists and coroners are not anxious to do autopsies on AIDS-infected people because of the small but very real risk they face in carrying out such exams. Unfortunately, in most instances where AIDS patients are autopsied, they are often deliberately embalmed first at the examining pathologist's request to minimize risk of infection (to him!) should an accident occur. Neither the family nor ALCOR would be likely to win a fight to block such "protective embalming" in such a case.

## Moderate Risks

We have classed **accidental deaths** as of moderate risk. Approximately 4% of all deaths in United States are due to accidents of one kind or another. Nearly 50% of those accidental deaths are automobile related. As would be expected, the vast majority of vehicle accident deaths occur in several groups: teenagers, and alcohol/drug users who drive.

The easiest of these two groups not to fall into is the group of those who drink and/or use drugs and drive. Don't. Given the media attention surrounding the consequences of this kind of behavior it seems absurd to belabor the point.

## Auto Survival

Avoiding being the victim of auto lunacy is quite another matter. Beyond driving defensively, **WHAT** you drive has a lot of influence on your chances of surviving an accident. Buy the safest car you can afford. The larger Mercedes sedans and the upper end U.S. luxury cars are overall good choices. The public library has exhaustive information on the actual safety performance of various vehicles. Often you can get a used, "gunboat" U.S. luxury car for far less than a comparable compact car. Of course you'll pay for this in mileage, but

safety is the tradeoff here. Larger, well constructed cars equipped with lap and shoulder belts are safer than the average small, lightweight truck or sedan on the road today. Also, well engineered cars with modern antilock braking systems greatly reduce your risk of getting into an accident in the first place!

Wear seatbelts at all times. Keep the shoulder harness over your shoulder, or it will do little good. It's there to protect your brain, remember; to a cryonicist that should be doubly important. Also, recent statistics suggest that riding in the back seat with simply a lapbelt isn't much better than no belt at all. To avoid breaking your neck on the front seat, we suggest that you stay out of back seats without shoulder harnesses. This may be socially difficult, but nobody said being an immortalist was easy.



Avoid driving when you are tired or angry. Use good sense in driving. And don't try to exceed your limits on long trips: A night in a Motel 6 can save you from an inside tour of a strange morgue.

Perhaps the most overlooked area of auto survival (other than seat belt use) is auto maintenance. Make sure the major structural components of the cars you drive and ride in are sound. Tires are especially important -- blowouts can cause loss of control and roll-overs. But don't overlook the rest of the car either. Stalling out or inadequate performance due to improper maintenance can be lethal. A car that becomes disabled on a freeway is a serious hazard to its driver and passengers.

Never try to carry out tire changes or other repairs to cars stalled near the roadside on a freeway or other "highway" situation -- particularly at night. It's a little known fact that drivers who are drunk or fatigued will often "lock" onto the taillights of a stalled car (even if they are flashing!) and plow into them at full speed! If you have mechanical troubles get as far off the road as you can, and get out of your car if that isn't far enough! Get a tow truck to remove you and your vehicle to a safe place unless you are confident you are well out of harm's way. Let the tow truck driver take the risk -- it's what he is paid and trained to do! Consider getting AAA insurance to reduce the cost of towing and facilitate safe traveling. We know of no other service available which even begins to return the value per dollar that AAA offers. Their trip planning and auto safety information services are superb and are available as a part of membership at no extra charge.

Finally, if you have the money, and driving constitutes a significant risk exposure for you, consider extra safety modifications to your vehicle. Roll bars and door panel reinforcing can be installed to greatly increase the crash resistance of the vehicle. Extreme measures might include welding a "racing cage" into the passenger compartment to protect against head-on and other high velocity impact situations. Driving a high quality, turbocharged diesel car such as the Mercedes 450 SL also reduces the risk of fire, since diesel fuel is far less flammable than gasoline (though poorly engineered diesels without



turbocharging are actually a hazard to drive and present high maintenance costs as well -- underpowered cars can kill and should be avoided). Good antilock brakes and an airbag are also other "high end" safety measures worth considering.

There will necessarily be a sliding scale on the utility of such measures. If you drive very little, attention to auto safety will be a lower priority for you than if you drive for a living and spend tremendous amounts of time in your own car on the road.

## Air Travel

Finally a word about accidental death from air travel. Many cryonicists are very concerned about air travel and often express anxiety about it. Overall, air travel is very safe, and unless you fly frequently your risks are very low (cf. **To Fly Or Not To Fly**, CRYONICS, #49, p.2 (Aug, 1984); and **Wall Street Journal**, (June 4, 1984)). For 1981, the figures are 0.002 deaths per 100,000,000 passenger miles, versus 2.3 deaths per 100,000,000 passenger miles for automobiles. Translated, if you travel 5,000 miles a year by car, you would have to travel 5,000,000 miles by air for an equivalent risk. This is difficult.

Nevertheless, the fact remains that if you do "auger in" there is likely to be very little, if anything, left to suspend. Clearly, keeping air travel to a minimum is a good idea. But for most people, cryonicists or not, it is almost impossible to avoid.

It is very important to realize that all behavior carries with it some risk. Whether it is devouring a steak or flying to New York, there is always some unavoidable danger. To be paralyzed by fear of death is hardly living, and to allow such fear to completely erode the quality of life is no sense at all. Life is full of risk vs. benefit calculations (if I cross the street I could be run over by a truck and totally obliterated). The trick is to decide what's important and strike a balance. For most of us prudent air travel is a reasonable risk. Granted, those who come after us in an age of perfected medicine may gasp with horror at the thought of the risks we take, but then they did not have to get from Buffalo to San Diego economically and in a time frame compatible with keeping their job, their spouse, and their sanity! When you do fly, maximize your chances by sitting in the smoking section at the rear of the plane. It is (paradoxically) the safest in case of a runway accident. Your risk from second hand smoke for that length of time is not worth bothering about.

The second leading cause of accidental death is misadventure in the home. Of the lethal accidents which occur around the home by far the most common are falling from ladders or roofs. Stay off ladders and let someone else do the





roof. Lethal ladder accidents are particularly bad for cryonicists since the falling person usually catches his foot in a rung of the ladder on the way down -- resulting in massive head and/or neck trauma. Leaving aside the damage the coroner will do when he autopsies your head (**and he will**) lying around in an ICU for a day or two with no blood flow to your brain at 98.6°F waiting for brain death to be pronounced isn't going to do you any good either. In fact, it may well be the end of you -- permanently. So, stay off ladders and out of high places -- period.

**Drowning, Fire, Poisoning, Drug Addiction...** Most of these kinds of accidental deaths can be avoided by using a little common sense. Extensive information on how to avoid these risks is probably not appropriate here. Cryonicists as a group seem wary of risky things, and few are casual about engaging in such activities which could end their lives. Almost all cryonicists own smoke detectors. If you don't, get some, install them, and use them. Contact your local fire department for information on how to otherwise reduce the risk of fire in your home or workplace.

A word or two about food poisoning is also in order. It used to be that almost nobody died of food poisoning. Not so anymore. The extensive use of antibiotics in cattle feed has resulted in the creation of resistant organisms of considerable virulence. These organisms (primarily salmonella) are found in poultry and cattle products. If you eat meat or eggs it is important that you cook them well and that you avoid cross contamination during food preparation.

In other words, treat egg, poultry, and other meat products as if they were filthy. Never touch them during food preparation and then touch other food items or cutlery which are not going to be thoroughly cooked as well. Never use stuffings for poultry and be careful to avoid drippings from such items (before thorough cooking) on dish rags or other kitchen tools which come into contact with food, dishes, or cutlery. Indeed, periodically sterilizing your dishrag by heating it in the microwave till it steams or soaking it in a 1:8 dilution of bleach solution for 10 minutes is a good idea. Most dishrags are teeming with microorganisms. Cook all meat to a temperature of at least 160°F. It won't be pink anymore, but it will be safe to eat.

Other measures to consider are to scrap out the wooden cutting board and replace it with a plastic one -- or at least wipe your wooden cutting board down with the 1:8 bleach solution after washing it down with soapy water.

In the Southern California area the consumption of raw milk is popular. Our advice is: **don't**. Raw milk contains a horde of microorganisms and in consuming it you are relying on bacterial culture techniques to insure that they aren't the **wrong** ones. Better to kill all the bugs and let God sort them out than to consume the wrong ones and hope your physician can!

Just how serious is the food poisoning issue? Well, in the United States last year nearly 9000 people died from food poisoning. That's cause for concern because the number of cases of both food poisoning and deaths from food poisoning has been steadily rising -- and the distribution of mortality has shifted somewhat from the very young and very old to those in the prime of life -- apparently due to the emergence of antibiotic resistant "superbugs" combined with inappropriate antibiotic therapy on the part of treating physicians. And of course that figure of 9000 deaths doesn't include the literally millions of cases of nonfatal poisoning which resulted in serious illness and major

inconvenience. The tragedy is that food poisoning is almost completely avoidable. Because of the increase in food poisoning deaths and the implication of "new" pathogens in their cause, victims of lethal food poisoning are being aggressively autopsied.

For more information on how to avoid food poisoning contact the United States Department of Agriculture Meat and Poultry Hotline: 800-535-4555.

One final remark about food poisoning. Those of us who are vegetarians here at ALCOR (Mike Darwin, Mike Perry, and Max O'Connor) have noticed that we virtually never get the so-called "stomach" or "intestinal flu" (synonyms for food poisoning). Avoiding meat and egg eating seem very powerful ways to reduce the risk of food poisoning.

**All Deaths in Operating Rooms...** This mode of deanimation is rare and almost completely avoidable. If you are old and in frail health or otherwise a poor surgical risk (if you have a history of heart failure, for instance), avoid surgery. In fact, avoid surgery period — unless it is really essential to your health and life.

If you must have surgery, a few simple rules are in order. The first thing you want to do is to get one or two second opinions that you need surgery. Moreover, these opinions should ordinarily not be from surgeons, but from your appropriate internist, neurologist, cardiologist, etc. If non-surgical doctors cannot agree that you need surgery, it's probably best to wait a



while longer. The other thing to remember about surgery is that it is a manual skill, and like all manual skills, it takes constant practice. The surgeon who operates on you should be doing that same surgical procedure several times per week, or his or her skills will not be up to par. In fact, what you really want is for your surgery to be done in a surgery "mill", by a doctor who does several operations like that each day, and where you will go to a recovery area where the nurses have taken care of thousands of patients just like you. Don't make the mistake of having your major surgery in the small convenient local hospital where your friends can drop in easily: for many a patient that is a last mistake.

At the big "surgery mill" hospital there will be a lot of busy surgeons. How do you find the best one? You can get several recommendations from your doctor, but you might not wish to pay much attention to them. Rather, if you are having a serious operation, go to the surgical ICU or ward where you will be recovering, and ask the post-surgical nurses which doctor's patients do well. Talk to some scrub nurses, and some surgical

residents. These people are easy to find around a big hospital, and they know the scoop. A few minutes of your time spent this way can save you endless pain. All this also goes for anesthesiologists, in whom there is also a range of expertise. Do not rely solely on your surgeon to select your anesthesiologist. Again, it is a good idea to talk to OR staff. Every hospital has a few anesthesiologists who are especially revered for their skill and quickness, and you may be able to coordinate the anesthesiologist of your choice with the surgeon of your choice (or you may not -- sometimes this can be very difficult, as many hospitals assign anesthesiologists to cases at random).

One last word of advice on anesthesia and avoiding surgical deaths; never have "general" anesthesia in a dental office. Never. If you need a dental procedure that absolutely requires general anesthesia tell the dentist you wish to be treated in a hospital setting, just as he would treat (or refer for treatment) a patient with a serious cardiac risk. Keep in mind that if you do suffer a cardiac arrest and your heart cannot be restarted within 7 to 8 minutes of the time CPR was begun, you are very unlikely to survive and if you do you are very likely to have severe neurological deficits (brain damage). Thus, in an emergency, your dentist's skill at recognizing and treating a cardiac arrest or serious arrhythmia will almost certainly determine whether you live or die. Most dentists lack the required level of skill and automatic responses required for this. Better to have your oral surgery done at a teaching hospital in a standard OR.



The above recommendations are particularly important for fragile or debilitated people. We here at ALCOR are often struck by the fact that people who are fragile or debilitated by objective criteria often do not consider themselves so. Therefore, we strongly suggest that young or old, before you consider any surgical procedure involving general anesthesia or spinal anesthesia that you contact ALCOR before having the procedure. Often we can point you to qualified sources for second opinions or to other resources which can help to protect you from poor medical judgement. And, if nothing else, if you present a particularly high risk, we can standby to intervene quickly and perhaps short-circuit your trip to the coroner's if things do go wrong.

A final word about surgical/anesthesia related deaths; requirements for autopsy vary greatly on this point. At one extreme, any death which occurs within 24 hours of any surgical procedure in Los Angeles County is considered reportable to the coroner -- and such people are usually autopsied. In fact it is forbidden for the ICU staff to remove IV lines, endotracheal tubes, Foley catheters, or other devices from the patient's body until the medical examiner arrives to inspect them! In short, this is not a situation conducive to prompt cryonic suspension under good conditions.

Thus, before you undergo major surgery in your area you should definitely inquire into the coroner's rules regarding autopsy. If they are especially unfavorable, consider going to another county for your operation. We are also at pains to point out that if you are in need of major, life-threatening surgery, you should give every consideration to having it here in Southern California. The coroner's rules may not be any better, but we are closer, and that makes for far greater likelihood of a favorable outcome. Why? Because we can either be present during the autopsy (sometimes allowed) asking for cooperation every step of the way and/or be available as soon as it is completed with proper equipment and personnel to take immediate possession of the brain (sectioned or unsectioned) and begin stabilizing it.

TO BE CONTINUED

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## TURKEY ROAST TIME!

WHAT!!! Turkey Time again!

Somewhere out there, there is a turkey. He doesn't know it yet, but on Sunday, December 6th, he's going to be the guest of honor at a serious ALCOR event. The ALCOR Annual Turkey Roast and get-together will be held at Marcelon Johnson's home in Huntington Beach, CA. Forget business and come for some serious socializing. Topics to be discussed will be **anything you can get through the door**. See old faces! See new faces! Meet **real** people who are **seriously planning to live forever!** Mark the day (or the weekend, if you're



that far away) on your calendar with indelible ink and swear on your ALCOR ID tag to come. No tag? Come anyway. You may come away convinced you can't do without one. Remember, ALCOR is its members. If you think this is going to be a memorable Turkey Roast, you're going to have to come and see for yourself!

The format will be, as usual, pot-luck. Contact Mike or Hugh at ALCOR for coordination. Instructions to get to Marce's place are on the next page, in

the meeting schedule.

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**OCTOBER - DECEMBER 1987 MEETING CALENDAR**

ALCOR meetings are usually held on the first Sunday of the month. Guests are welcome. Unless otherwise noted, meetings start at 1:00 PM. For meeting directions, or if you get lost, call ALCOR at (714) 736-1703 and page the technician on call.



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The OCTOBER meeting will be at the home of:

(SUN, 4 OCT 1987) Paul Genteman  
535 S. Alexandria, #325  
Los Angeles, CA

DIRECTIONS: From the Santa Monica Freeway (Interstate 10), exit at Vermont Avenue, and go north to 6th St.  
From the Hollywood Freeway (US 101), exit at Vermont Avenue, and go south to 6th St.  
Go west on 6th 4 blocks to Alexandria, and turn right. 535 is the first apartment building on the west side of the street. Ring #325 (Note: See the building directory for the correct phone number to punch) and someone will come down to let you in.

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The NOVEMBER meeting will be at the home of:

(SUN, 1 NOV 1987) Virginia Jacobs  
29224 Indian Valley Road  
Rolling Hills Estates, CA

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

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The DECEMBER meeting (Annual Turkey Roast) will be held at the home of:

(SUN, 6 DEC 1987) Marce Johnson  
8081 Yorktown Avenue  
Huntington Beach, CA

DIRECTIONS: Take the San Diego Freeway (Interstate 405) to Beach Blvd. (Hwy 39) in Huntington Beach. Go south on Beach Blvd. approximately 4-5 miles to Yorktown Ave. Turn east (left) on Yorktown. 8081 is less than one block east, on the left (north) side of the street.

**Alcor Life Extension Foundation  
12327 Doherty St.  
Riverside, CA 92503**

**ADDRESS CORRECTION AND FORWARDING REQUESTED**

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