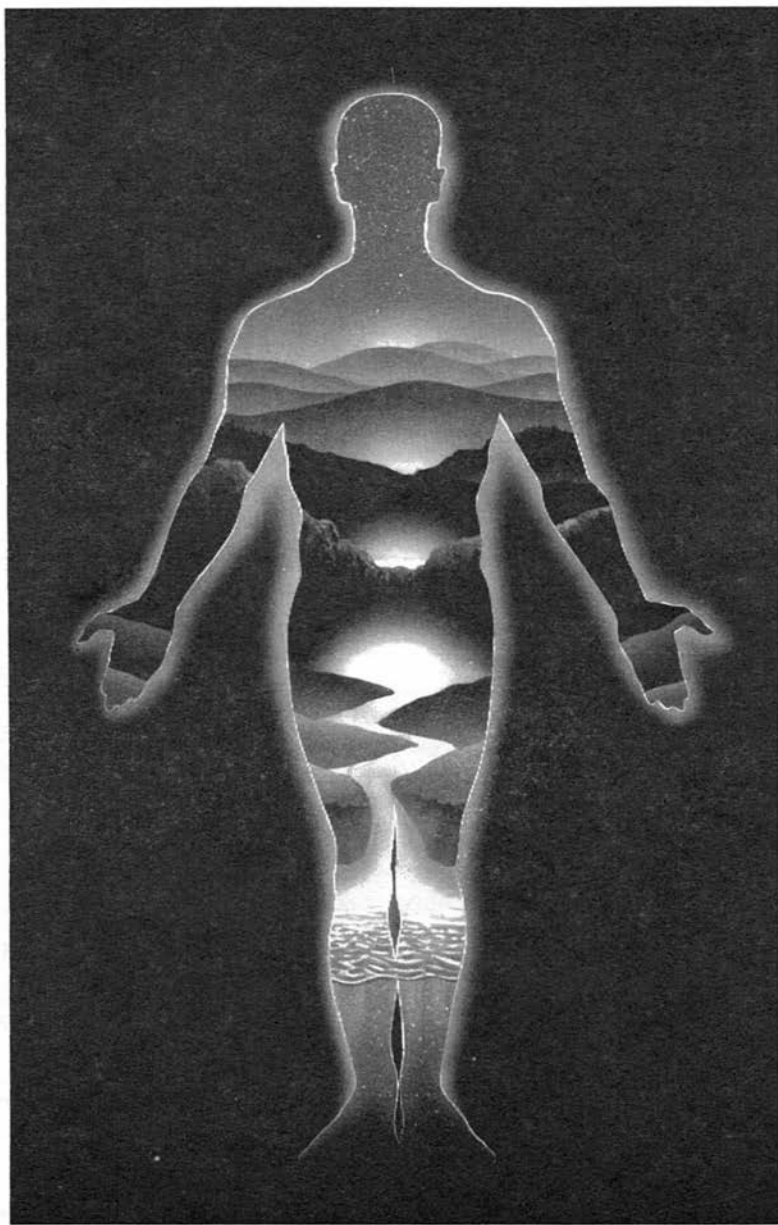


Cryonics

May, 1987

Volume 8(5)



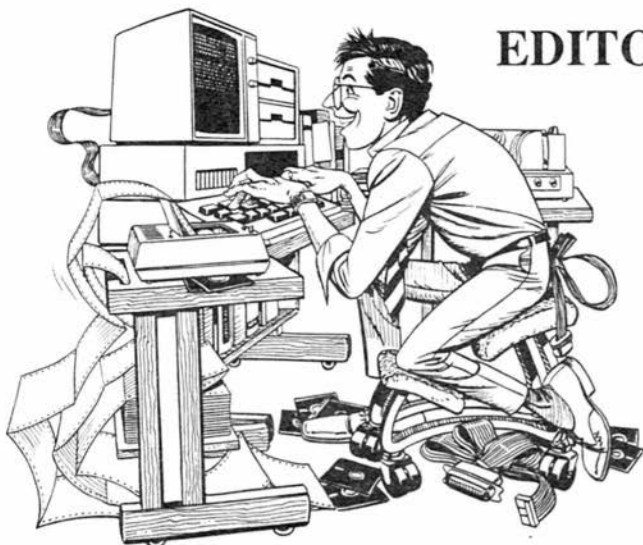
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EDITORIAL MATTERS



Errata

In covering the FDA assault on the Life Extension Foundation in the April issue of CRYONICS, we made a number of small factual errors which we wish to correct.

First, law enforcement officials broke down the door at the Hollywood LEF facility, not the Dania, Florida facility. The Hollywood facility was not scheduled to open until 10:30 AM and there was no one at the facility with keys to let the

law officers in. Since the FDA/DEA/local police did not wish to be kept waiting for 30 minutes until someone arrived to open the building, they simply smashed in the glass.

The quote about photography of employees and the commentary which followed it were made by two different individuals. We also understand that only some employees were questioned while others we simply searched and allowed to promptly leave the building. We apologize for the inaccuracy in reporting.

SOME COOL CONVERSATION STARTERS...

Dave Pizer and the Venturists have come up with some no-stress ways to bring cryonics into the conversation and to spread the word. They have created a variety of products which are guaranteed to be conversation starters and which cleverly put the initiative of asking about cryonics in the other guy's court. Products which are now available include high quality white glass coffee cups inscribed with the following verse:

**"NOW I LAY ME DOWN TO SLEEP
I PRAY THE LORD MY SOUL TO KEEP
IF I SHOULD DIE BEFORE I WAKE
FREEZE ME"**

The cups are available for \$4.00 if purchased singly, \$3.50 if purchased in quantities of 2-5 and for \$3.00 each if you purchase 6 or more.

The Venturists are also offering cryonics shirts in two styles. There is a T-shirt which sells for \$7.00 and a sports shirt which sells for \$12.00. We have seen the shirts and are very impressed with their quality and the design of

the cryonics message. The back of the shirts feature a polar bear sitting on a block of ice with the message "I Love Cryonics" tastefully laid out above and below the bear.



Just a few days before going to press we received the latest Venturist product, yellow plastic diamond car window signs which caution other motorists "Cryonicist On Board". These cryocautions signs are available for \$1.50 each. For those who've been waiting to strike back against those awful "Baby On Board" signs, here's your opportunity. After all, a cryonicist isn't just another road kill; we're talking immortality here!

The above products are available from the Venturists at cost and have been produced to help promote cryonics and spread the word. We have examined samples of all the products and are impressed with the quality and craftsmanship on each of them.

If you are interested in ordering any of these products you can do so by sending your tax-deductible contribution to:

The Venturists
1355 E. Peoria Ave.
Phoenix, Arizona 85020

* * * * *

ACS/TRANS TIME RAISES RECOMMENDED MINIMUMS

The March 1987 issue of **ACS Notebook** (the bi-monthly newsletter of the American Cryonics Society) has announced the new minimums for cryonic suspension arrangements with ACS. The recommended minimum for whole body suspension went from \$80,000 to \$125,000 and for neurosuspension from \$45,000 to \$50,000. No reason for the price increase was given.

For those who have come to cryonics recently, we list several of ACS/Trans Time's previous recommended minimums for a complete suspension:

<u>Date</u>	<u>Whole Body</u>	<u>Neuropreservation</u>
1977	\$50,000	\$20,000
mid-1980	\$57,200	-----
1981	\$60,000	-----
1982	\$75,000	\$35,000
1985	\$80,000	\$45,000
1987	\$125,000	\$50,000

FLORIDA UPDATE

Some months ago we reported on the raid of the Life Extension Building in Florida conducted by the DEA to "bust" the owner of the building (who lived on the top floor) for cocaine sales/use. At that time the Federal Marshals seized the building and its contents, including \$50,000 worth of cryonics equipment owned by Hollywood Health Services (a company owned by several South Florida ALCOR Suspension Members). While ALCOR still has the ability to **use** the equipment, we cannot remove it from the building to another location. Neither local nor federal authorities has indicated any problems with continued access to the facility, and ALCOR personnel come and go freely.

For a whole host of reasons we are anxious to get out of the Life Extension Building. Progress in getting the equipment out of federal government seizure has been slow but steady. ALCOR Suspension Member David Tupler is also a neophyte lawyer and has arranged for a Verified Claim to be filed with the government. Since HHS has clear title to the equipment and was occupying the building on a gratis arrangement with its owner it seems likely that the claim will eventually be recognized and the equipment released. The question is **when**. Fortunately, the ALCOR rescue/resuscitation equipment was stored elsewhere with our Coordinators in the area and thus is not subject to the government lock-up.

The situation in South Florida has proved a nightmare of frustration for everyone involved, including, we suspect, the law enforcement and regulatory agencies involved. They reportedly expected to find a major cocaine dealer and "crack lab" and instead found only one reclusive and ill cocaine user.

We are hopeful that the situation with HHS will eventually be sorted out, but we are not optimistic that this will happen any time soon.

As usual, we'll keep you posted.

* * * * *

The Dog And Phony Show

By Mike Darwin and Hugh Hixon

"An event doesn't exist until the media announces it. Once the media announces it, it is an event whether or not it exists."

--Jerry Rubin
1960's Berkeley Radical

Unless you've been living in a cave recently, you've no doubt heard the story and seen the headlines: "Frozen Dog A Hot Topic", "Dog Spunky After It's Frozen In Test", "Beagle Placed Into Suspended Animation Lives To Wag About It" Some of you even called to inquire "if ALCOR was aware of the American Cryonics Society/Trans Time breakthrough?"

The Charlotte Observer

Anson, Cabarrus, Stanly, Union Edition (4)

Tuesday, March 31, 1987

B

25 Cents

Beagle Put In Suspended Animation Lives To Wag About It

By FRAN SMITH

Health-News Services

BERKELEY, Calif. — Miles is not the first dog to be placed in suspended animation. But the 3-year-old beagle is one of the few to return from that state in perfect health.

The scientist who drained Miles's blood and chilled for 20 minutes, then rewarmed the beagle, says that it will be years before similar tests on people.

"What we did with Miles was the doorway to suspended animation in humans. Ultimately, we want to freeze a person solid."

— Paul Segall, physiologist at the University of California at Berkeley

— from bloodless surgery, organ storage to Trans-Plant, an Oakland cryonics company, who froze this week at the expense of \$10,000.

and Harold Watz, a biophysicist whose nickname is "Frosty."

The idea of floating to the future in a frozen sleep has intrigued poets and philosophers through the ages.

In Woody Allen's 1973 film "Sleeper," Miles Monroe, a health food store operator, wakes up 200 years later a blundered appendectomized, small-browed man.

The Real Story

So, what's the story? The media has gone wild but what does it mean? To careful readers of CRYONICS the answer(s) to that question will be obvious. To newer readers the answers may not seem so clear. Hopefully all of our readers, new and old, will profit from a brief review.

First of all, the facts. ACS researcher Paul Segall and his associates carried out a total body washout on a beagle dog, flushing most of the blood (down to a hematocrit of about 4%; the hematocrit is the percentage of blood which is red cells, in a dog about 48% is normal) and cooling it to 3°C. They held the animal at that temperature for 20 minutes and then rewarmed it, reinfused blood, and restored heartbeat and breathing. The dog is now alive and in apparent good health. Those are the facts and they are not in dispute.

Now for the **hype**. As the newspaper headlines throughout this indicate, this work has been billed as a "major medical advance." It isn't. First of all, as most readers of CRYONICS will know, ALCOR has been cooling dogs down to the same temperature, doing a **complete** blood washout (hematocrit less than

Dog 'Spunky' After It's Frozen in Test

From Times Wire Services

BERKELEY—Scientists who froze a frisky beagle for 20 minutes and then thawed him out to perfect health say the task signals significant progress in cryonics research, with potential spinoffs in bloodless surgery, cancer treatment and even suspended animation of humans.

Dr. Paul Segall, an associate professor of physiology at the University of California, Berkeley, and his fellow researchers are to report the results of their work this week at the annual meeting of the Federation of American Societies for Experimental Biology in Wash-

ington, D.C. The beagle, named Miles, was cooled to 3°C and held at that temperature for 20 minutes, then rewarmed and reinfused with blood. The dog is now alive and in apparent good health. Those are the facts and they are not in dispute.

1%), continuously perfusing the animals for 4 hours and then rewarming them to long term survival. ALCOR's perfusate is a far more sophisticated one than the ACS solution, and ALCOR has not yet established the upper limit on how long this solution can be used to maintain animals in such a chilled, bloodless state. That is a major advance, if not a "breakthrough".

But even beyond ALCOR's work, as long as 20 years ago researchers were washing out dogs and even humans using

Body freezers stalking immortality

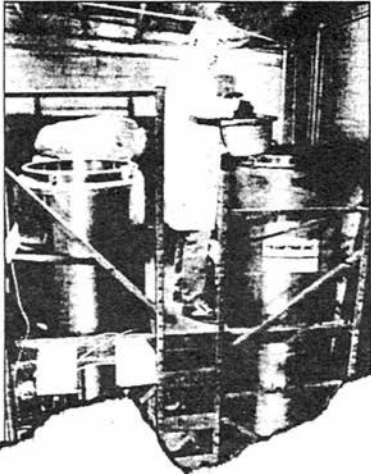
'Of course we're playing God,' society members say

OAKLAND (AP) — For Art Quaille and the other members of the American Cryonics Society, freezing bodies and brains is a logical and alluring step toward immortality.

"Our people don't die," Quaille said matter-of-factly in an interview at the spartan Trans-Time warehouse in West Oakland.

That's where two human bodies, two heads, one brain, a dog and a cat are "on ice" in cryonic suspension inside shiny stainless steel containers resembling giant silver thermos bottles. They've been frozen with the hope of being thawed out sometime in the next couple of centuries and restored to life.

"It's hard to imagine why anyone would prefer death to the prospect of immortality," said mathematician and cryonic warehouse owner Art Quaille. "The Greek philosopher Thales is the



prevent tooth decay," he said. Among the bodies and parts frozen at the Trans-Time warehouse is the brain of 15-year-old Patricia Wilson, beaten to death in 1968.

Her father, science fiction writer Robert Wilson, explained why the family decided to have her brain frozen.

"We feel it is a long shot, but it's our way of expressing our belief in life and our rejection of the casual acceptance of murder and death in our society," he said.

Zinn is one of the few ASC members who has opted for "neuro" rather than whole body freezing. For one thing, it's cheaper. The recommended minimum funding for neuro preservation is \$50,000, compared with \$125,000 for whole body suspension, he said.

Quaille says he has arranged for his freezing through life insurance coverage. "Fifty cents a day for immortality. I like the deal."

The American Cryonics Society contracts with Trans-Time for the mechanics of freezing.

techniques very similar to the ones Dr. Segall *et al* employed. In 1972 Gerald Klebanoff of Lackland Air Force Base successfully treated Stage IV hepatic coma by washing all the blood out of human patients blood and deep cooling them. Klebanoff was also successful at extended bloodless perfusion of dogs, in some instances recovering animals from up to 8 hours of continuous bloodless perfusion (*J. Surgical Research*, 19, 13-19 (1972)). While Klebanoff carried out his work at temperatures a few degrees warmer than Dr. Segall has, the difference is not clinically or medically significant. As far as temperature is concerned, recent work by Haneda *et al* (*Cryobiology*, 23, 483-494 (1986)) has achieved three hours of cold circulatory arrest at 3°C using dogs. Segall's work is NOT any kind of medical, scientific, or technological breakthrough. What it is is a lot of hype, pure and simple.

FROZEN DOG A HOT TOPIC

Researchers score breakthrough in suspended animation

BERKELEY (AP) — Scientists who froze a frisky beagle named Miles and thawed him out to perfect health say the task signals significant progress in cryonic research with potential for bloodless surgery.

the Federation of American Societies for Experimental Biology in Washington, D.C. Their project was supported by the American Cryonics Society, Life Extension Foundation and Trans Time cryonics company.

According to the researchers, the freezing of conductive

about a man who is revived after being frozen for 200 years.

"After nine months, the dog is happy, spunky and shows no signs of poor health," Segall and his associates said in a paper published in the journal *Science*.

lating blood was replaced with a blood substitute developed during research with hamsters.

"The substitute contained a complex salt solution with drugs, dextrose and sugar to prevent clotting," Segall said.

Why?

Many of our readers have called to ask "How did this come about?" How did it happen that Segall and his associates were able to capture the attention of the national media and be taken as seriously as they have been? It's a complex story, and we can only summarize it here. It starts with Dr. Segall's Ph.D. and his connection with the University of California at Berkeley, one of the world's most prestigious schools. With these connections, Segall was able to get his paper sponsored for presentation at the Federation of American Societies for

The Orange County Register

Scientists get warm in search for way to put humans on ice

By Fran Smith
Knight-Ridder Newspapers

BERKELEY — Miles is not the first dog ever to be put into suspended animation. But the 3-year-old beagle is one of the few to return from that state in perfect health.

The scientist who drained Miles' blood and chilled him to near freezing for 20 minutes, then reheated and refilled him, acknowledges that it will be years before he can perform a similar feat on people.

Nevertheless, Paul Segall, a research associate in physiology at the University of California, Berkeley, thinks that the techniques he is refining on animals

Researchers, however, have found it impossible to deliver anti-freeze to all the tissues of an organ, let alone a body. Scientists have tried since the 1950s, when the first successful suspended animation of an animal was reported.

"You can't just dip a body into glycerol solution," Segall said. Now, Segall and his team claim to have cleared that hurdle: They have devised a surgical technique — and a blood substitute — that they say could douse the body's tissues with antifreeze.

The procedure, developed on hamsters, is called total body washout.

The scientists begin to cool the animal and insert thread-thin tubes into its carotid artery and jugular vein, and the neck arteries.

Experimental Biology (FASEB) annual meeting which was held in Washington D.C. in late March. FASEB is one of the most prestigious scientific bodies in the United States. It is important to understand this because someone in FASEB who was unfamiliar with the field of cryobiology in general, and bloodless hypothermic perfusion in particular, did not realize that Dr. Segall's work was neither new nor of any particular importance. Not only was Dr. Segall's abstract accepted, it was selected by FASEB for special media attention and Dr. Segall was encouraged to write up a media summary. This was released at a FASEB press conference. Perhaps most shocking of all is that this was done by FASEB on the basis of only one experiment. Normally a scientific paper claiming a "breakthrough" of this type would need the procedure performed on at least five animals before the credibility of the paper is not questioned.

Experts in Dog-Freezing Experiment Predict . . .

Humans Can Be Frozen & Revived!

By the year 2000 — just 13 years from now — scientists will be able to freeze dying people and revive them years later when a cure for their disease has been found . . . opening the door to human immortality, predict expert

credibly, the dog revived, healthy and happy!

And their conclusions are not just pie in the sky — they're based on an astonishing experiment in which a dog was frozen for 15 minutes, then revived in perfect health!

"The bottom line of experiments like this is that we can freeze a dog and revive it. He's exactly the same dog he was before the experiment."

"Miles came back from his ice-cold state in great shape — he was his old frisky self within five days," said Dr. Segall. "He was romping around, playing with his toy bones, chasing balls, acting just as frisky as ever. He responds to his name, and eats and drinks normally. He's exactly the same dog he was before the experiment."

Both before and after the experiment, Miles



Media Extravaganza

The result was a chain reaction of major media attention. Dr. Segall's work was featured on the front pages of many newspapers across the country, he was given a short interview by Jane Pauley on **Good Morning America** and was subsequently featured in major national publications such as **People** magazine and **National Enquirer**. At the time of this writing we have been given to understand that both **Time** and **Newsweek** will also be featuring reportage on the "miraculous frozen dog".

The coverage of Segall's work was typical of the publicity that ACS generates. There were no careful distinctions made between deep chilling (hypothermia) and freezing (where body water is converted to ice). And Segall, despite extensive knowledge of both Klebanoff's and ALCOR's far more extensive dog washout work, failed to properly cite or credit these investigators. At the FASEB presentation Segall *et al* also announced hydroxyethyl starch (HES) as a major discovery in hypothermic preservation of organisms, citing its effectiveness in eliminating fluid accumulation in the lungs (pulmonary edema) and other tissues, without crediting Jerry Leaf and the ALCOR research team who were the first (**by several years**) to discover this!

In the days following the initial FASEB press release we understand that Drs. Segall, Waitz, and Sternberg gave over 100 radio and TV interviews. We have heard and seen a number of these. At no time did Dr. Segall "set the record straight" with respect to the real (in)significance of the work by putting it into proper perspective and crediting previous investigators.

Of course, to credit previous investigators would amount to discrediting the importance of the work that Segall and his associates had conducted. What would the scientific community and the media think if they knew that other investigators had cooled animals to the same temperature, perfused them for **four** hours, and what's more, perfused them with an intracellular solution (one which mimics the electrolyte and osmotic environment inside the cells) which has the potential of **allowing**

Resuscitation (1972), 1, 327-333

Infectious hepatitis complicated by coma: principles of management including the adjunctive use of asanguineous hypothermic total body perfusion

GERALD KLEBANOFF

Department of Surgery, Box 368885, Wilford Hall USAF Medical Center,
Lackland Air Force Base, Texas 78236, U.S.A.

JOURNAL OF SURGICAL RESEARCH 19, 13-19 (1975)

Asanguineous Hypothermic Perfusion as a
Means of Total Organism Preservation

RODERICK C. HAFF, Lt. Col., USAF, MC,*
GERALD KLEBANOFF, Col., USAF, MC,†
BOBBY G. BROWN, Capt., USAF, VC,* AND WILLIAM R. KORESKII

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Independence Avenue SW, Washington DC 20314, and ‡Oxygenator Division Waters
Instruments, Inc. Rochester, Minnesota

Submitted for publication October 16, 1974

far longer periods of ice-cold storage than the 4 hours achieved so far?

In the February issue of CRYONICS Mike Darwin noted that "the glamour acts would soon be on the scene." He appears to have been right on target. While the possibility of this kind of thing is hardly news to ALCOR Officers and Directors we confess to being somewhat demoralized by it. Yes, we knew that this kind of thing was going to happen sooner or later, and yes, we know it's going to continue to happen.

Nevertheless, it is irritating and demoralizing. It's demoralizing because it means that many innocent people will be misled about the real prospects for cryonics and cryobiology. It's demoralizing because it will no doubt confirm in the minds of our critics their worst fears about cryonics: that we are not committed to the truth or to the responsible use of science, but rather that we are willing to do anything, including using hype or deception, to achieve our ends.

The problem with with hype and deception in an enterprise like cryonics is that they simply won't work. Undoubtedly, in the short run in many undertakings they can "work" quite well. As long as you can get into and out of the system before you get caught (and there's a steady supply of suckers who can't communicate with each other), this approach can work remarkably well. Of course, the problem is that this approach to life rather limits what you can do.

Cryonics is the ultimate in long term efforts. In fact, what distinguishes cryonics from most other human endeavors is the expansion in time scale it represents. Very, very few human undertakings have called for major, costly, contemporary action based almost completely on a long-term evaluation of our potential future capabilities. **Unfortunately for cryonicists, almost no one living today is capable of seeing far enough into the future or of taking seriously what might happen 50 or 150 years from now and to understand the utility and importance of our message.** For most people the inability to function in a cryonicist's time scale blinds them to the rationality and the immense possibilities of what we are doing.

This is a critical point. A good illustration is to look at what are now considered abnormalities in human behavior which hinge on time

scale problems. Some people live from moment to moment, unable to plan for anything -- sometimes not even able to plan far enough in advance to figure out where their next meal is coming from or where they'll spend the night. Some people rob banks or shoplift simply because the only thing they can hold in their heads for any length of time is immediate gratification. This is a devastating handicap for an individual embedded in a society in which the normal time scale for human planning is a period of decades and encompasses things like buying a home with a 30-year mortgage, sending children through college, and engaging in activities like space exploration. Cryonics represents another expansion in time scale which differentiates us from the rest of the world as greatly as a vagrant or hold-up man is differentiated from contemporary society.

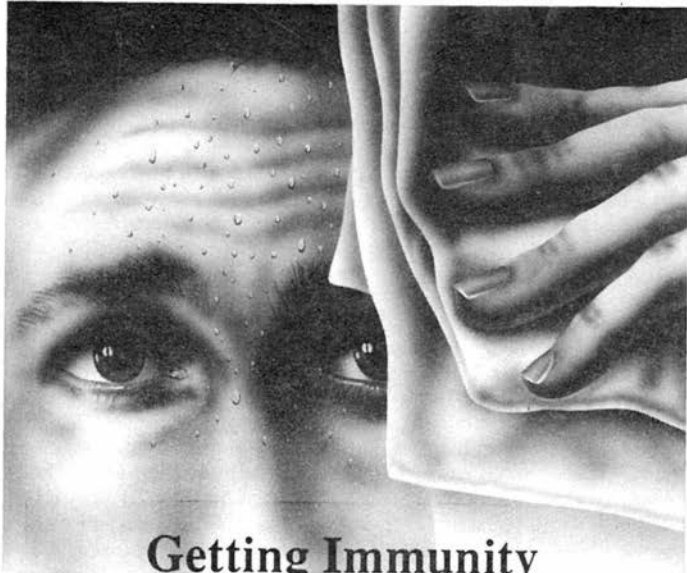
This discussion is relevant to the misleading press surrounding the ACS/Segall affair because the same kinds of issues are at stake. In the long term, distortive "sizzle-type" marketing is an invitation to disaster. Because of the long time period between action and feedback in cryonics it is especially important to pursue it carefully. In almost no other human undertaking is there a greater potential for fraud. The corollary to this observation must be extreme vigilance and conservatism in undertaking cryonics. We simply cannot afford a misstep. This would be true even if we lived in a world absent of bureaucrats and attorney generals. If we are to be taken seriously in such an inherently **suspicious** undertaking as cryonics, we must act and be serious, ever mindful of the tremendous responsibility we bear to both ourselves and others. In short, what this means is that cryonics must be handled and promoted in a fundamentally new way, with the focus being more on the long term consequences and objectives to a greater extent than has been the case with **any** other human endeavor to date.

Yet another demoralizing thing about the Segall affair is what it says about the world we live in. Those of us who are on the "inside", who have worked hundreds of grueling hours on the dog total body washout work here at ALCOR, doing animal after animal and carefully exploring every aspect of the physiology and biochemistry of the model we have been using, find ourselves stunned. We knew, in principle, that this kind of thing was possible. We even knew it was likely. But nothing prepared us for the **emotional** reality.

And finally, there is the issue of what the long term consequences of this will be for cryonics as a whole. Hype and distortion have a way of being discovered; if and when this one wears thin will we cryonicists be in any position to defend ourselves against charges of fraud or to argue for rational government regulation when it is thrust upon us? Even worse, will we be able to prevent it when angry citizens call for **all cryonics** to be prohibited by law?

At this point, just about the only things we feel sure about are that when judgment day comes (and it will come), the media will be there too. Next time, we guarantee it won't be nearly so much "fun".

When cryonics began in 1964 the Western world had largely forgotten what infectious disease was all about. In **The Prospect Of Immortality** (Doubleday, 1964, Robert Ettinger's seminal book which began the cryonics movement) there is essentially no discussion of the potential impact of infectious disease on cryonics — or on how this might be handled by small, mutual aid cryonics organizations (operating outside of normal regulatory channels) such as those which now exist. This is no criticism of Ettinger — the memories of humans as a group fade fast, and memories of unpleasant things



Getting Immunity

tend to fade even faster. The resounding defeat of infectious disease carried out in the first part of this century was really a mopping-up operation which had begun with the systematic introduction of sanitation in the last half of the 19th century. With the advent of antibiotics and vaccines against the two major remaining killers -- polio and influenza -- many people felt secure in the notion that the problem of infectious disease was "solved".

AIDS And Cryonics

While our control of bacterial disease seems comprehensive, our elimination of viral infections is less complete, and nothing illustrates this quite as dramatically as the current epidemic of Acquired Immune Deficiency Syndrome (AIDS). As tens of thousands of people succumb to overt disease and upwards of a million more silently harbor the infectious agent (and these numbers are for the United States alone), it should be clear to everyone that the problem is far from solved, the battle far from over. With the AIDS epidemic expanding as it is, it necessarily must touch cryonics — and it has.

Not surprisingly ALCOR finds itself responsible for several patients with AIDS and other infectious diseases. It is important for us to address this issue in print here with our members, and to let you know what we have done and are doing to deal with the problem on several levels: medical, public health, and personal.

Meeting Our Commitments

First of all a word of reassurance. We are not going to walk away from anyone with an infectious disease (at least not infectious diseases like AIDS where routine isolation techniques can be used effectively). We are there for you when you need us, we've always been and we always will be in any situation which does not amount to an untenable or suicidal risk for personnel. However, if some very lethal infectious agent develops in the future which is highly communicable and is **not** amenable to management by available isolation techniques, we will possibly be both unable and unwilling to respond.

The problem with AIDS is neither new to ALCOR nor unanticipated. ALCOR president Mike Darwin was predicting a major outbreak of infectious disease with homosexual men as the vanguard as early as 1978 and had already given a great deal of thought to the problems of epidemic disease and cryonics. Thus, when AIDS began to surface in 1981, basic policies, if not procedures, were well mapped out. We were not caught off guard.

From the very beginning ALCOR has been the only cryonics organization which has concerned itself with the use of sterile technique. Fred and Linda Chamberlain, the founders of ALCOR, were instrumental in establishing the first, albeit crude, policies and procedures for use of sterile supplies and protection of personnel from patient contamination. Mike Darwin has "fond" memories of being sprayed with formaldehyde solution used to sterilize the old Manrise Perfusion Machine used by ALCOR.

When suspension team leadership was transferred to Jerry Leaf, sterile technique became an even higher priority and good techniques of isolation were developed and enforced in both cryonic suspensions and in animal work. ALCOR and Jerry took a great deal of criticism for insisting on this approach. Bob Ettinger of the Cryonics Institute and Jim Yount of the American Cryonics Society, as well as others, were vocal in their criticisms that sterile technique served only to increase the cost of suspension and gave little in the way of benefit to the patient. (Indeed, one ACS member even coined the derisive moniker "Golden Scalpel" to describe Jerry Leaf and the ALCOR Suspension Team). The argument of the critics was that any technology capable of reversing aging, freezing damage, and ischemic injury (harm caused from lack of bloodflow) would be able to take care of contaminating micro-organisms. They apparently overlooked the problem that the patient could contaminate the team!

Protecting The Team

These arguments overlook not only the safety of the suspension personnel, but also protecting the patient from perfusion with particulate-laden solution due to gross insect and/or microorganism contamination of supplies. Such contamination can block blood vessels, thus interfering with introduction of cryoprotective agents, and can cause direct and immediate injury to cells. Thus ALCOR, under Jerry's direction, continued to employ sterile technique in both research and patient care operations.

This has proved a very fortunate course of action. Learning the principles of sterile technique is not easy. While the procedures are easily explained and can be understood by individuals of modest intelligence, their routine and reflexive practice is not so easily communicated. Consistent application of

good sterile technique is considerably more challenging than learning to ride a bicycle — and to ride it safely and well in heavy downtown traffic. In short, it is a skill; and like any other skill, it requires **practice**.

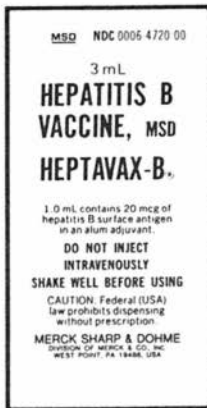
The ALCOR Suspension Team has had plenty of practice and the instincts of team members are well developed. A number of team members come from a medical environment where they used sterile procedure on a daily basis. These individuals have served as relentless instructors for team members who have not had the everyday experience of developing good instincts. The ALCOR team is long past the point where people open packages improperly or touch anything in the sterile field. They are, in short, professionals, even if some of them lack the formal credentials.

AIDS is not a very infectious disease. But that is not to say that it can be handled cavalierly. Some special precautions are necessary and of course there is risk. There is no getting around it -- the risk is real. The risk in a cryonics setting is perhaps greater than in any other setting short of the bedroom or a "shooting gallery". This is so because of the nature of cryonics procedures. In a hospital environment AIDS patients are almost never (if ever) subjected to a procedure as extensive as biostasis. In a biostasis operation the patient will be continually handled by cryonics personnel for nearly 24 hours, with invasive operations capable of producing aerosols being carried out, such as resuscitation, field perfusion, cardiopulmonary bypass, and cryoprotective perfusion. During the course of the procedure well over 100 blood, perfusate, and tissue samples will be collected and processed. Literally hundreds of needles and other "sharps" contaminated with potentially infectious material will be generated during the suspension and, unlike morticians, the perfusate used during suspension is not germicidal/viricidal as is embalming fluid, which contains formaldehyde or glutaraldehyde. Clearly, this is no place for inexperienced personnel.

We are also discovering that AIDS rarely comes a la carte. More often it is a package deal with other infectious agents accompanying it. In most cases the other infections are of an "opportunistic" nature and thus present less risk to healthy staff. However, this is not always the case. Recently, we have found ourselves not only dealing with AIDS alone, but with another, far more infectious, if somewhat less lethal, illness. Hepatitis B is the case in point. Hepatitis B is about 30 times as infectious as AIDS and can be very serious and even fatal. It is the leading cause of primary liver cancer and is fatal in from 2% to 10% of the people who contract it. It causes very significant morbidity, resulting in loss of work time and profound reduction in the quality of life during the acute course of the illness for many who contract it. Until recently, it was virtually epidemic among personnel who routinely handle blood or deal with blood or body fluids. Surgeons, dentists, artificial kidney machine technicians, lab technicians, and open heart surgery personnel were all at high risk.

Vaccinating The Team

About three years ago all that began to change with the introduction of **Heptavax** by Merck, Sharpe, and Dome (MSD). Now, a vaccine against Hepatitis B is available. Getting this vaccine for the ALCOR Suspension Team has been under discussion for over a year. Recently, it was decided that the time for talk was over and the time for action had arrived. An ALCOR Suspension Team Member who



is also a physician wrote out the prescription, Mike Darwin went down and got the vaccine, and at the April ALCOR Board meeting the Suspension Team staff lined up for their shots. Some team members, like Mike Darwin, didn't need the shots. Mike had already had hepatitis and spent several days in the ICU and six weeks lying in bed with it — he was immune. Several others already had been vaccinated elsewhere. Nevertheless, 7 people needed shots — and got them. Within a couple of months most of these people will have circulating antibodies — in six months (after the third in the series of three shots) virtually all will be immune to Hepatitis B, and another risk to personnel will have been eliminated.

For AIDS itself other precautions will be taken. Only the most experienced personnel will be allowed to handle "sharps" (needles, scalpels...) and appropriate respiratory and mucous membrane protection will be used to protect all staff members (masks, face shields, goggles).

The Acid Test

All of this has reassured us that we are prepared to handle suspension patients with infectious disease. But the acid test of our readiness came when we asked for volunteers. The ALCOR suspension staff is already all volunteer, but for cases involving infectious disease where a known potential threat to life and health exist, a second call is issued, and no one is asked to participate who isn't comfortable doing so (terrified or nervous people are **not** an asset in such a situation!). The result? Eleven out of 12 staff members unhesitatingly replied "Yes." And this included staff members with extensive medical backgrounds. As anyone who knows anything about cryonicists will be quick to point out, they are not, as a group, cavalier about taking risks (many won't even fly on commercial aircraft). Such a high positive turnout is the best vote of confidence we have ever had in terms of our training and competence. Our people were willing to walk into an operating room or ambulance and work with a potentially lethal infectious agent because they were **confident** of their and our ability to handle it.

The Larger Issues

The issue of infectious disease is, of course, of far broader concern to cryonics than just the safety of the personnel. It touches on issues of public health and it raises the spectre of serious and immediate pressure for regulation. Virtually all other institutions or individuals who handle patients with communicable diseases — from physicians to nurses to morticians — **are specially trained, licensed, and regulated by public health officials.** Cryonicists must thus be doubly careful to follow established government mandated practices for the handling of contaminated materials and for their proper disposal. This means rigid use of good isolation technique, use of sterile supplies to protect not only the patient but also the personnel from contact with dirty sharps, proper labeling and handling of lab samples, and, just as important, autoclaving or gas sterilization of all contaminated trash before it is released to the public.



Cryonics organizations which do not have extensive in-house training for personnel in the application of sterile technique and the handling of infectious material should probably avoid taking such patients until they can bring the necessary skills to bear. This is the case not only due to the possibility of retributive interference from public health officials (who have already previously demonstrated successfully that they can shut down a cryonics organization (the Cryonics Society of New York)) but to the potentially immense liability which will result from inadequate training and protection of staff.

A Growing Risk

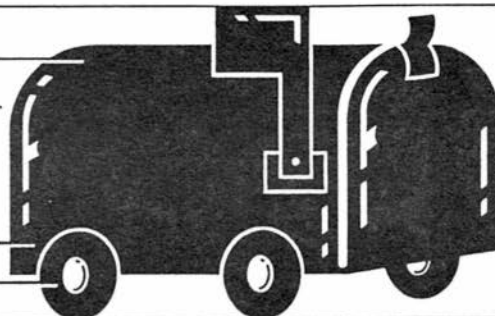
Increasingly, it will be difficult to sort out which patients are or are not a risk. In some ways AIDS patients may present less of a risk than those



who are carrying the disease but not yet ill. In full-blown AIDS the T-cells which serve as the virus' primary breeding grounds have almost all been killed, so ironically, it is often the case that AIDS patients in the terminal phases of the disease have little or no detectable virus and are probably less infectious than many apparently healthy carriers! By far the greater risk may be the ever expanding population of HIV seropositive people who are symptom-free and who may deanimate from other, unrelated causes.

Because of this growing threat, ALCOR has decided to extend the same "extraordinary" level of care in handling known or suspected AIDS carriers to all of its patients.

*Letters to The
Editors*



Editors,

I have a copy of Eric Drexler's letter (March CRYONICS). I do understand his concern about priorities and want to say explicitly that Eric has done much more than just to assemble together work done by others. I am quite impressed by his exploration, using simple mechanics and physics, of just how small and fast we can someday build our machines. His work in this direction is quite worthwhile and novel.

However, Eric's letter also makes a major difference which I didn't wish to explore in my article and don't have time to explore here. I feel that the notion of general assembler machines isn't one of Eric's major contributions. It may even be a step backwards. I was trying not to credit him with ideas for which I have no respect, while at the same time giving him credit for other ideas I respect highly. I'm sorry I didn't succeed in this.

I don't believe in general assemblers because I don't believe there will be any magic solution to problems of making molecular machines. Search for such solutions may even hold us back from getting on with the job. And if we finally get such machines I think it will be like transmutation: arriving long after it was wanted, and impractical anyway.

Finally, about nanotechnology and cryonics, I can speak only for myself. I was excited by Eric's book not because it proved the possibility of cryonics (which I didn't find problematic) but because Eric had carried forward ideas which I and other cryonicists had already had. I was excited at the fact that interest in them had suddenly blossomed **outside** cryonics, and for what that meant.

Thomas Donaldson
Sunnyvale, CA

To the Editors:

After my article "Video Memories: A Strategy for Preserving Your Identity" appeared in the February issue of CRYONICS, I received a very cordial letter from Dr. Ernst Fasan in Austria. Dr. Fasan suggested some thought provoking questions which I feel have merit and would definitely enrich the questionnaire. I would like to share Dr. Fasan's contribution with others who might be contemplating an audio or video memory project.

Have you (strong or weak) religious beliefs? Which ones?

2. Were you successful (or unsuccessful) in your career (or careers, if you have had more than one)? What were your greatest successes? Your greatest failures?

3. Have you any scientific achievements? University degrees? Have you published books and/or articles?

4. What does literature mean to you? And music? Theatre? Do you read? If so, what are your tastes? Do you write? Have you ever been published?

5. Do you have a military record? Were you ever in combat? Were you wounded? Did you receive distinctions? How did this affect your personality? Are you a militarist, a pacifist, or neutral?

6. Have you ever had contact with crime? As a victim? As a criminal? Were you convicted? Have you ever been in jail? How have these experiences shaped your personality?

7. Were you well-to-do or poor? Have you experienced a large change of any kind in your economic situation, say from youth to adulthood? Have you been successful or unsuccessful financially?

8. What about vacations? What kind of vacations or travel do you enjoy? What do you do in your spare time? If you are retired, how do you spend your time?

9. Do you like sports? Which are your favorites and why? Have you changed the types of sports in which you engage? Could you have lived without sports? Do you have any special achievements?

10. Do you, or have you, ever indulged in drugs? Permitted drugs like alcohol or coffee? Illegal and prohibited drugs? Do you need all, or some, drugs?

11. How has your health been? Have you (or family members) had illnesses which have influenced your life? How? Were you in pain over any long periods?

12. Were you ever in a concentration camp? Prisoner of war camp? How did you survive? How did it affect your personality?

13. Which is your native tongue? Which other languages do you speak, either fluently or fair? Were you once fluent in a language that you have now mainly forgotten?

14. How do you rate your self? Extrovert? Introvert? Are you easy going and shy, relaxed or tense? Do you make friends easily? Are you a good speaker? Do you usually like people? Do people usually like you?

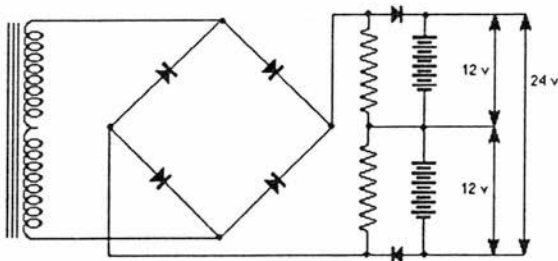
15. Do you like animals? Which animals do you prefer? If you were to pick an animal which most represented the type of person you

like, which would it be? What animal are you most like?

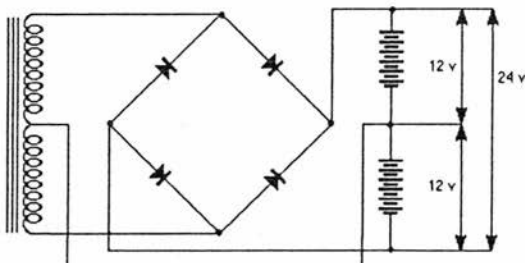
Linda Chamberlain

Dear Hugh,

Your battery charger/power supply for the MALSS (ALCOR's Mobile Advanced Life Support System) as described in the March CRYONICS looks like:



Why don't you rewire it like this?



Then you can get rid of that high current resistor divider which is eating 1/2 of your power. Without that burden, the power supply may be able to carry the MALSS alone.

Steve Harris
Long Beach, CA

Hugh Hixon replies,

When I designed the power supply, a lack of familiarity with anything but the simplest designs was a major handicap. This resulted in the resistor divider design, which I considered unspeakably inelegant, but which I knew would work. Your design is what I really wanted to come up with. Thank you.

Dear Hugh and Mike,

I have a very good idea how you and the rest of the ALCOR Suspension Team must be feeling what with all the recent publicity about the "miraculous frozen dog". I know because I'm feeling some of it myself. To have done the hundreds of hours of careful, responsible, grueling work you guys have done and then to have the credit and the benefits ripped away from you must be agonizing.

I well know the careful way you were approaching proper documentation and publication of your work and I know even better how responsibly you would have handled it with the media when the time came. While none of us can undo what has been done, we can at least try to set the record straight. Enclosed (reproduced below) is a letter I've written to **People** magazine. I urge other ALCOR members who know the real score to write similar letters to their local newspapers and to any other publications they know of who carried the story. It's the least we can do.

Steve Bridge

Patrica Ryan
Managing Editor
People
Time & Life Building
Rockefeller Center
New York NY 10020

Dear Ms. Ryan,

I am quite upset at the undue publicity being granted Dr. Paul Segall and his "near-frozen" dog, Miles. The real story here should be how the popular press (as well as some gullible scientists) can have been taken in by this sham. A few specifics:

1. Contrary to your story, Miles is not "the first dog to be revived from a death-like, near frozen state." The original research in this area was done almost twenty years ago. (Gerald Klebanoff, "Temporary Suspension of Animation Using Total Body Perfusion and Hypothermia," Cryobiology February, 1969, Vol 6, 121.) Possibly hundreds of dogs have gone through the procedure since then.

2. This is not a medical breakthrough of any kind. Klebanoff used similar blood washout and cooling procedures on humans in the late 1960's, with the humans surviving. (G. Klebanoff, "Asanguineous Hypothermic Total Body Perfusion (TBW) in the Treatment of Stage IV Hepatic Coma," Journal of Surgical Research, January, 1972, Vol 12, 1.) Klebanoff's work made a big splash in national news magazines at the time.

3. The fifteen-minute time period is not impressive. Other groups, including the Alcor Life Extension Foundation of Riverside, California have kept dogs at near-freezing temperatures for up to four hours, with more sophisticated perfusion fluids and monitoring than Segall used. Most of these dogs also survived and are equally nice pets today. This research was made public two years ago, with not a bit of interest from the press. Dr. Segall has seen at least two presentations of Alcor's research, but chose to "overlook" it in his publicity releases.

4. Some of the "breakthroughs" claimed by Dr. Segall appear to be discoveries made by other individuals and organizations.

5. Even as limited as the research is, Segall has chosen to go for the big publicity after one experimental animal. If an AIDS researcher tried to go public after a drug made one patient feel a little better, he would have been laughed at. Why has Segall been able to avoid this basic rule of research?

6. In spite of the fact that the dog was not "frozen", most of the publicity on this incident (including your own article) say that "Miles was thawed out." In reality he was merely "warmed up," but the imprecise use of "thawed out" will influence many people to believe that the dog was actually frozen.

Imagine a situation where a researcher claimed to have discovered a new wonder drug which cured all sorts of diseases. Then after weeks of publicity, someone else pointed out that he had merely rediscovered penicillin, and not a particularly effective strain at that. That is more or less the level of research being done by Dr. Segall.

I am a librarian from Indianapolis and a member of the Alcor Life Extension Foundation, so I do not expect to be taken as an authority. I do hope, however, that you will take the time to investigate this properly. For details, you may call Michael Federowicz at the Alcor Life Extension Foundation — 800-367-2228 or 714-736-1703. For authority, I would recommend you speak to Dr. Gregory Fahy of the American Red Cross Organ Preservation Laboratory in Bethesda, Maryland. Dr. Fahy is one of the world's leading researchers in organ preservation, and is also an officer and director of the International Society for Cryobiology.

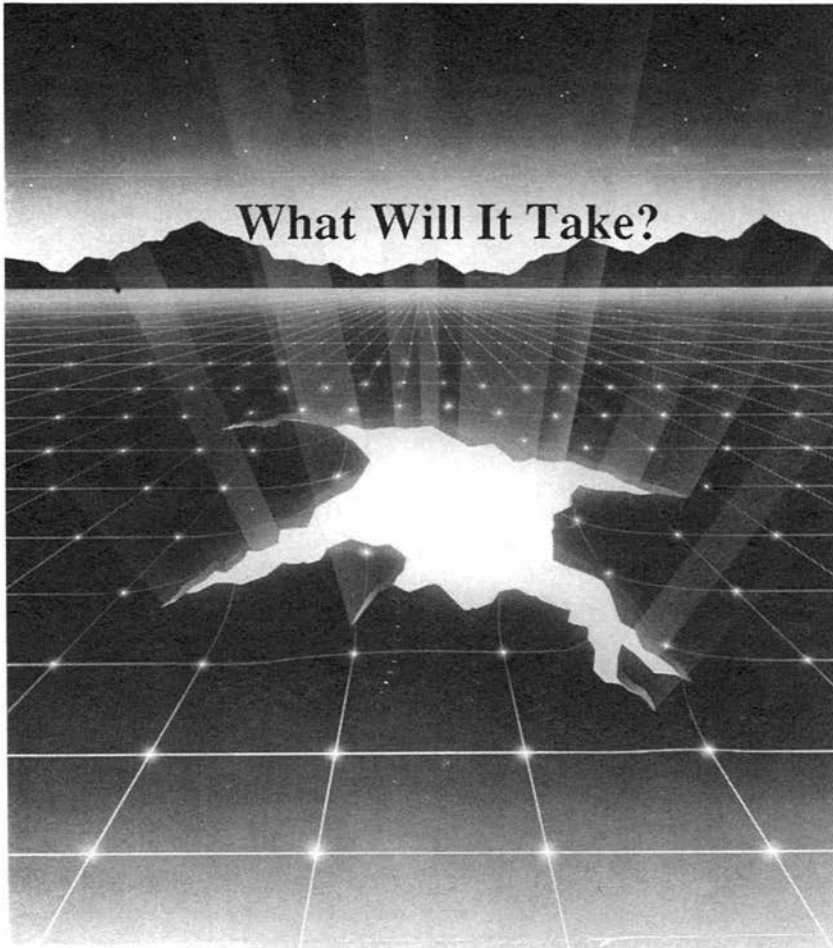
If you are really looking for a story in all of this, look to see how the mass media of this country are eager to have the wool pulled over their eyes by anyone with a doctorate and a clever publicity release, even if the research is poor. The pity is that there is good research being done in this area by scientists who are too careful to jump into the limelight without something significantly new to add.

Sincerely,
Stephen W. Bridge

* * * * *

" Few people are capable of expressing with equanimity opinions which differ from the prejudices of their social environment."

--Albert Einstein



What Will It Take?

by Fred and Linda Chamberlain

What will it take to bring the Northern and Southern California cryonics groups into a state of cooperation and harmony?

We have lived with this question for some seventeen years now, and a solution has never seemed more remote than at the present. For those who cannot understand the difficulties involved, it must be truly frustrating. For those of us who have been more intimately involved with the difficulties, the frustrations have been even greater.

An attempt to examine this question, even with the length of experience and involvement we bring to it, is necessarily limited. Nonetheless, the alternative is to simply ignore the issue. Perhaps these perspectives will at

least partially clear the air as to why there are problems and why solutions are not necessarily easy to achieve.

Back in the early 70's, Robert Nelson, then the President of the Cryonics Society of California (CSC), was insistent that there be only one cryonics organization in California. He urged that all San Francisco Bay Area cryonics people join CSC. We opposed this, on the basis of shortcomings we perceived with CSC, even before we severed relations with it and formed ALCOR, suggesting that the Bay Area people establish their own suspension capability. In the light of what later transpired with CSC, we think few will deny this was sound advice.

At the time of ALCOR's formation, we were engaged in writing a manual for suspension procedures and in designing improved equipment for carrying out suspensions. Although these procedures and equipment were extremely primitive by today's standards, they were a substantial step upward from previous methods. Before Trans Time, Inc. was formed, we were asked if it might not be better for the Bay Area people to simply join ALCOR than to establish an independent capability. Due to the geographic distance involved, we advised the Bay Area people to develop their own suspension organization.

There was no lack of cooperation. We offered to sell the Bay Area people a duplicate of whatever equipment we might develop, and attended a number of their meetings. At one meeting of the Bay Area Cryonics Society (BACS, now ACS), we were asked how we thought a purchase of equipment could best be financed. We suggested they form a separate group to raise the money, so that later, credit might be better given to those who shouldered this burden. The matter of a partnership versus a corporation was discussed, and we advised that a corporation be used for purposes of limitation of liabilities. Trans Time was the result.

Trans Time, Inc. was formed, and purchased equipment from Manrise Corporation (our 'for-profit' operation in southern California). The Bay Area people then enthusiastically began development of a suspension program. As this took shape, questions arose as to whether or not some form of mutual assistance agreement might not be beneficial, so that members of BACS and ALCOR could be protected in a reciprocal way when in each other's areas. A mutual assistance agreement was established. Then problems began.

You have to have some background to see how there would have been problems. Trans Time, from its inception, had taken an aggressive position of offering suspension services nationwide. It was recognized that for persons in remote areas, this meant being packed in ice and being shipped to the Bay Area in a box. Still, this was considered to be "better than nothing". ALCOR took a different approach. We only sought to recruit, as members, persons in the Los



Angeles area, persons who could be reached quickly in the event of an emergency.

High viability was a very important issue with us, and we were not willing to promote cryonics to a national marketplace where the best that could be offered was "Get yourself packed in a box of ice and have yourself shipped to us". Exceptions were made in individual cases, with a firm understanding that little could be done if death occurred in a remote area, and that there was a burden on the remote member to arrange for transportation to the Los Angeles area if a serious illness occurred. The exceptions were made only for those with established, long term interests... those who really understood what was involved. Mike Darwin, then living in Indianapolis, was one of ALCOR's earliest members on this basis.

So, how did a mutual assistance agreement become a problem? Very simple! Trans Time, intent on signing up people on a nationwide basis, began an intensive recruitment of southern California cryonicists who were casting about for a new organization as CSC finally dissolved. Did Trans Time intend that these people merely provide for themselves being "shipped in a box" to the Bay Area upon death? No, they had a different solution. These new BACS/Trans Time members would be taken care of by ALCOR and Manrise under the "mutual assistance agreement"!

This posed a number of problems for ALCOR. Since new people would be recruited to membership in BACS rather than ALCOR, and Trans Time was being very energetic in promoting this approach, many new people would passively be sitting on the sidelines expecting to be taken care of, rather than becoming actively involved in ALCOR. The new members' dues would flow to Trans Time via BACS rather than to Manrise via ALCOR, supporting the development of better capabilities in the Bay Area, while Southern California development would depend on "out of pocket" expenses borne by a few ALCOR members and Manrise.

ALCOR could have engaged in head to head competition for members with BACS, curtailing its efforts in training of rescue team members and developing better equipment and methods, or, the mutual assistance agreement could have been revoked to give ALCOR and Manrise a more competitive position in the Los Angeles area. Neither of these appeared to be productive, cooperative solutions. In the end, a merger of Manrise with Trans Time was negotiated. It seemed, at the time, that this was the only way to resolve organizational conflicts without fragmenting California cryonicists into two warring factions.

With the merger completed, there were now no financial incentives for Trans Time to engage in aggressive marketing on behalf of BACS in the Los Angeles area. Inquiries from the Los Angeles area were referred to ALCOR. ALCOR members who were interested in rescue work became the core of a Trans Time team working under the supervision of Jerry Leaf, who through Cryovita Laboratories, Inc. had established a superlative facility in the Orange County area. It was understood that suspensions would be handled by the Southern California team, and that storage would be carried out in the Bay area.

Didn't this, now, represent the much sought after "nirvana"? Wasn't there, finally, a full unity of interest and cooperation among all cryonicists in California?

Far from it! Enormous expenses were being incurred in Southern California by Cryovita, and no equitable compensation from Trans Time could be negotiated.

Further, there were concerns about the storage of ALCOR donors in the Bay Area, where the capsules were paid for by the donors but then became the property of Trans Time. Ultimately, these inequities led to the formation of an independent ALCOR Suspension Team and a new ALCOR facility. What might have taken place instead of a merger of Manrise with Trans Time has effectively come about anyway, to rectify financial inequities, concerns about storage, and differences of standards in a number of areas. ALCOR and BACS (now ACS) are thus again operationally separate and independent.

And now we are back to head-on competition for members. But this time it is different. This time it is a serious, unforgiving competition, in which both sides are using live ammunition.

ACS represents that its rescue capabilities are "professional", and that ALCOR's are not, because of a larger number of degreed people associated with ACS, and a lesser number of people with such qualifications in ALCOR. Saul Kent's analysis, published in last month's CRYONICS, disputes this, pointing out that many of the people represented as highly qualified by ACS have little or no training in cryonics procedures; he recommends a change of membership from ACS to ALCOR. Mike Darwin replies to the ACS claims that there are well qualified participants in ALCOR's program from the research and medical community, but their professional careers are not being threatened in the name of "marketing" to sway prospective members.

ACS President Jack Zinn is circulating letters privately to a number of key ALCOR members, attacking ALCOR President Mike Darwin in a thinly disguised attempt to undermine his support within ALCOR. Darwin, through articles in CRYONICS is striking back against such tactics by Zinn, exposing as distortions and innuendo these letters which are being employed in the name of "competition" and "marketing".

This is not merely some sort of personal feud. We are convinced that the Presidents of both ACS and ALCOR are fully supported in their positions and actions by their respective Boards of Directors and memberships. In the midst of this, failing to understand what is going on, those who have just arrived on the scene clamor for cooperation and good will.

One might, for a moment, imagine that we are back at the point of the Trans Time/Manrise merger, except that the merger didn't work out, and now as a result there is serious competition. It is not as simple as that. Many of the faces have changed, the organizations involved have grown a great deal, and much has been accomplished in the way of research and technology development. Many people have made suspension arrangements over the last few years. They are depending on their respective organizations in the event of a crisis in their lives. It is for lack of the foregoing background that they find the present difficulties absolutely incomprehensible.

But the past cannot be wiped out with a wave of a wand or a heavy dose of wishful thinking. Things are drastically different now, because of what has transpired in the past. There is now no basis for a new "mutual assistance agreement" between ACS and ALCOR. We already know how that works out!

We know that now, to policy makers within ALCOR, nothing is more important than ALCOR's long term stability and the capability to provide its members with the very best possible cryonics protection. Working together with other

cryonics organizations could only be undertaken if this policy were not sacrificed as a consequence.

We think it highly unlikely that ALCOR will ever enter into a "cooperative" arrangement where the value given is not reciprocated, or where such value is likely to be exploited for competitive purposes by another organization, for to do so would be to rob ALCOR members of the strength and quality of protection they deserve.

Recognizing some time ago that protection through a "mutual assistance" system with other organizations was out of the question, ALCOR began deploying sophisticated sets of rescue equipment to coordinators in a number of locations across the country. Intensive training sessions for coordinators have begun. There are still severe limitations posed by geographical distance, but a start has been made.

The point is that there **have** been past efforts to establish cooperative relationships between cryonics groups in Northern and Southern California, and these efforts have taught us a number of valuable, expensive, and in some cases painful, lessons. The fruit of these lessons is not to be thrown aside lightly on the basis of emotional proclamations by newcomers that "everybody should find a way to work together, somehow".

What will it take? What will be required to re-establish a cooperative working relationship among all California cryonicists? In the light of the foregoing discussion, at least you may be better able to consider these questions. At the present time, no solutions are on the horizon, and a great deal of time and effort would be required if there were to be any.



For the present, we suggest it be recognized that the differences, the difficulties, go back a long way! They go deep! For the present, we suggest it be recognized that there are two entirely separate organizational complexes, with very different capabilities, funding philosophies, operational standards, and research perspectives, as extensively explored in the April, 1987 issue of this magazine.

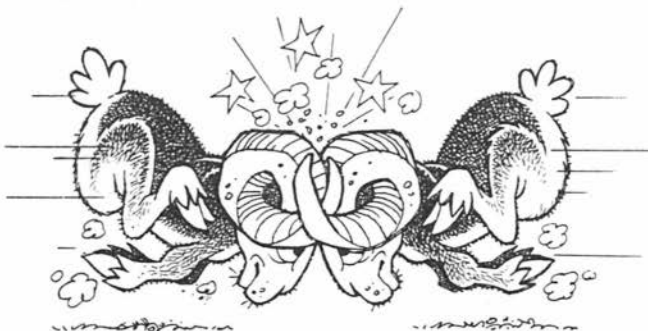
For the present, we suggest the two organizations put aside any thoughts of chaining themselves together on the basis of simplistic ideas about the value of unity, and seek to become the best they can, independent of each other. If, with time, the two organizations both develop such that there can be mutual respect and admiration by each for the standards and achievements of the other, then some hope might exist, at that time, for closer cooperation. If such a basis for mutual respect and admiration does not develop, then the organizations are probably destined to go their separate ways.

In the end, it will be a commonality of

values, goals, and standards that will unite cryonicists. In the past, it has almost always been for lack of such that they have parted ways. Do not mistake a shared conviction that "cryonics is a good idea" for a "commonality of values, goals, and standards". One might as easily say that a common interest in transportation should have united buggy makers and automobile producers.

For a number of years, we hosted an annual Lake Tahoe Life Extension Festival, in the hope that the communication taking place there would foster better mutual understanding and a closer alignment of values, goals, and standards among cryonicists. Now, we reluctantly have concluded that the gap between ACS and ALCOR, the primary two participating organizations, is of such a magnitude that this objective is presently impractical, that a 1987 Festival would be futile and counterproductive, and that an intensification of hostilities would be the most likely outcome. For future years, we have to deal with the question of whether or not the resumption of such Festivals would be worthwhile at all, or if the format, the location or the sponsorship should be altered to meet the prevailing conditions.

What will it take to unite all California cryonicists? A lot! A lot more than the simple pronouncement of unity as a desirable end! Can it be done at all? Only time will tell! For the moment, forget about reconciliation and concentrate on quality, on honesty, on building something you can be proud of. Only when a great deal of change has taken place, only when a long period of fair dealing has existed as a foundation for trust and mutual respect, can there be any thought of cooperation and interdependence as an achievable goal.



* * * * *

"Science is refusal to believe on the basis of hope."

--C.P. Snow

A TOUGH QUESTION: The California Humane And Dignified Death Initiative

"The inalienable right to privacy includes the right of the terminally ill to voluntary, humane, and dignified doctor assisted aid in dying."

--California Humane and Dignified
Death Initiative

We not live in an ideal world, although we do live in a world motivated by ideals. When we look back over the preceding centuries it is easy to be shocked by the burden of ignorance and the primitive conditions under which our ancestors labored. Some of the most powerful and liberating changes which we now enjoy have been derived from simple, seemingly straightforward ideas. Many of the basic so-called "human rights" which we take for granted today and consider inalienable such as free speech, property ownership, and freedom from slavery are relatively recent social developments. When all you have known is a life where certain kinds of suffering are inevitable and seemingly inescapable, it is oftentimes hard to see a better alternative when it comes along.

But there is another side to progress. Many seemingly enlightened ideas can result in injustices and abuses. When large-scale effects are taken into account, ideas which seem to work well on a small scale, case-by-case basis can turn into nightmares. How do we decide?

The California Humane and Dignified Death Initiative is a case in point. Since the dawn of civilization, human beings have had to confront and deal with the issue of terminal illness. Human cultures have varied greatly in their approach to handling the problem. Generally, how it has been handled has been determined by what kind of resources the culture had to bring to bear. In resource-poor cultures, the aged and the terminally ill were abandoned or otherwise disposed of. Social and cultural support structures to not only sanction, but to encourage such behavior (even on the part of its "victims") were well developed and in place.

In more affluent cultures, the resources of experience and social benefits to be accrued from caring for the terminally ill outweighed the benefits to be had by abandoning or euthanizing them. The Western culture from which cryonics has sprung is a prime example of those values. And those values have served us well. They were positive values. By adopting the position that no condition should **in practice** be treated as hopeless, and no life treated as not worth living, a tremendous base of effort was focused on saving lives, on treating so-called "hopeless" conditions and on making life worthwhile (or at least bearable) for the old, the hopelessly ill, and the dying. Overall, the net effect of this relentlessly positive, pro-life attitude has been a very high success rate in avoiding losses. We have, as a culture, applied the same high standard of regard for life and belief in sanctity of life to the issues of illness and medical care that we have in the area of criminal justice: better 100 guilty go free than that one innocent man suffer unjustly.

However, our medicine has, in a way, been too successful. Using contemporary medical technology which consists of the "patch and fix the symptoms" variety, we have once again run into the resource limitations we thought we'd long since left behind. And it should be made clear that this problem is not just a cultural or "social" one. It is a problem which is taking its toll on a personal level as well.



Almost anyone who has ever visited a nursing home or worked in the intensive care unit or cancer ward of a hospital has been heard to utter phrases like "If I end up like that I hope to God someone has the human decency to pull the plug or even to put me out of my misery." Much of "end stage" medical care is nothing more than "crisis medicine" moving from problem to problem, symptom to symptom, without ever dealing with the underlying cause: aging and death. The pages of CRYONICS have been filled with commentary on just this point. And it goes almost without saying that to cryonicists, the spectre of deanimating slowly and agonizingly while consuming resources which would be better focused on dealing with the underlying problem in a way that would allow for true restoration of health and indefinite extension of life, is a terrifying one.

More terrifying still is the prospect that we may **truly die forever** while in the hands of well-meaning primitives who are trying to "save" our lives for a few weeks, or months, or years. Pity the cryonicist who is faced with a currently untreatable illness that slowly destroys and forever erases the information in his brain while his body continues to function. And there is no shortage of such diseases and situations. Multi-infarct brain disease, Huntington's chorea, head trauma followed by "brain death" (which requires 24 hours of no blood flow to the brain to diagnose, during which time the brain sits and decomposes), massive stroke, and a host of other currently untreatable pathologies are all things which could forever rob a cryonicist of his mind and identity because contemporary medicine is relentlessly committed to preserving life against all odds.

Many, if not most of us, would like to be able to make our own decision about when and how we will enter into suspension. Most of us would like to focus our resources, both human and financial, on the prospect which we feel offers us the best odds of long term survival. Lying moribund in a nursing home or hospital counting on the infinitesimal hope of a miracle cure is something few of us would choose, given the choice. But of course we don't have that choice, not now, anyway. Freezing someone before legal death is currently

considered murder.

The California Humane and Dignified Death Initiative (CHADDI) would offer us that choice. It is a proposed initiative which might be introduced to Californians in 1988 and which would allow for terminally ill individuals **voluntarily** to choose active euthanasia (i.e., doctor-assisted death by administration of appropriate drugs) within a framework of carefully established safeguards and limitations. The proposed law has been drafted by members of the Hemlock Society, a nonprofit organization which supports the practice of active euthanasia, or as they call it, "aid in dying." The proposition would be an extension of the law currently enabling Californians to choose passive euthanasia by the withholding of food, hydration, and medical care in terminal situations where the patient has previously requested it.

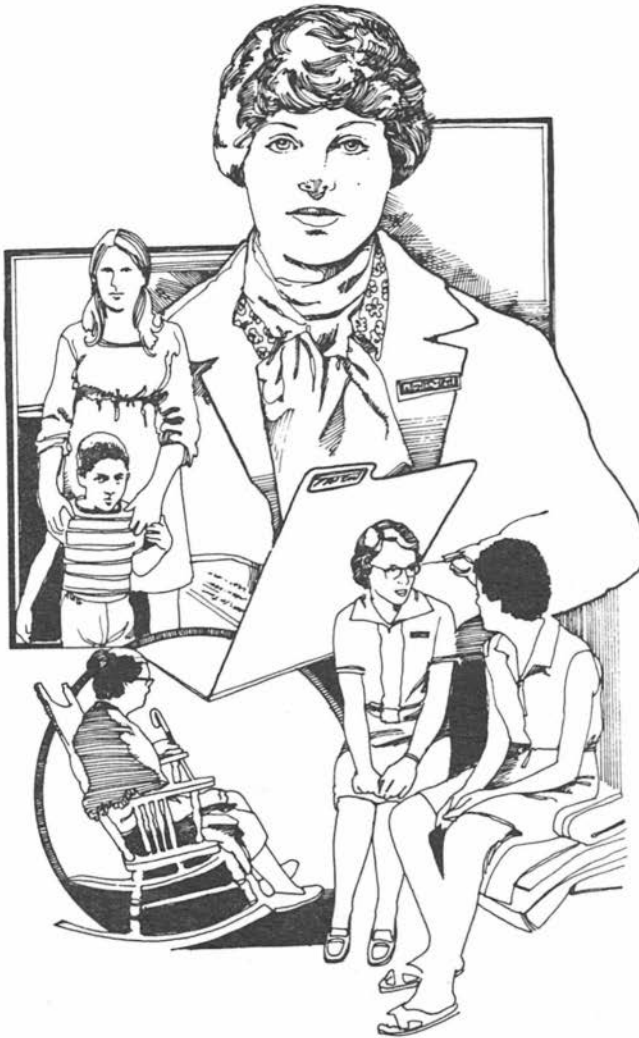
There are a number of potentially very powerful benefits to cryonics if this law were to be voted in by the people of California. There are also some potentially very serious problems as well.

First, the benefits. Obviously, suspension would become an "elective" procedure in some situations. Effectively, terminally ill patients might be allowed to choose to be suspended when the cost/benefit ratio of contemporary medical care became excessive. (Technically, the proposed law requires that two physicians certify that the individual is terminally ill and likely to die within six months.) This would also serve to remove an incredibly powerful marketing barrier which cryonics faces; namely the stigma and bugaboo of "death". Every cryonicist who has discussed cryonics with noncryonicists has heard the following remarks: "If he's already dead why are you doing this to him?" and, "Why can't you do this when you get terminally ill and thus not have to suffer so terribly?" We **know** that the issue of death is a profound marketing barrier which has stood in the way of large numbers of people embracing cryonics as a potential solution to the problem of death. The CHADDI would act to eliminate some of that resistance.

The economic benefits of elective suspension have already been briefly discussed above, but should be considered in a little more detail. Right now, the average individual expends 50% to 67% of his or her resources in dying. Most of these resources are consumed in the last year of life, when the quality of life has often deteriorated to unspeakable levels. In most states the allowable level of resources a person may have left in their estate before becoming eligible for medicare reimbursement for a nursing home or other chronic care is \$2,000 — enough for burial. An increasing number of estates are gutted in providing custodial care to incapacitated and/or demented elderly people who cannot even appreciate the service they are receiving. It is obvious that many people would be willing to gamble a year or two of that kind of existence on the possibility of a true solution to their problem: reversal of the underlying aging and disease processes and a chance at an indefinitely long life in good health.

Passage of CHADDI would also mean that a far larger number of people could afford suspension. Without the drain of resources caused by ineffective symptom relief/life support type care, many more people would have the required resources to opt for suspension.

Being able to schedule suspensions would result in more professional and reliable suspension teams which could be virtually guaranteed to be available,



rested, and prepared when the procedure was administered. This is as opposed to the situation now where team members must be called in from scattered locations at a moment's notice, often away from their regular jobs or in the middle of the night without proper rest or preparation. In addition, the patient himself (or herself) possibly could be transported to an ALCOR facility while still alive, scheduling their suspension just as an elective surgical procedure in a hospital is.

These are but a few of the advantages. But there are also potential disadvantages to CHADDI as well. First and foremost, there is the issue of conflict of interest. Even the presence of this article in CRYONICS might be interpreted in a sinister light. "Those scheming cryonicists are not merely content to get your money when you die, they even want to kill you so they can get it quicker!" Because ALCOR stands to "benefit" (financially) when a member deanimates, there is the potential question of the wisdom of our taking any position at all with regard to a political hot potato

such as active euthanasia! We must remember that despite our best efforts so far, the public and the press almost reflexively refuse to realize that **we are our own "customers"** and that at least now, ALCOR cryonics is virtually free of the relatively impersonal business/customer relationship present in most areas of commerce.

But beyond the immediately obvious problem of conflict of interest there are more subtle and potentially more troubling problems. What will the effect of this legislation be on the kind of medical care we receive and on the attitudes of the people who surround us toward life and its value in the face of uncertain or even apparently hopeless odds? Will CHADDI encourage people towards a destructive rather than a constructive approach to solving the problems of death and dying? Will we be encouraged to solve the problem of costly **ineffective** medical care by encouraging self-destruction on the part of

its victims rather than by solving the underlying problems of aging and death?

These are tough questions. The leadership of ALCOR hardly has all the answers and we are anxious to avoid throwing out the baby with the bathwater. Decision-making on almost any issue here at ALCOR is achieved by the application of a very simple question preceded by a very simple definition. First, the test: **"Who's property is it?"** The answer to that question of course will depend upon what you define as property. We define property as a person's life and all non-procreational derivatives (i.e., everything a person produces except children). We believe that property can only legitimately be transferred without the use of force or fraud.¹

By this criterion, your life is your property and you are free to choose to end it or continue it free from fraud or coercion. Also, by this criterion our decision on CHADDI should be clear. It favors individual choice and an individual's right to control his or her own life and body and should be supported.

However, we realize that this issue is an emotionally charged one, and we would very much like to hear from you about it. Collection of signatures to place CHADDI on the 1988 California ballot cannot begin until late in 1987 and it won't be placed on the ballot officially until July, 1988. We are raising the issue of CHADDI now, so that we can hear from our members and decide how to address this initiative. Some ALCOR members feel very strongly about CHADDI and want to see other ALCOR members get actively involved in collecting signatures and moving CHADDI onto the ballot in 1988. Others may well feel just the opposite, that the potential evil of active euthanasia outweighs its potential good.

We have reproduced in full the proposed initiative on the pages that follow. We **urge** each of you to carefully read this document and to give us your opinion. This includes even those of you who are not California residents. Keep in mind that the CHADDI is a model bill, and that the Hemlock Society is a national organization and intends to use a success in California (a trend-setting state for reform legislation) as a starting point for state-by-state reform.

Since the Hemlock Society is a nonprofit corporation, they cannot directly initiate political activities such as a referendum. Thus they have formed a separate organization called Americans Against Human Suffering (AAHS). The address and phone number of Americans Against Human Suffering is listed below. For more information on CHADDI you may contact AAHS directly. Regardless of the position (if any) that ALCOR ultimately takes on CHADDI, individual members are free to contact AAHS directly and offer their support.

Americans Against Human Suffering
P.O. Box 11001
Glendale, CA 91206
(818) 240-1986

1. This is the intellectual property of Andrew J. Galombos.

HUMANE AND DIGNIFIED DEATH INITIATIVE

CONSTITUTIONAL AMENDMENT

ARTICLE 1 of the California Constitution is hereby amended by adding the following section:

SECTION 1(a)

The inalienable right of privacy includes the right of the terminally ill to voluntary, humane, and dignified doctor assisted aid in dying.

••••

HUMANE AND DIGNIFIED DEATH ACT

§ 7185.

This act shall be known and may be cited as the Humane and Dignified Death Act.

§ 7186.

Adult persons have the fundamental right to control the decisions relating to the rendering of their own medical care, including the decision to have life-sustaining procedures withheld or withdrawn or, if suffering from a terminal condition, to request a physician to administer aid in dying.

Modern medical technology has made possible the artificial prolongation of human life beyond natural limits. Such prolongation of life for persons with a terminal condition may cause loss of patient dignity and unnecessary pain and suffering, while providing nothing medically necessary or beneficial to the patient.

In recognition of the dignity and privacy which patients have a right to expect, the State of California shall recognize the right of an adult person to make a written Directive instructing his physician to withhold or withdraw life-sustaining procedures or, if suffering from a terminal condition, to administer aid in dying.

§ 7187.

The following definitions shall govern the construction of this chapter:

(a) "Attending physician" means the physician selected by, or assigned to, the patient and who has primary responsibility for the treatment and care of the patient.

(b) "Directive" means a written document and durable power of attorney voluntarily executed by the declarant in accordance with the requirements of Section 7188 in the form set forth in Section 7196. The Directive, or a copy of the Directive, shall be made part of the patient's medical records.

(c) "Life-sustaining procedure" means any medical procedure or intervention which utilizes mechanical or other artificial means to sustain, restore, or supplant a vital function, which, when applied to a qualified patient would serve only artificially to prolong the moment of death and where, in the judgment of the attending physician, death is imminent whether or not such procedure is utilized, and also includes nourishment and hydration. "Life-sustaining procedure" shall not include the administration of medication or the performance of any medical procedure deemed necessary to alleviate pain.

(d) "Physician" means a physician and surgeon licensed by the Board of Medical Quality Assurance or the Board of Osteopathic Examiners.

(e) "Qualified patient" means a patient diagnosed and certified in writing to be afflicted with a terminal condition by two physicians, one of whom shall be the attending physician, who have personally examined the patient.

(f) "Terminal condition" means an incurable condition which, regardless of application of life-sustaining procedures, would, within reasonable medical judgment produce death within six months, and where the application of life-sustaining procedures would serve only to postpone the moment of death of the patient.

(g) "Aid in dying" means any medical procedure that will terminate the life of the qualified patient swiftly, painlessly, and humanely.

(h) "Attorney in Fact" is an agent of the person or patient signing the directive, appointed for the purpose of making decisions relating to the patient's medical care and treatment, including withdrawal of life-sustaining procedures and aid in dying, in the event the patient becomes incompetent to make such decision. He or she must be an adult, who may, but need not be related to said person or patient. He or she need not be an attorney at law or lawyer.

(i) "Three (3) Person Committee" referred in Section 7188.6 of this Act, shall be the Ethics Committee of a hospital, or three members thereof, or in the absence of an Ethics Committee, any three persons appointed by the hospital administrator to make the review required by said section, or three persons as defined in the last sentence of Section 7188.6.

§ 7188.

Any adult person may execute a directive directing the withholding or withdrawal of life-sustaining procedures or, if suffering from a terminal condition, administering aid in dying. The directive shall be signed by the declarant in the presence of two witnesses not related to the declarant by blood or marriage and who would not be entitled to any portion of the estate of the declarant upon his death under any will of the declarant or codicil thereto then existing or, at the time of the directive, by operation of law then existing. In addition, a witness to a directive shall not be the attending physician, an employee of the attending physician or a health care facility in which the declarant is a patient, nor any person who, at the time of the execution of the directive, has a claim against any portion of the estate of the declarant upon his death. The directive shall be in the form contained in Section 7196.

§ 7188.5.

A directive shall have no force or effect if the declarant is a patient in a skilled nursing facility as defined in subdivision (c) of Section 1250 at the time the directive is executed unless one of the two witnesses to the directive is a patient advocate or ombudsman as may be designated by the State Department of Aging for this purpose pursuant to any other applicable

provision of law. The patient advocate or ombudsman shall have the same qualifications as a witness under Section 7188.

The intent of this section is to recognize that some patients in skilled nursing facilities may be so insulated from a voluntary decisionmaking role, by virtue of the custodial nature of their care, as to require special assurance that they are capable of willfully and voluntarily executing a directive.

§ 7188.6.

The decision of an attorney in fact to request a physician to administer aid in dying shall first be reviewed by a hospital committee of 3 persons to assure: 1) the directive was properly executed and witnessed, 2) the directive was not revoked by the patient, 3) the physicians did certify the patient as terminal, and 4) the time of death is properly decided by the attorney in fact and physician. A majority of the committee shall control. If the principal is not in a hospital, the committee shall consist of three persons from a hospital committee of a hospital with which the attending physician is affiliated, or three doctors appointed by the president of the local medical association.

§ 7189.

(a) A directive may be revoked at any time by the declarant, without regard to his mental state or competency, by any of the following methods:

(1) By being canceled, defaced, obliterated, or burned, torn, or otherwise destroyed by the declarant or by some person in his presence and by his direction, with the intent to revoke it.

(2) By a writer, revocation of the declarant expressing his intent to revoke, signed and dated by the declarant. Such revocation shall become effective only upon communication to the attending physician by the declarant or by a person acting on behalf of the declarant. The attending physician shall record in the patient's medical record the time and date when he received notification of the written revocation, and the identity of the communicator.

(3) By a verbal expression by the declarant of his intent to revoke the directive. Such revocation shall become effective only upon communication to the attending physician by the declarant or by a person acting on behalf of the declarant. The attending physician shall confirm with the patient that he/she wishes to revoke and shall record in the patient's medical record the time, date, and place of the revocation and the time, date, and place, if different, that he received notification of the revocation, and the identity of the notifier.

(b) There shall be no criminal, civil, or administrative liability on the part of any person for failure to act upon a revocation made pursuant to this section unless that person has actual knowledge of the revocation.

§ 7189.5.

A directive shall be effective for seven years from the date of execution thereof unless sooner revoked in a manner prescribed in Section 7189. Nothing in this chapter shall be construed to prevent a declarant from reexecuting a directive at any time in accordance with the formalities of Section 7188, including reexecution subsequent to a diagnosis of a terminal condition. If the declarant has executed more than one directive, such time shall be determined from the date of execution of the last directive known to the attending physician. If the declarant becomes

comatose or is rendered incapable of communicating with the attending physician, the directive shall remain in effect for the duration of the comatose condition or until such time as the declarant's condition renders him or her able to communicate with the attending physician.

§ 7190.

No physician or health facility which, acting in accordance with the requirements of this chapter, causes the withholding or withdrawal of life-sustaining procedures from or administers aid in dying to a qualified patient, shall be subject to civil, criminal or administrative liability therefrom. No licensed health professional, acting under the direction of a physician, who participates in the withholding or withdrawal of life-sustaining procedures from or administers aid in dying to a qualified patient in accordance with the provisions of this chapter shall be subject to any civil, criminal or administrative liability. No physician, or licensed health professional acting under the direction of a physician, who participates in the withholding or withdrawal of life-sustaining procedures or administers aid in dying in accordance with the provisions of this chapter shall be guilty of any criminal act or of unprofessional conduct.

§ 7191.

(a) Prior to effecting a withholding or withdrawal of life-sustaining procedures from or administering aid in dying to a qualified patient pursuant to the directive, the attending physician shall determine that the directive complies with Section 7188, and, that the directive and all steps proposed by the attending physician to be undertaken are in accord with the desires of the qualified patient, as expressed in the directive.

(b) If the declarant is a qualified patient, the directive shall be conclusively presumed, unless revoked, to be the directions of the patient regarding the withholding or withdrawal of life-sustaining procedures. No physician, and no licensed health professional acting under the direction of a physician, shall be criminally, civilly, nor administratively liable for failing to effectuate the directive of the qualified patient pursuant to this subdivision unless he willfully fails to transfer the patient •

(c) If the declarant becomes a qualified patient subsequent to executing the directive, and has not subsequently reexecuted the directive, the attending physician nevertheless must conform with the professional obligations described in paragraph (b), unless, considering other factors, such as information from the affected family and the nature of the patient's condition, he determines that the totality of circumstances known to him justify the conclusion that it no longer represents the will of the patient or his attorney in fact. No physician, and no licensed health professional acting under the direction of a physician, shall be criminally, civilly or administratively liable for failing to effectuate the directive of the qualified patient pursuant to this subdivision, unless he willfully fails to transfer the patient to a physician who will comply with the directive.

§ 7192.

(a) The withholding or withdrawal of life-sustaining procedures from or administering aid in dying to a qualified patient in accordance with the provisions of this chapter shall not, for any purpose, constitute a suicide.

(b) The making of a directive pursuant to Section 7188 shall not restrict, inhibit, or impair in any manner the sale, procurement, or issuance of any policy of life or health insurance, nor shall it affect in any way the terms of an existing policy of life or health insurance. No policy of life or health insurance shall be legally impaired or invalidated in any manner by the withholding or withdrawal of life-sustaining procedures from or administering aid in dying to an insured qualified patient, notwithstanding any term of the policy to the contrary.

(c) No physician, health facility, or other health care provider, and no health care service plan, insurer issuing disability insurance, self-insured employee welfare benefit plan, or non-profit (or profit) hospital service plan shall require any person to execute a directive as a condition for being insured for, or receiving, health care services, nor refuse service because of the execution, existence or revocation of such a directive.

§ 7193.

Nothing in this chapter shall impair or supersede any legal right or legal responsibility which any person may have to effect the withholding or withdrawal of life-sustaining procedures or administering aid in dying in any lawful manner. In such respect the provisions of this chapter are cumulative.

§ 7194.

Any person who willfully conceals, cancels, defaces, obliterates, or damages the directive of another without such declarant's consent shall be guilty of a misdemeanor. Any person who, except where justified or excused by law, falsifies or forges the directive of another, or willfully conceals or withholds personal knowledge of a revocation as provided in Section 7189, with the intent to cause a withholding or withdrawal of life-sustaining procedures or to induce aid in dying procedures contrary to the wishes of the declarant, and thereby, because of any such act, directly causes life-sustaining procedures to be withheld or withdrawn and death thereby to be hastened or aid in dying to be administered, shall be subject to prosecution for unlawful homicide as provided in Chapter 1 (commencing with Section 187) of Title 8 of Part 1 of the Penal Code.

§ 7195.

No person, committee, or physician who complies with a request by a qualified patient pursuant to this chapter may be prosecuted for any crime associated with the death of such patient; nor shall such physician be liable for any civil or administrative damages or penalties arising from such death.

Criminal Code § 401.

Every person who deliberately aids, or advises, or encourages another to commit suicide, is guilty of a felony. Death resulting from a request for aid in dying or from a withholding or withdrawing of treatment pursuant to Sections 7185 et seq. of the Health and Safety Code does not constitute suicide, nor is a licensed physician who lawfully administers aid in dying or who lawfully withdraws or withholds treatment liable under this section.

Civil Code § 2443.

Nothing in this article shall be construed to condone, authorize, or approve mercy killing, or to permit any affirmative or deliberate act or omission to end life other than the withholding or withdrawal of health care pursuant to a durable power of attorney for health care so as to permit the natural process of dying, except as provided for in the Humane and Dignified Death Act of the Health and Safety Code Sections 7185 et seq. In making health care decisions under a durable power of attorney for health care, an attempted suicide by the principal shall not be construed to indicate a desire of the principal that health care treatment be restricted or inhibited or that aid in dying be given.

§ 7196.

This Act may be amended by a two-thirds (2/3) vote of both Houses of the legislature, and signed by the Governor.

§ 7197.

Hospitals and other health care providers who carry out the directive of a qualified patient, shall keep a record of the number of such cases, and report annually the patient's age, type of illness, and the date the directive was carried out, to the California Department of Public Health. In all cases, the privacy of the person or patient and the agent or attorney in fact, shall be strictly confidential and shall not be reported.

§ 7198.

Form for Directive:

DIRECTIVE TO PHYSICIANS WARNING TO PATIENT

THIS IS AN IMPORTANT LEGAL DOCUMENT.
BEFORE EXECUTING THIS DOCUMENT, YOU SHOULD
KNOW THESE IMPORTANT FACTS:

POWERS TO AGENT

THIS DOCUMENT GIVES YOUR AGENT (THE ATTORNEY IN FACT)

(1) THE POWER TO DECIDE THE TIME OF YOUR DEATH FOR YOU. HOWEVER, YOUR AGENT MUST ACT CONSISTENTLY WITH YOUR DESIRES STATED IN THIS DOCUMENT OR OTHERWISE MADE KNOWN TO HIM.

(2) THE POWER TO DIRECT YOUR PHYSICIAN TO ADMINISTER AID IN DYING, IF YOU HAVE BEEN DIAGNOSED BY TWO LICENSED PHYSICIANS AS TERMINAL.

(3) AUTHORITY TO CONSENT OR REFUSE CONSENT TO ANY TREATMENT, SERVICE, PROCEDURE, DIAGNOSIS OR TREATMENT OF ANY PHYSICAL OR MENTAL CONDITION. THIS POWER IS LIMITED BY YOUR DESIRES CONTAINED IN THIS STATEMENT. YOU CAN PROVIDE IN THIS DOCUMENT THE TYPE OF TREATMENT THAT YOU DESIRE OR DO NOT DESIRE.

(4) THE RIGHT TO EXAMINE YOUR MEDICAL RECORDS AND CONSENT TO THEIR DISCLOSURE UNLESS YOU LIMIT THIS RIGHT IN THIS DOCUMENT.

(5) THE POWER TO DONATE YOUR BODY OR ANY OF ITS PARTS, AFTER DEATH, FOR TRANSPLANT, THERAPEUTIC, EDUCATIONAL, OR SCIENTIFIC PURPOSES, UNLESS YOU LIMIT THIS RIGHT IN THIS DIRECTIVE.

DURATION

THE POWER GRANTED BY THIS DOCUMENT SHALL EXIST FOR SEVEN (7) YEARS FROM THE DATE IT IS SIGNED UNLESS YOU SPECIFY A SHORTER PERIOD. IF YOU ARE UNABLE TO DECIDE THE APPROPRIATENESS OF INSTRUCTING YOUR PHYSICIAN TO ADMINISTER AID IN DYING AT THE TIME THIS SEVEN YEAR PERIOD ENDS, THE POWER WILL CONTINUE TO EXIST UNTIL THE TIME YOU BECOME ABLE TO MAKE A DECISION FOR YOURSELF OR YOUR AGENT DECIDES TO HONOR THE DIRECTIVE.

REVOCAION

YOU MAY REVOKE THE AUTHORITY OF YOUR AGENT AND HIS POWER BY NOTIFYING HIM, OR YOUR TREATING PHYSICIAN, HOSPITAL OR OTHER HEALTH CARE PROVIDER ORALLY OR IN WRITING.

THIS DOCUMENT REVOKES ANY PRIOR DIRECTIVE TO WITHHOLD OR WITHDRAW LIFE SUPPORT SYSTEMS, OR TO ADMINISTER AID IN DYING.

PROCEDURES

YOU MUST FOLLOW THE WITNESSING PROCEDURES DESCRIBED AT THE END OF THIS FORM. IF YOU FAIL TO FOLLOW THE PROCEDURES, THIS DOCUMENT WILL NOT BE VALID.

YOUR AGENT MAY NEED THIS DOCUMENT IMMEDIATELY IN AN EMERGENCY. THEREFORE KEEP IT WHERE IT IS IMMEDIATELY AVAILABLE TO YOUR AGENT. IT IS RECOMMENDED THAT YOU GIVE YOUR AGENT A SIGNED COPY. YOU MAY ALSO WISH TO GIVE YOUR DOCTOR A SIGNED COPY.

LIMITATIONS

THE COURT CAN TAKE AWAY THE POWER OF YOUR AGENT TO MAKE HEALTH CARE DECISIONS, TO ACT IN YOUR BEHALF, AND TO DIRECT YOUR PHYSICIAN TO ADMINISTER AID IN DYING IF HE ACTS CONTRARILY TO YOUR KNOWN DESIRES.

DO NOT USE THIS FORM IF YOU ARE A CONSERVATEE UNDER THE LANTERMAN-PETRIS-SHORT ACT AND YOU WANT TO APPOINT YOUR CONSERVATOR AS YOUR AGENT, YOU CAN DO THAT ONLY IF THE APPOINTMENT DOCUMENT INCLUDES A CERTIFICATE OF YOUR ATTORNEY.

This directive is made this _____ day of _____ (month) _____ (year).

I, _____, being of sound mind, willfully, and voluntarily make known my desire 1) THAT MY LIFE SHALL NOT BE ARTIFICIALLY

PROLONGED and 2) THAT MY LIFE SHALL BE ENDED WITH THE AID OF A PHYSICIAN under the circumstances set forth below, and do hereby declare: (You can strike out #1 or #2 above, or leave them both in place.)

1. If at any time I should have a terminal condition or illness certified to be terminal by two physicians, and they determine that my death will occur within six months whether or not life-sustaining procedures are utilized, 1) I DIRECT THAT SUCH PROCEDURES BE WITHHELD OR WITHDRAWN, and 2) I DIRECT THAT MY PHYSICIAN ADMINISTER AID IN DYING IN A HUMANE AND DIGNIFIED MANNER. (You can strike out #1 or #2 above, or leave them both in place.)

2. In the absence of my ability to give directions regarding the termination of my life, it is my intention that this directive shall be honored by my family, agent and physician(s) as the final expression of my legal right to 1) REFUSE MEDICAL OR SURGICAL TREATMENT, and 2) TO CHOOSE TO DIE IN A HUMANE AND DIGNIFIED MANNER. (You can strike out #1 or #2 above, or leave them both in place.)

3. If I have been diagnosed as pregnant and that diagnosis is known to my physician, this directive shall have no force or effect during the course of my pregnancy.

4. I understand that a terminal condition is one in which I am not likely to live for more than six months, despite treatment.

5. a. I, _____ do hereby designate and appoint _____

as my attorney in fact (agent) to make health care decisions for me as authorized in this document. For the purpose of this document, "health care decision" means consent, refusal of consent, or withdrawal of consent to any care, treatment, service, or procedure to maintain, diagnose, or treat an individual's physical or mental condition, or to administer aid in dying.

b. By this document I intend to create a durable power of attorney for health care under The Humane and Dignified Death Act and Sections 2430 to 2443, inclusive, of the California Civil Code. This power of attorney shall not be affected by my subsequent incapacity, except by revocation.

c. Subject to any limitations in this document, I hereby grant to my agent full power and authority to make health care decisions for me to the same extent that I could make such decisions for myself if I had the capacity to do so. In exercising this authority, my agent shall make health care decisions that are consistent with my desires as stated in this document or otherwise made known to my agent, including, but not limited to, my desires concerning obtaining or refusing or withdrawing life-prolonging care, treatment, services, and procedures, and administration of aid in dying.

6. This directive shall have no force or effect seven years from the date filled in above.

7. My family has been informed of my request to die, their opinions have been taken into consideration, but the final decision remains mine, so long as I am competent.

8. The exact time of my death will be determined by myself and my physician with my desire or my attorney in fact's instructions paramount.

9. I have given full consideration and understand the full import of this directive, and I am emotionally and mentally competent to make this directive. I accept the moral and legal responsibility for receiving aid in dying.

THIS DIRECTIVE WILL NOT BE VALID UNLESS IT IS SIGNED BY TWO QUALIFIED WITNESSES WHO ARE PRESENT WHEN YOU SIGN OR ACKNOWLEDGE YOUR SIGNATURE. FURTHERMORE, AT LEAST ONE OF THE WITNESSES MUST NOT BE RELATED TO YOU BY BLOOD, MARRIAGE OR ADOPTION, AND NOT ENTITLED TO ANY PART OF YOUR ESTATE. IF YOU HAVE ATTACHED ANY ADDITIONAL PAGES TO THIS FORM, YOU MUST DATE AND SIGN EACH OF THE ADDITIONAL PAGES AT THE SAME TIME YOU DATE AND SIGN THIS POWER OF ATTORNEY.

Signed

City, County and State of Residence

I declare under penalty of perjury under the laws of California that the person who signed or acknowledged this document is personally known to me (or proved to me on the basis of satisfactory evidence) to be the principal; that the principal signed and acknowledged this Directive in my presence; that the principal appears to be of sound mind and under no duress, fraud, or undue influence; that I am not a person appointed as attorney in fact by this document, and that I am not a health care provider, an employee of a health care provider, the operator of a community care facility, nor an employee of an operator of a community care facility.

Date: _____

Witness's Signature: _____

Print Name: _____

Residence Address: _____

Date: _____

Witness's Signature: _____

Print Name: _____

Residence Address: _____

AT LEAST ONE OF THE ABOVE WITNESSES MUST ALSO SIGN THE FOLLOWING DECLARATION.

I further declare under penalty of perjury under the laws of California that I am not related to the principal by blood, marriage, or adoption, and, to the best of my knowledge, I am not entitled to any part of the estate of the principal upon the death of the principal under a Will now existing or by operation of law.

Witness' Signature: _____

HUMANE AND DIGNIFIED DEATH INITIATIVE

AUTHORS: Robert L. Risley and Michael H. White

STATEMENT OF PROPONENTS

This Initiative amends Article I of the California Constitution by adding Section 1(a). Section 1(a) defines the inalienable right of privacy to include the doctor assisted aid in dying.

It substantially modifies the California Natural Death Act, renaming it The Humane and Dignified Death Act. It gives competent adults the right to control decisions relating to their own medical care, including the decision to have life sustaining procedures withheld or withdrawn in instances of a terminal condition. The Act also allows competent terminally ill adults the assistance of a physician to terminate humanely, and with dignity, his or her life.

The Act recognizes that prolongation of life for terminally ill persons may cause loss of dignity and/or unnecessary pain and suffering, while providing nothing medically necessary or beneficial to the patient. The continuation of life under conditions of severe pain and suffering against the patient's will, constitutes cruelty, and a disregard for human dignity. The Act recognizes the preeminence of the patient's decisions in his or her final days.

Advances in health care have nearly doubled life expectancy since 1942. Years of meaningful productive life have been added for most persons. However, when the end of life approaches because of a terminal illness, the pain, agony, suffering, and/or humiliation associated with a last illness and death should be legally avoidable by persons who choose to do so. A physician complying with a patient's request should be free of civil, criminal, and administrative liability.

The right to control the condition of one's own life is a basic and private matter. The constitutional right to privacy should include the right of a competent terminally ill adult to choose the time and manner of his or her death. Mercy and human dignity demand that terminally ill persons be permitted the aid of a physician to die a humane and dignified death, if they choose.

This Act retains the safeguards of the Natural Death Act while allowing the patient to make a voluntary, competent and informed decision to request a physician to aid in his or her death in the least active manner. Two physicians must certify that the patient is terminally ill and is likely to die within six months. The statute combines a "directive" with a "durable power of attorney". The directive in this Act is similar to that found in the Natural Death Act. The durable power of attorney is similar to a durable power contained in California Civil Code

§2500 et seq. The patient must be competent, or while competent name an agent to carry out his request. The Act avoids family members intervening to oppose the directive, and will permit physicians to exercise mercy at a patient's request without fear of civil or criminal liability.

The Act amends Section 7195 of the Health and Safety Code which prohibits all mercy killing, or affirmative act or omission to end life to permit physician-assisted aid in dying. It also amends Section 2443 of the Civil Code. Nevertheless, it does not condone, authorize, or approve mercy killing or permit any affirmative or deliberate act or omission to end life other than

by a licensed physician and when requested by the patient, pursuant to a properly executed legal document.

The Act amends Section 401 of the California Penal Code to exempt licensed physicians whose conduct conforms with these sections from liability as an aider or abettor of a suicide.

The Act is retitled the Humane and Dignified Death Act.

The Act does not affect other statutes.

AUTHORS: Robert L. Risley and Michael H. White
(818) 240-1986

This Model Humane and Dignified Death Act is Based on California Statutes.

California Penal Code § 401

§ 401. Suicide; aiding, advising, or encouraging.

Every person who deliberately aids, or advises, or encourages another to commit suicide, is guilty of a felony. (Formerly § 400, added by Code Am.1873—74, c. 614, p. 433, § 34. Renumbered § 401 and amended by Stats.1905, c. 573, p. 770, § 11.)

California Civil Code § 2443

§ 2443. Mercy Killing Not Condoned or Authorized by Article—Attempted Suicide.

Nothing in this article shall be construed to condone, authorize, or approve mercy killing, or to permit any affirmative or deliberate act or omission to end life other than the withholding or withdrawal of health care pursuant to a durable power of attorney for health care so as to permit the natural process of dying. In making health care decisions under a durable power of attorney for health care, an attempted suicide by the principal shall not be construed to indicate a desire of the principal that health care treatment be restricted or inhibited. Leg.H. 1983 ch. 1204.

California Health and Safety Code § 7185—7189-5

Chapter 3.9. NATURAL DEATH ACT

- § 7185. Short title.
- § 7186. Legislative findings and declaration.
- § 7187. Definitions.
- § 7188. Directive to withhold or withdraw life-sustaining procedures; signature; witnesses; form; contents.
- § 7188.5. Patient in skilled nursing facility; witnesses to directive.
- § 7189. Revocation of directive; failure to act upon revocation; civil or criminal liability.

§ 7189.5. Duration of directive; reexecution; extension during comatose condition or period of incapability of communication.

§ 7185. Short title

This act shall be known and may be cited as the Natural Death Act. (Added by Stats. 1976, c. 1439, p. 6478, § 1.)

California Civil Code § 2500—2513

- § 2500. Statutory Form Durable Power of Attorney for Health Care.
- § 2501. Validity.
- § 2502. Form Pursuant to Section 2500.
- § 2503. Form Pursuant to Sections 2500—2502.
- § 2503.5. Validity and Use of Forms Complying With Prior Law.
- § 2504. Authority Regarding "Health Care Decisions."
- § 2505. Authorized Person Acting on Behalf of Principal.
- § 2506. Court Authorization of Alternate Agent.
- § 2507. Use of Other Forms in Lieu of Section 2500.
- § 2508. Citation of Act.

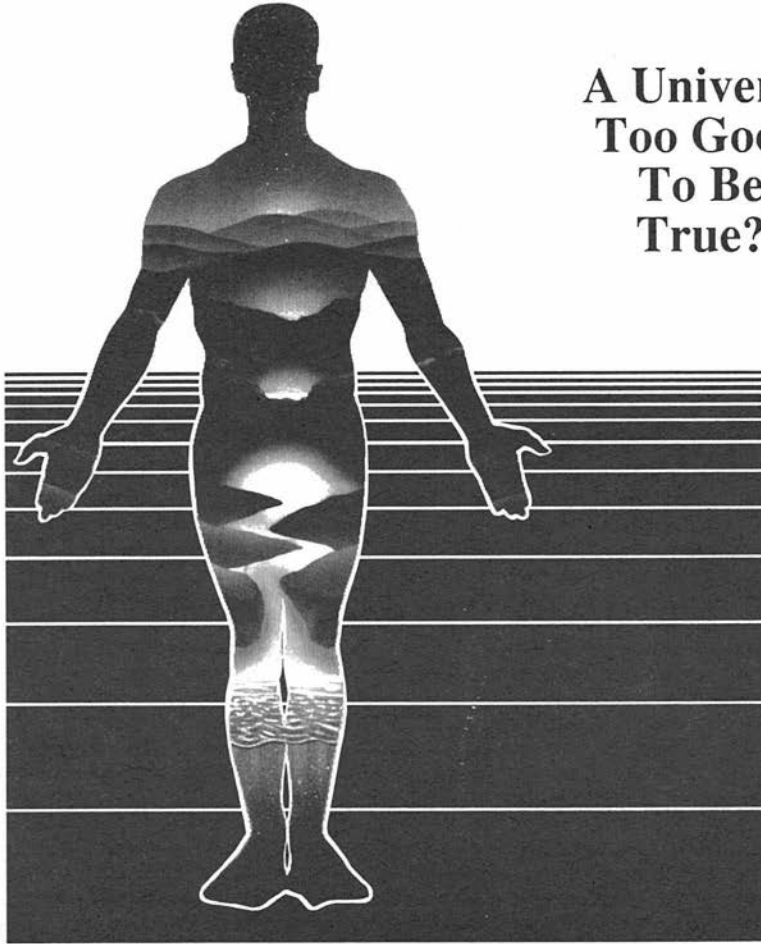
Chapter 5. MISCELLANEOUS PROVISIONS RELATING TO POWERS OF ATTORNEY.

- § 2510. Printed Form Durable Power for Use by Person Without Legal Counsel; Special Requirement.
- § 2510.5. Sale, Distribution and Validity of Printed Forms Complying with Prior Law.
- § 2511. "Convincing Evidence" Defined.
- § 2512. Nonliability of Person Acting in Good Faith Reliable on Power of Attorney.
- § 1513. Application of Power of Attorney to Real and Personal Property of Principal; Description of Each Item or Parcel Not Required.

AMERICANS AGAINST HUMAN SUFFERING

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A Universe Too Good To Be True?



Brian Wowk Reviews THE ANTHROPIC COSMOLOGICAL PRINCIPLE (Oxford University Press, 1986.)

What cryonics is all about is survival. And survival is about the future. So it follows then that cryonicists are concerned about the future more than most people. This includes even the distant future, for unlike most people we have a personal stake in that future. The space colonies, starships, terraformed worlds, and galactic frontier before us capture our imagination. But what about the **very** distant future? Not thousands, not millions, but **trillions** of years into the future, and beyond? This far-flung future is the realm of the fledgling field known as physical eschatology — the scientific study of the ultimate fate of the Universe. Some very interesting ideas have been emerging from this field lately. They are ideas contrary to many popular notions about Man, the Cosmos, the relationship between them, and the destiny

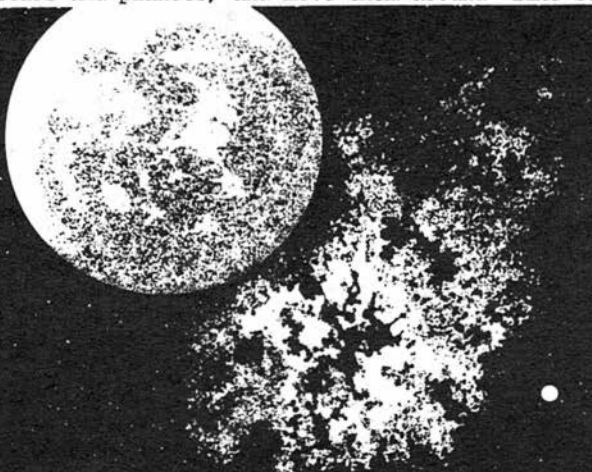
of both. They are also ideas of particular relevance to the question of just how long we might actually be able to live.

One problem is that much of what I'm going to say sounds so much like what an immortalist would want to hear that it may seem like I'm just making it all up as I go along. I assure you this is not the case. What has happened is that I've come across a new book by John D. Barrow and Frank J. Tipler called **The Anthropic Cosmological Principle** (Oxford University Press, 1986). This richly interesting book is a comprehensive semi-technical survey of the history and current state of thinking in philosophy and physics relevant to the idea that has become known as the Anthropic Principle. It ends with some intriguing new anthropic insights into physical eschatology — insights that just might give you a new outlook on life.

To set the stage for the really bold speculations of this book, it's first necessary to outline some not-so-speculative details of what the human future likely holds in store in the easily foreseeable cosmic future — say, the next few billion years. In fact, as incredible as it may seem, I don't even regard the following as "speculation" at all, but rather as what will almost certainly happen unless humanity becomes extinct very soon.

Since John von Neumann first elucidated his theoretical outlines for artificial self-replicating automata (von Neumann machines) four decades ago, there has been a growing suspicion that humanity may have been grossly underrating its technological potential in the Universe. These suspicions have been bolstered by recent ideas about nanotechnology. In fact, in less than a century we have progressed from a condition of widespread scepticism about the feasibility of heavier-than-air human flight, to a state where the "improbabilities" of star flight, and even galaxy flight, are looking to be ultimately **trivial** exploits. Moreover, the same self-replicating, exponentiating, technological systems that can build planetary-scale laser banks to propel our starships at a speed very close to that of light should also easily permit another mind-boggling enterprise: Astroengineering. Some amazingly detailed work by visionaries like Freeman Dyson and Alex Criswell has demonstrated the physical feasibility of exponentiating technologies being used to literally take apart entire stars and planets, and move them around like so many cosmic building blocks.

This suggests a particularly dramatic vision of our future. Within one hundred years we will very likely have achieved a sophisticated and general self-replicating machine design and construction capability. What this amounts to is nothing less than the loosing of an entirely new order of life into the universe -- life with the ability to replicate, diversify, and spread (likely near the speed of light) through the cosmic growth medium as easily as



naturally-occurring life has done on the surface of the Earth. This new life, however, will be by **our design**. If we play our cards right — if we design it wisely -- it is life that will nurture us, super-protect us, merge with us, and via astroengineering ultimately convert a presently-hostile universe into one specifically designed to sustain our pleasurable personal existence for a **long** time.

In fact, even as many people around us still argue whether we are fit to tamper with the habitat of the furbish lousewart, a profound consensus is emerging in the field of physical eschatology: **Theories of the future evolution of the universe must consider the consequences of intelligent life acting on a cosmic scale.** Any purely physical theories of future cosmological development are **obsolete**. They are akin to a 17th century explorer predicting the future ecology of Manhattan Island without considering a future extensive human presence.

Thus we see that our species ultimately represents **much** more than just some transient protoplasm on an insignificant speck. The future of Man and the future of the entire Cosmos are inextricably intertwined.

(Some may wonder why I don't mention the significance of possible extraterrestrial intelligence (ETI) in this scenario. Tipler is in fact an infamous champion of the case for a lonely universe, and lately I've become very sympathetic with his thinking. In the **Anthropic Cosmological Principle**, he frames three powerful arguments against the existence of ETI not only in this galaxy, but in much of the visible universe. I won't delve into them here since only a dedicated article could do them justice. Suffice it to say that one should not despair about the Universe being boring because of such a situation, for the near-light-speed expansion and diversification of life we will initiate implies that the Universe will quickly fill with more life and civilization than any science fiction writer ever dreamed of.)

Now, as promised, we will attempt to speculate on what may become of us (and the Universe) in the **really** distant future. As I've discussed, it's very likely that human intelligence and/or its progeny will within a few billion years fill the visible Universe, and take control of things in a big way. Using known principles of physics and cosmology it's possible to conceive of such life using cosmic resources in such a way as to maintain its existence for literally trillions of years. Eventually, though, things become uncertain and worrisome. Stores of nuclear energy deplete as more and more matter becomes converted to iron. Protons may start to decay in significant numbers. The continued existence of atom-based life starts to come into question. So what might be next?

This brings us to the Anthropic Principle, and what it may have to say about our future.

The Anthropic Principle is a way of looking at the Universe that arose in response to many supposed "coincidences" and "unlikelihoods" that have cropped up in physics in recent decades. It has become increasingly evident that there are **many** properties of the Universe, ranging from parameters of atomic and nuclear chemistry, to quantitative initial conditions of the Big Bang, on which the existence of life, particularly carbon-based life such as ourselves, is sensitively dependent. Were these properties of the Universe to differ from what they are by even the slightest infinitesimal amount, we could have never

come into existence. This is intriguing because there is at first glance no a priori reason for these properties to be what they are — they are not fixed by presently-known physical law and could conceivably be different. Why should they be precisely as required to allow life to exist?

This was a vexing problem for physicists conditioned by centuries of Copernican perspective. Since Copernicus first removed the Earth from the center of the Universe there has been a steady progression of developments removing Man farther and farther from a place of significance in the Cosmos. By the mid 20th century we were generally regarded as mere accidents in a much greater and indifferent scheme of things. So why then was the Universe so finely tuned to generate us?

Gradually it became clear that some incorrect premises were at the roots of this puzzlement. It was pointed out that we should not be evaluating the probabilities of making particular observations about the Universe a priori, but rather a posteriori given one extremely important relevant datum: **We exist within it.** For the purposes of evaluating the likelihood of the Universe having certain properties we cannot regard all conceivable properties as being equally likely. The possible properties of this universe are **necessarily** restricted to those which will permit our existence. We should not be so surprised at the Universe being "so finely tuned", for it is the only kind of tuning we can observe given that our existence is contingent upon that tuning. This realization that all our observations of the Universe are limited by the "selection effect" of our own existence within it is now termed the Weak Anthropic Principle.

As might be expected, some people went farther than this and suggested something more radical: The Universe **must** by its inherent nature, give rise to intelligent life at some stage in its history. This is termed the Strong Anthropic Principle. It implies that in the broadest context life is not merely the "accidental" result of "indifferent" laws of physics, but rather that there exists some profound, yet undiscovered, fundamental link between life (read: intelligent information processing) and laws of physics. It implies that ultimately life is an essential integral part of the Cosmos in the same sense as those principles we now recognize as laws of physics.

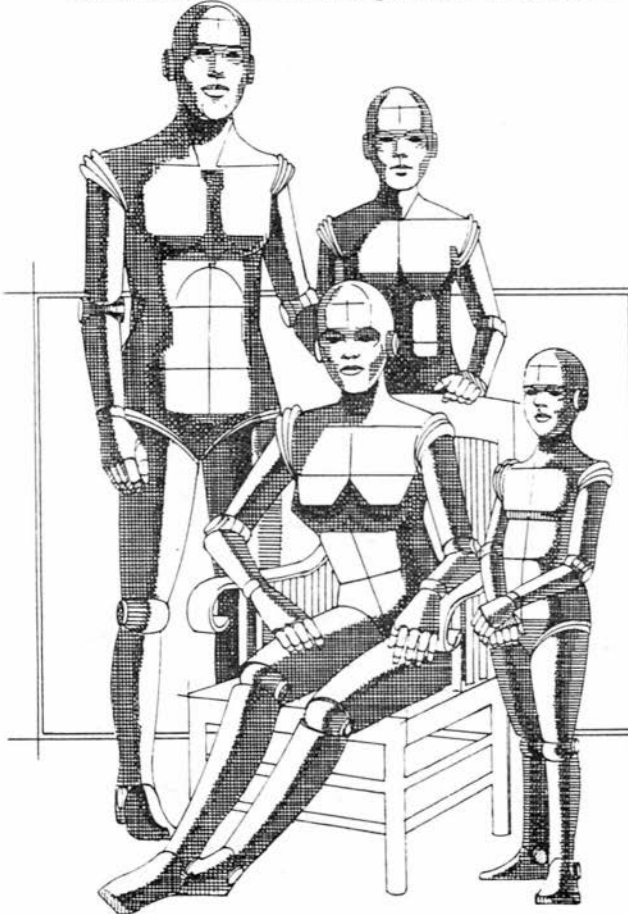
The Strong Anthropic Principle may sound like just wild metaphysics, but in fact this speculation is somewhat supported by a variety of considerations, and it even yields testable predictions. Perhaps the strongest motivation for the Principle is the unified nature of physics. All of the amazing lifeward "fine tuning" observed in so many diverse aspects of nature is ultimately related to extremely precise values possessed by a handful of numbers known in physics as the "fundamental constants of nature". It seems incredible that it's even logically possible to have so many precise life-oriented properties of the world simultaneously perfectly determined by so few numbers. Moreover, physics is showing a unifying trend toward representing "fundamental" constants in terms of even fewer numbers. This suggests that the Grand Unification of physics may reveal that life-generating universes are the only ones physically and/or logically possible.

Another consideration that lends a ring of truth to the Strong Anthropic Principle is the realization that life reaching the sophistication of human beings is, as discussed, ultimately destined to re-work the natural structure of the entire Universe. Thus the existence of intelligent information

processing in a universe is by no means insignificant to that universe. Barrow and Tipler even offer some rather bizarre suggestions as to why intelligent cosmological activity may be necessary to preserve the integrity of the space-time continuum itself.

Testable predictions of the Strong Anthropic Principle result from quantum cosmologies developed according to the Many Worlds Interpretation of quantum mechanics — an interpretation which is becoming regarded as increasingly useful and valid by physicists. The Strong Anthropic Principle implies that the Universal wave function describing the development of the multiple universes of which ours is one will be of such a form as to not allow the formation of any barren universes. It turns out that such a wave function would lead to observationally distinct results in our universe. Unfortunately these results are of a cosmic evolutionary nature, and hence will require a long time to verify. As physics continues its maturation, other predictions, perhaps in the presently-explorable realm of particle physics, will probably come along.

Now let's return to the problem of the far future when proton decay and



other possible processes may render the Universe unsuitable for life. Several years ago Freeman Dyson seriously suggested that life (intelligent information processing) may be able to exist based solely on the electrons and positrons remaining after proton decay. Since then, interesting discussion has ensued as to how positronium atoms might be used to process and store information, and physical eschatologists have bent over backwards to construct scenarios allowing the requisite matter and energy for such processing to persist indefinitely. Their studies have generated some very interesting results. Several cosmological scenarios apparently allow information processing to persist indefinitely. One particular scenario even allows processing and storage to grow **without bound**.

Now this all may sound like just a bunch of wishful thinking from people who tinker with equations until they get results they want. It must be realized,

though, that these speculations are conducted using conventional physics as a guide (which makes them far less speculative than many notions commonly kicked around, like faster-than-light travel) and it is **amazing** that any kind of indefinite life survival scenario can be constructed around what we now know about the Universe. Why should the Universe even come close to allowing anything like the indefinite survival of life? This has prompted physical eschatologists to propose a particularly profound (and, yes, perhaps wishful) version of the Strong Anthropic Principle called the Final Anthropic Principle: Not only must intelligent information processing come into existence in any possible universe, but once it comes into existence **it is eternal**.

Like the Strong Anthropic Principle, the Final Anthropic Principle leads to testable predictions about the Universe. The various indefinite survival cosmological scenarios, particularly the one allowing information to grow without bound, require elementary particles to have certain yet-uninvestigated properties, and the Universe to have a particular cosmological topology. Whether the Final Anthropic Principle may be valid -- whether we really can live forever in a universe of boundlessly increasing knowledge, experience, and pleasure -- will have to wait on the observations of the years and ages ahead. I'm sure we can find lots of interesting things to do in the meantime.

Readers may notice that this discussion has conspicuously avoided mention of the ubiquitous "Entropy Problem". "Is not the Universe slowly running down, its entropy increasing until inevitably all useable energy is uniformly dissipated in a 'Heat Death' that spells the end for all life?" That's what I always thought. This idea arose out of 19th century thermodynamics, and Barrow and Tipler in fact explore the negative effect it has had on philosophy to this day. It seems, though, that this classical thermodynamic notion is rendered **obsolete** by relativistic cosmology! According to modern thinking, the entropy function must always increase, but there is nothing to stop it from increasing globally without bound by continuously tapping cosmic gravitational potential energy. Therefore continued entropy increase in the Universe need not prohibit intelligent information processing from persisting indefinitely. Cosmic Heat Death is an archaic myth. Don't lose any more sleep over it.

But there's even more. The most notable aspect of these eschatological speculations -- an aspect that distinguishes them from the wild rantings of mystics and pseudoscientists through the ages -- is that they are motivated by, and largely conducted around, known physical law. This is exciting in itself, but it also necessitates an important addendum. It is not now possible to know, and it may never be possible to know, that a particular theoretical description of reality is complete. There is always the omnipresent "X Factor" -- the possibility that important information about the way things work is yet to be discovered. This means that the incredible scenario outlined by Barrow and Tipler may in fact constitute a **lower bound** on the possibilities before us. Frankly, though, it would be hard to imagine a universe more ultimately benevolent, beautiful, and complete than the one already implied by the Final Anthropic Principle. We really couldn't ask for much more.

So the next time some worm fodder smugly proclaims that Man is impotent and insignificant, or that Death is required by physical law, you have some new interesting information to reply with. Or, if you've grown weary of arguing with all the suicidal maniacs of the world, you might just advise them to recheck their general relativistic stress-energy tensor calculations, and walk away with an enigmatic grin. For if the Final Anthropic Principle is valid,

"if life evolves in all of the many universes in a quantum cosmology, and if life continues to exist in all of these universes, then **all** of these universes, which includes **all** possible histories among them, will approach the Omega Point. At the instant the Omega Point is reached, life will have gained control of **all** matter and forces not only in a single universe, but in all universes whose existence is logically possible; life will have spread into **all** spacial regions in all universes which could logically exist, and will have stored an infinite amount of information, including **all** bits of knowledge which it is logically possible to know. And this is the end." Which means no end at all.

A Footnote

The Final Anthropic Principle is a radical idea in itself, so it is with the utmost tentativeness that I make the following **crazy**, but irresistible suggestion as to just how benevolent the Cosmos might turn out to be. If individual identity truly consists essentially of information patterns, and if, as predicted by the Final Anthropic Principle, information processing and storage diverges without limit into an infinite future, then there exists the wild Fyodorovian possibility not only that we need never die, but that nobody **has ever** died! Unbounded information processing implies that any identity, any information pattern that has ever existed can be regenerated given enough time. And time we'll have plenty of.

* * * * *

SHADOW

by Leigh Rockwell

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It was one of those wonderful, warm September afternoons. Days like this must have been made just especially for small boys and their dogs.

Jimmy climbed up into the old, knarled tree that had been his friend for so long. As he climbed, his medic alert bracelet snagged on a small limb. He muttered something under his breath, pulled the silver chain free from the snag, unclipped it and poked it into his rear pocket. Then he swung himself on up into the tree.

Sitting in a fork of the limbs of the great tree, he leaned back against its strong trunk feeling the prickle of the bark against his back. The shade from the protective canopy of leaves above and around him felt good as it cooled him. Beads of perspiration stood out on his forehead and his T-shirt was damp from exertion. His favorite blue shorts were tattered from constant wear. Rays of sun filtered through the branches of the tree and danced off the brown hair on his head. His face was round and happy and full of that special kind of trusting that only the very young seem to have.

The happy sounds of his puppy frolicking in the dry leaves at the base of the tree beckoned. He sat up a little and looked over his knobby knees to watch Shadow, his blue-black little friend, playing on the ground. Shadow was rolling

and snarling, hopping and pouncing. He was, undoubtedly in his own mind, tangling with the biggest, meanest dog in the pack. And, of course, he was winning.

The thrill of surprise filled Jimmy all over again as he remembered his birthday, the day Shadow came into his life. There was that big bumping, squirming box being carried in under Dad's arm. Before it could even be placed on the floor, out popped the most beautiful little bundle of wiggly, licking, loving friendship a boy ever saw.

At first Jimmy had called him Wiggles. But that didn't seem sophisticated enough. It sounded too much like something a kid would call his dog. He finally decided to call him Shadow because Mom always said he followed her son around like he was Jimmy's shadow. The name stuck.

Jimmy hopped down beside Shadow and took him into his arms. The puppy immediately forgot his battles with the bully dog and set about lavishing all the love he could on his master. He licked Jimmy's face and ears until Jimmy finally pushed him down on the ground, holding him lovingly in the bowl made by his bent knees.

Suddenly remembering it was Mom's birthday, Jimmy cupped his hand over his mouth. He had vowed to himself that he would clean up the back yard as a special treat for her today... something she would never expect. And his favorite cousin would be here soon, too, as part of the birthday party. He jumped to his feet and took off at a run. Shadow hopped and plunged happily along through the autumn leaves after him.

As Jimmy rounded the freshly trimmed hedge at the corner, he saw his cousin standing in the driveway of his house. He bolted across the street, waiving and shouting, "Hi Stan! Wait till you see my new puppy."

Horror filled Stan's boyish face. He pointed at something behind Jimmy and screamed, "Look out!"

Jimmy whirled to look behind him. The brakes of the blue sedan screamed with smoke and pain as the driver tried to bring the car to a sudden halt. Shadow, breathlessly trying to catch his master, bounced off one of the skidding wheels and rolled over and over until he came to a silent rest against the curb.

Running to where Shadow lay, Jimmy painfully crouched to gingerly touch the lifeless, broken body of his puppy. Tears pouring down his cheeks, he lifted the puppy into his arms and buried his face in Shadow's glistening black hair, his own brown mop covering the pain on his face.

Stan was frozen, helpless to give any comfort as Jimmy slowly stepped up onto the curb and walked around the side of the house to the back yard. Both boys' parents had rushed out of the house at the sound of the squealing brakes. Jimmy's mother, tears staining her own face, started toward her son until her husband put his arms around her and whispered into her ear, "No, Love, let him alone. What he needs most right now is be alone with Shadow."

After planting a rose bush at the head of the tiny grave, Jimmy slumped down on his knees. Tears were still streaming, non-stop down his puffy red cheeks. Jimmy had never encountered death before. What a horrid thing it was.

So devastating. So... final. All that was left of his beautiful, wiggly, licky, loving puppy was the memory... and the pain of his loss.

Jimmy pulled the medic alert bracelet out of his hip pocket and placed it back on his wrist. For a long time he looked down at the silver oval which would help him get frozen if he were ever struck by a car. His parents had always worn these bracelets, and so had he as far as he could remember. But he never really thought much about it before today.

Today was the most terrible, painful, hateful day of his life; but it was also the first time he really knew what it meant to die... and that he never wanted that to happen to him.

* * * * *

MAY - JUNE 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.

ALCOR

Life Extension Foundation
12327 Doherty Street
Riverside, California 92503
(714)736-1703-- in CA
(800)367-2228--Nationwide

The MAY meeting will be at the home of:

(SUN, 3 MAY 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.

The ALCOR Facility Dedication and Open House will be held Memorial Day weekend, 22-25 May, 1987, at:

(FRIDAY - MONDAY) ALCOR/Cryovita Laboratories
(22-25 MAY, 1987) 12327 Doherty St.
Riverside, CA 92503

DIRECTIONS: Take the Riverside Freeway (State Hwy 91) east toward Riverside. Go through Corona, and get off at the McKinley St. exit. Go right (south) on McKinley. Turn left (east) on Magnolia. Go across the railroad tracks and turn left (north) on Buchanan St. Doherty is the second street on the left. Turn left on Doherty, and then turn right into the back of the industrial park. 12327 is the third building from the back, on the right.

DUE TO THE ALCOR FACILITY DEDICATION AND OPEN HOUSE, THERE WILL BE NO MEETING IN JUNE, 1987.

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

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