

# Cryonics

Volume 10(2) February, 1989

- Images of cryonics:  
Before the beginning  
there was --  
*Boris Karloff*



**CRYONICS ■ Volume 10(2) ■ February, 1989 ■ Issue 103**

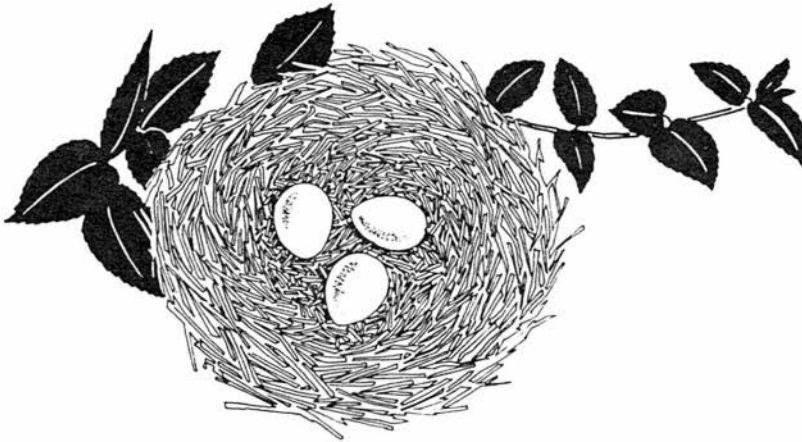
**Cover:** A scene from *The Man With Nine Lives*. Dr. Mason removes the cryonically suspended coroner from the deep freeze, while Dr. Kravaal and Nurse Blair look on.

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## EDITORIAL MATTERS

Among the many things which distinguishes Alcor as unique among cryonics organizations is its interest in and concern for preserving cryonics history. Our efforts have not been spectacular in this area owing largely to so many other pressing concerns -- but they have been significant. Preoccupation with history, art, and music are the hallmarks of societies that have "made it" and are no longer almost exclusively focused on the day-to-day struggle to survive. Perhaps one of the reasons why there is so little cryonics art, music, or historical writing is that we are still on the ragged edge; still faced with too many perilous, anxiety-provoking, moment-to-moment struggles to stay alive. Thus to date our art and our history have been fragmented and stunted.

Nevertheless, we try. We have collected and continue to try to collect every bit of cryonics history we can. One of the most puzzling and sad things we have encountered is the reluctance of some cryonicists and cryonics organizations to preserve the record of the past. Sadder still are cases where individuals and groups have made active efforts to *destroy* the historical record created by their and others' cryonics activities. Years ago Ev Cooper, founder of the Life Extension Society and the other man whom the cryonics idea occurred, destroyed all of his papers, correspondence, and personal records. His own subsequent loss at sea erased forever a wealth of priceless information. Sadly, Ev was not alone. Even today there are others who would discard our history -- for reasons those of us who wish to preserve it can only guess at.

The issue of *why* we want to hold onto the past is a complicated one, and really beyond the scope of Editorial Matters. Suffice it to say that if you have to ask, you'll probably never be able to understand. Perhaps it is best said that our history is like our memories. It is an important part of who and what we are. It is a critical part of our *identity* as cryonicists.

Fortunately, Alcor is blessed with those who are unafraid to confront the past -- whether it be the past of others or their own. In the March issue of *Cryonics* we will be bringing you a remarkable series of photographs and an article by Ted Kraver, one of the engineers who built the first human cryogenic storage unit and a founder of Cryocare Equipment Corporation. Ted was also one of the people who froze the first man, who incidentally wasn't a man at all -- rather she was a woman.

But before Cryocare, before cryonics, in fact, long before Robert Ettinger ever put

pen to paper to draft the *The Prospect of Immortality* there was a man named Ralph Stanley Willard and a remarkable movie called *The Man With Nine Lives*. This is not quite a tale of cryonics but it is wonderfully close. It is a part of the cultural heritage from which we cryonicists have sprung and a fascinating and prescient story that confirms yet again the maxim that he who does not understand history is condemned to repeat it. Perhaps that is the best justification of all for studying and preserving the past.

So, read on, gentle reader. This month we take you back in time to a vanished era, another time and place when the thoughts of many Americans dropped below the freezing point.

\* \* \* \* \*

### LOS ANGELES AREA MEETING PLACES NEEDED

Due to the career-related move to Northern California of our esteemed Secretary Paul Genteman and the exhaustion of several of our regulars, Alcor needs additional locations to hold its business meetings in the Greater Los Angeles area. If you can host roughly 20 people on a Sunday afternoon, please contact Hugh Hixon or Mike Darwin at Alcor, (714) 736-1703.

\* \* \* \* \*

### MEMBERSHIP COUNT

Alcor now has 118 Suspension Members, 187 associate members, and eleven members in cryonic suspension.

\* \* \* \* \*

### CRYOFEST '89

Fred and Linda Chamberlain, the founders of Alcor, are planning a get-together for cryonicists in their home town of South Lake Tahoe on Memorial Day Weekend. Fred and Linda have hosted similar events in previous years, each called a Lake Tahoe Life Extension Festival, which concentrated on scientific and organizational reports.

This year the proceedings take a different focus and a different name. Titled CryoFest, the meetings will involve two panel presentations concerning the political climate for cryonics in California, and on telling outsiders about the cryonics way of thought. Other scheduled activities include hiking in the High Sierras and calm-water river rafting. Unlike the previous Lake Tahoe Life Extension Festivals, this year's schedule includes several blocks of free time that allow participants to arrange activities of their own.

One of the open times is Saturday morning, May 27. The administrators of the Alcor Suspension Team and Coordinator's Program thought this would be a good time





to organize a gathering of our own.

**WHAT:** We have scheduled a special workshop for those Alcor members wishing to either: 1) Become full fledged Alcor rescue Coordinators; or, 2) learn what they can do to improve their own chances for rescue in the event of a local emergency. This workshop will be conducted by Alcor Transport Team instructor Mike Darwin and Alcor Midwest Coordinator Steve Bridge. The workshop will focus on the practical, brass-tacks things that Coordinators and even individuals can do to improve their chances. It will also highlight recent changes in the Alcor transport protocol which are designed to further reduce ischemic injury.

**WHEN:** The Coordinator's Workshop will start at 10:00 AM PST on Saturday, May 27, 1989 and will adjourn at 12:00 noon. This will allow attendees about an hour for lunch before the official Cryofest activities begin.

**WHERE:** The Workshop will be held in the Sugar Pine room of the Lakeland Village Condominium complex. Lakeland Village adjoins the campus of the Timbercove Lodge where Cryofest is being held.

There will also hopefully be a semi-informal session on *Ischemic Injury And Its Prevention In Cryonic Suspension Patients*. The time, place and participants are yet to be determined, although Sunday evening or Monday afternoon seem like possible spots. We are a bit vague on this session because we are not yet sure how many of the critical people needed to make it a reality will attend. Nevertheless, we would like to encourage discussion on this issue since the field of cerebral resuscitation is rapidly evolving. In the laboratory it is now possible to recover a number of animal species including primates *without neurological deficit after as long as 15 to 20 minutes* of ischemia (no blood flow) at normal body temperatures! It is an urgent priority of Alcor's to adapt these emerging technologies to the transport of cryonic suspension patients.

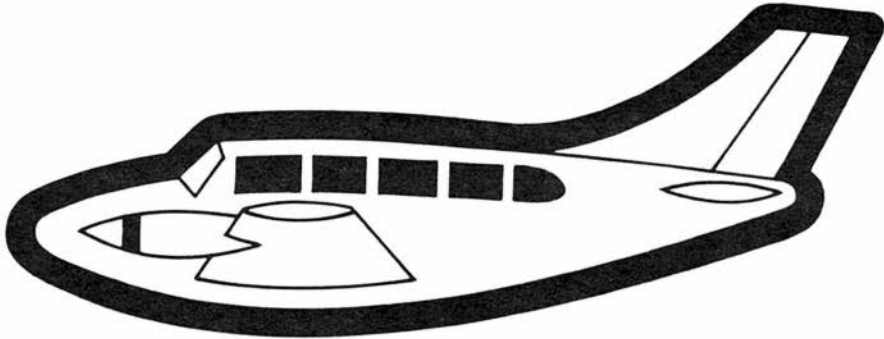


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## NEW CAPABILITIES, NEW SECURITY

Cryovita Laboratories (which provides perfusion services to Alcor) and Alcor have concluded several agreements in the last month which go a long way toward improving the range, professionalism, and security of members' suspension arrangements with Alcor. Early in January an agreement was completed between Cryovita and a skilled cardiovascular veterinary surgeon and physiologist to provide back-up surgical expertise to Jerry Leaf -- who currently performs the cardiovascular surgery on Alcor suspension patients. The second surgeon joining Cryovita has over 10 years experience in cardiac bypass surgery and will be available to handle situations where Jerry is away on vacation or remote stand-by, or is otherwise unavailable.

Two other agreements covering transport services were also concluded in January. Cryovita and Alcor now have signed agreements with one of the largest international air ambulance services in the United States for 24-hour availability of paramedics and an emergency room physician for transport of Alcor suspension patients. This company is based in Florida and will primarily be providing services for Florida Alcor members. A second agreement with one of the paramedics for this company has also been reached and he will be carrying a beeper and be on-call for Alcor in that area. A special training



session to acquaint the physicians and paramedics on-staff with this firm with Alcor procedures and requirements will be held shortly after Mike Darwin's return from Europe.

These professionals have been put on retainer by Alcor and their services will be made available to Alcor members who have adequate additional funding and who desire them. The cost of jet air ambulance service from the midwest or eastern seaboard is roughly \$12,000 (\$11,750 from Miami to Ontario airport). Members wishing to avail themselves of rapid air transportation to Alcor should plan accordingly to increase their suspension funding available to Alcor.



### COST INCREASE AHEAD?

While on the subject of funding it should be noted that Alcor is in the process of evaluating charges for neurosuspension and costs may rise on this option in the near future for *new members*. One of the major reasons why this may have to be done is that as our membership grows we are beginning to get members in states which do not allow common carrier transportation of "bodies" unless they are embalmed. The only alternative in such a situation is to charter a private carrier such as a jet air ambulance (see story above) this can be very costly if the member becomes ischemic at a distance from Alcor's perfusion facilities in Riverside, California or Ft. Lauderdale, Florida. We know of no solution to this problem other than to average out the costs associated with this regulatory burden over all the suspension membership.

At first glance it would seem fairer to just surcharge suspension members living in those states that require embalming. The problem with this is that it is impossible to know where *any* member is going to experience ischemic coma. People who live in states like Indiana, which does not require embalming for common carrier shipment, may seek medical care in other states or go ischemic while traveling. Additionally, they may move from one state



to another after they complete their suspension arrangements.

It would seem we have little choice but to spread the costs of this bureaucratic nonsense around to everyone.

As a point of information we list below states which have a mandatory requirement for embalming if shipment is by common carrier. Many other states have restrictive legislation which mandates embalming if the decedent cannot be delivered to where he or she is going within 24 hours of the pronouncement of death.

\* \* \*

**States Requiring Embalming Prior to Shipment by Common Carrier:**

Arizona, California, Connecticut, Delaware, Idaho, Iowa, Kansas, Kentucky,  
Maine, Massachusetts, Minnesota, Nebraska, Nevada, Rhode Island, South  
Carolina, Tennessee, Utah, Virginia, Wisconsin, and Wyoming.

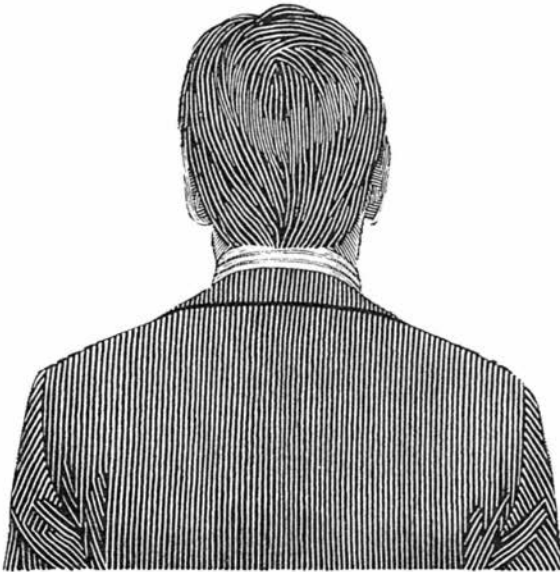
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Members living in those states may also wish to contact their State Funeral Directors/Embalmers Boards or State Department of Public Health to inquire if there are exceptions made or to find out about getting the regulations and/or laws *changed*.

\* \* \* \* \*

## DO WE KNOW WHO YOU ARE?

This is a reminder and a request for identifying information. Alcor is the organization most likely to be contacted *first* in the event of an emergency. The bracelet on your arm or the necktag around your neck link you to us and to your file. We are now getting large enough that we do not know each of you personally. We may not be able to describe you to authorities in a disaster and they may not be able to identify you rapidly even if we could. Both these problems can be addressed fairly simply by providing us with a good quality color photograph of yourself and, if possible, providing us with a set of your fingerprints.



The photograph is fairly straightforward. Next time you have your portrait taken, send a copy to Alcor. We'll put it in your file. The issue of fingerprints will be dealt with in a future issue of *Cryonics*. For those who just can't wait, most Check Cashing and Photo ID services have fingerprinting available for a modest fee. Additionally, some police agencies

offer this service free to the public, or can point in the direction of a professional who can do it for you.

Having a photo and picture on file will allow us to verify that it really is *you* we are receiving if you (and we) have the misfortune to be a Coroner's case or in an air disaster. (Consider that in the last year the Riverside County Coroner's office has twice released the wrong body to local mortuaries and has had nearly half a dozen near misses!)

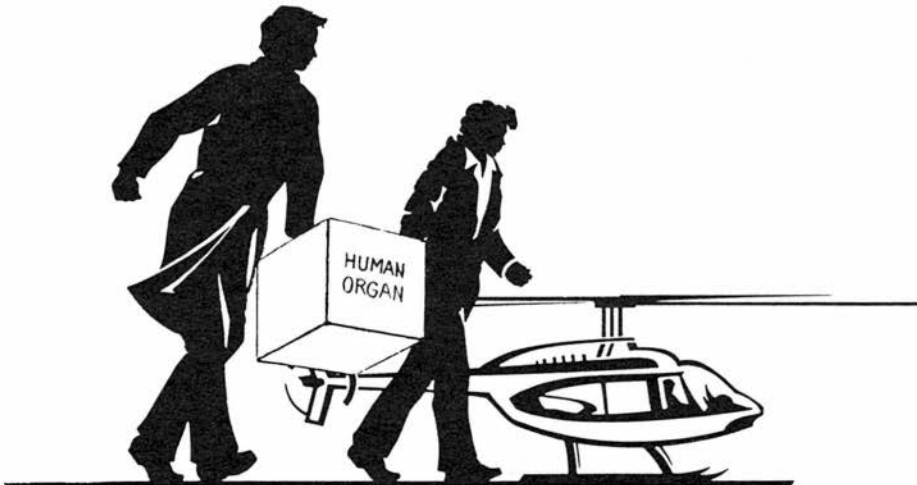
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## UW SOLUTION GOES PUBLIC

Cryobiologist and biochemist James Southard and surgeon and organ preservationist Folkert Belzer have been issued U.S. Patent No. 4,798,824 on the University of Wisconsin organ preservation solution (UW solution) which they developed. As long-time readers of *Cryonics* (November, 1987) may recall, UW solution was developed by Southard and Belzer several years ago and has dramatically extended the cold storage life of the liver, kidneys, and pancreas. Using UW solution it is now possible to viably preserve livers for up to 33 hours, whereas before even several hours of cold storage was likely to be injurious enough that survival of the recipient was in jeopardy.

UW solution has extended the storage time for kidneys to nearly 5 days! It has also allowed for complex, multi-organ transplants to be done. One recent surgery involved an infant boy, lasted 16 hours, and involved the transplantation of five organs. UW solution relies on the use of lactobionate, a variant of lactose, the sugar commonly found in mammalian milk, to minimize the cold-induced cell swelling associated with the use of chloride-containing solutions previously used for organ preservation (Alcor uses the less expensive sugar *sucrose* to the same end). Southard (and Alcor) also uses hydroxyethyl starch (HES) (a corn starch derivative) to minimize accumulation of water between the cells during perfusion with UW solution.

Beyond the general "good news" that UW solution or any advance in organ preservation represents for cryonics, there is the added bonus that DuPont Critical Care (DCC) will be marketing the solution. DCC also controls the distribution of HES, in the form of their



*Hespan* solution. The commercial availability of UW solution is of importance to cryonicists since it will mean that a high quality flush solution for use in the transport of suspension patients will be available for the first time as an "off the shelf item". Currently flush solutions for organ preservation (or cryonics transports!) are made up as needed by the local transplant coordinator. The cost to Alcor of having custom prepared solutions ready to pick up and go with at a moment's notice has always been prohibitive. This has often meant substantial time delays in flushing and cooling patients in the field and has presented serious logistic problems. Commercial availability of UW solution should solve these problems for us.

Bravo! Dr. Southard (and Dr. Belzer too)!

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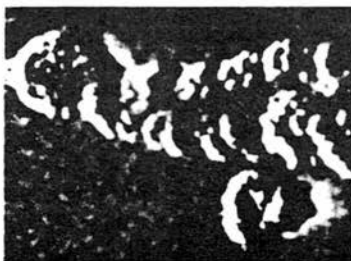
## DNA IMAGED WITH SCANNING TUNNELING MICROSCOPE

Despite the indifference of the world at large, or perhaps because of it, nanotechnology continues to race forward. The latest achievement is one of particular relevance to cryonics and cryonicists: the first STM image of DNA. Watson and Crick were right.

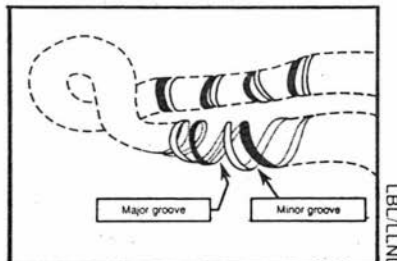
A grainy image released by Miguel B. Salmeron of the Lawrence Laboratory in Berkeley, California shows a naked strand of DNA pinned to a graphite surface. The image was made from a hunk of calf thymus DNA precipitated out of a concentrated potassium chloride solution onto a sheet of polished graphite. An area of the looped strand about 400 angstroms wide was imaged. The strand rises approximately 20 angstroms from the graphite background and exhibits a distance between turns of the coil of from 27 to 63 angstroms. With the current level of resolution it was not possible to visualize the four nucleotides that serve to make the molecule up.

This is a stunning achievement and opens up the possibility of rapidly and *directly* determining the structure and shape of a wide range of important biomolecules. Consider that 36 years ago it took James Watson and Francis Crick years indirectly puzzle out the structure of DNA, and behind that, many more years of work by Rosalind Franklin (X-ray diffraction), Erwin Chargaff (nucleotide chemistry), Linus Pauling and Max Peruz (secondary biochemical structure) and many others. Shortly, it may be a few days or weeks of work!

The STM and its sister the Atomic Force Microscope (AFM) should greatly accelerate the pace of our understanding of biological systems. Imagine being able to look at the molecular make-up of cells in the frozen state and directly evaluate the ultrastructural and biochemical effects of freezing injury instead of having to rely on almost impossibly indirect function-based assays.



STM picture of DNA.



Interpretation of STM picture.

# DREXLER INTERVIEW IN OMNI

The January, 1989 issue of *Omni* contains an interview of Eric Drexler by writer Ed Regis. The interview is a good overview of nanotechnology and some of its consequences, including its application to cryonics, but readers of *Cryonics* will find no startling revelations.

From its advertising, the bulk of *Omni* readers look more like consumers than creators, but the decision of its editors to interview nanotechnology's originator and leading exponent at least means that nanotechnology (and cryonics) have worked their way a little farther into the public consciousness, and in a favorable light.

\* \* \* \* \*

## THE LIGHTER SIDE....

As the cartoons on these pages illustrate, we have achieved some sort of recognition. These cartoons probably represent only a sample of what's out there. Frankly, we think such humor is a good sign. It demonstrates that people are trying to accommodate cryonics in their worldview, and that they are doing so with a relaxed, if bemused, attitude — not hostility or outrage. Who knows, cryonics may fare far better than expected.

LIFE IN HELL

DO YOU SINCERELY WANT TO LIVE FOREVER AT A PRICE YOU CAN AFFORD? THEN BRING YOUR HEAD ON DOWN TO...

AIR-CONDITIONED *Akbar 'n' Jeff's* IT'S COOL WE DE

# CRYONICS HUT

DO YOU SMELL SOMETHING FUNNY? I ALTER CHECK THE THERMOSTAT

NOT A SCI-FI PIPEDREAM BUT AN ACTUAL BUSINESS VENTURE

CHECK OUR LOW, LOW PRICES

- WHOLE BODY FROZEN \$ 295<sup>99</sup>
- HEAD ONLY \$ 195<sup>99</sup>
- BRAIN ONLY \$ 85<sup>99\*</sup>

\* PLUS CLEAN-UP FEE

DINNER IS SERVED JUST KIDDING

YES WE HAVE PARTY ICE

SHOP AND COMPARE !!!

METHOD OF POST-DEATH CARE	BODILY TISSUE RESULTS	CHANCES OF RESUSCITATION
BURIAL	DELAYING, WORMY	SLIM TO NONE
CREMATION	DRY, DUSTY	NONE
BURIAL AT SEA	BLOATED, WORMY, CHUNKS MISSING	NONE
FROZEN IN A JAR	LOOKIN' GOOD!	QUITE LIKELY

24-HR. CARE

LIVING AGAIN IS THE BEST REVENGE!

BEFORE AFTER

WELCOME TO THE FUTURE, X-3957 YOU OWE US \$3 BILION IN INTEREST FEES

FREE PARKING WITH VALIDATION FIRST 431 YEARS FREE

"WHERE THE ELITE BEAT THE HEAT AND AVOID HAVING TO MEET ST. PETE"

©1988 BY MATT GROENING

Source: L.A. Weekly



Source: Daily Trojan (USC)



### UNRESOLVED OEDIPAL COMPLEXES # 33.

Source: Tampa Tribune



"When I die I want my head frozen . . . in Retin-A!"

## LITIGATION NOTES

From *Computer World*, January 23, 1989, p. 2.

## E-mail bust generates privacy rights uproar

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BY J. A. SAVAGE  
CW STAFF

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SAN JOSE, Calif. — When deputies from the Riverside County, Calif., coroner's office raided the offices of the Alcor Life Extension Foundation, they were looking for the head of possible murder victim Dora Kent. They did not find the head, which had been cryonically frozen at death in hopes of later resuscitation. Instead, they took the foundation's eight personal computers, including the electronic mail stored within.

As a result, three San Jose computer consultants, led by Keith Henson, filed a class action lawsuit against the Federal Bureau of Investigation last month for failing to investigate what they claim was a violation of the Federal Electronic Communication Act of 1986. Henson said that while the county's search warrant allowed seizure of computers and storage devices, it did not specify confiscating electronic communications and thus

violated federal law.

The consultants said they spent a year trying to get the FBI to check into the county's legal standing in seizing private communications without a warrant. According to the lawsuit, the U.S. Attorney's Office provided "no substantive response" to Henson's request for investigation. A letter dated Nov. 4, 1988, and addressed to Rep. Norman Mineta (D-San Jose) from the U.S. Department of Justice said that "there is no competent evidence upon which to base a federal prosecution."

The U.S. Attorney's Office, on behalf of the FBI, has yet to file an answer to Henson's complaint and refused to comment on the lawsuit.

The class-action suit seeks to represent all users of E-mail as well as members of Alcor. The nonprofit organization will store all or part of the bodies of its members at death at very low temperatures "until medical technology exists so they can be revived," according to Hugh

Hixon, Alcor board member. "Evading death is a very serious matter," he said.

Specialists in computer security law say that the Electronic Privacy Act is ill-defined and has little case law to back it up.

Jonathan Wallace, a New York attorney specializing in computer-related law, said the act's biggest problem is that "it doesn't clarify [E-mail such as Alcor's] status as a closed system."

He added that if the judge issuing the warrant was not told of the E-mail existence, then Henson "has a decent argument."

The act requires that a warrant can be issued for E-mail "only if a governmental entity shows . . . relevancy to a legitimate law enforcement inquiry."

The lawsuit asks that the FBI investigate the actions of Riverside County law enforcement in this matter. Meanwhile, the county, which is not named in the case, has handed its investigation into the possible homicide of Dora Kent to the grand jury.

## HIT AND RUN

The media coverage of cryonics hasn't been all rosy. The two brief, but vicious little excerpts which follow should open everyone's eyes to just how far we have yet to go. Bet you didn't know it, but cryonics was a fad that died out a long time ago, right? Boy, have they got a surprise coming.

\* \* \*

From: *Politics, People & Opinion*, Update, Wednesday, January 4, 1989

(Note: Update is an L.A. area gay newspaper)

Dick Clair, 57, the creator of the hit TV show *Facts of Life*, recently died of AIDS. He was one of Hollywood's most successful and well-known TV writers and producers (*The Carol Burnett Show*, *It's a Living*, *Flo*, etc.). Anyway, this asshole left between \$5 million and \$20 million in residual rights to his work to ALCOR, the California-based collection of nuts that freezes bodies in the hopes of reviving them!

Yes, Dick Clair's body is now in deep freeze in the city of Riverside until it can be thawed back to life... after an AIDS cure is found. While he left millions to those crazy ice queens, he left not one penny to AIDS. A power failure would serve this idiot right!

-- Nichole Ramirez-Murray

(Other remarks by this columnist indicate that he is upset by the number of funerals he has been attending recently.)

\* \* \*

From *LIFE* magazine, the February, 1989 special feature on the 21st Century.

"We made it anyway, and without cryogenics. Remember that fad? We were going to use a temperature of -320°F to preserve organic matter, à la *The Thing*. We were going to freeze ourselves and not thaw out until we agreed with the way that life was being conducted. We should have had more sense -- should have taken our cue from Sir Francis Bacon, who died testing the hypothesis in 1626. He caught pneumonia while stuffing a chicken with snow."

-- Gregory Jaynes

(Perhaps he went to the cemetery and asked if everyone was happy.)

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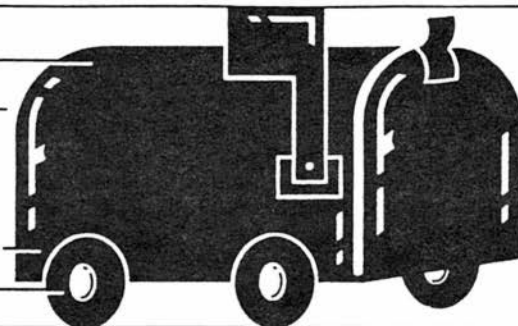
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*Letters to The  
Editors*

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Dear Cryonics:

Perhaps I'm reading this wrong, but does Donaldson really mean to imply that better eyesight would bring on a craving for small rodents? (*24th Century Medicine*, December, 1988) Or to put it another way, that only bird brains can have telescopic vision.

I will readily grant that to fully utilize improved senses we would need an improved nervous system. Not one necessarily resembling a bird's, just improved. I'll go further: In order to fully utilize the senses we have now we would need an improved nervous system. But this isn't to say that a great deal couldn't be gained without redesigning our brains from the ground up.

Imagine if you will a pair of eyes built using nanotechnology to attain the limits of physical law. Diffraction-limited, a wider visual field, greater spectral range, you name it. I'll go along with Donaldson; Your optic nerves couldn't handle the data rates, and your brain has no way of representing phase, polarization, spectral distribution, and so forth. But your brain can't handle the data your eyes produce anyway -- you have to resort to selective attention. So put some intelligence into those eyes, and they can map their data into the resolution and data types your brain expects. You could have some sort of network of sensors through your brain which would determine just what aspects of the world you wanted to see, and the eyes would respond by displaying polarization as little arrows, shifting your spectral sensitivity, or mapping your visual field onto smaller portions of the retina to produce telescopic vision. It wouldn't be as good as having a brain which could handle all that data raw, but it would be an improvement over our present vision, and it wouldn't induce a craving for rodents.

Is anyone interested in sharing a room at Westercon? I'm thinking of going this year (instead of to the World SF Convention) and I understand quite a few Alcor members attend it.

Speaking of SF cons, I was at a small convention in Southfield, MI just last week, and what should I find being handed around but Keith [Henson's] electronic mail lawsuit package. It was being handed out by a space activist, but it did spark some discussions of cryonics. There was even an FBI employee there reading it, but he said he worked out of a Cleveland branch, and didn't see what he could do.

When the going gets tough, as with these legal problems, just remind yourselves that someday these will be the good old days. Isn't that an encouraging thought?

Brett Paul Bellmore  
Capiac, MI

I feel that Thomas Donaldson's sarcastic aside about public appreciation of neuropreservation (Letters, January, 1989) is not particularly insightful. Any horror attached to the resurrection of the brain of some psychopath is strictly related to the realization that the brain is where it's at. Who is going to get the chills, even among the couch potato set, with titles like, *They Saved Hitler's Liver*, or *They Saved John Doe's Brain*. Public perceptions are at once a combination of ignorant naivete and hard-nosed realism, and not subject at all to some simplistic explanation of what everyone everywhere thinks (or what some "authority" thinks they think). People are much more complex than that.

Re the wondrous things that happen in myths, we should make one thing very clear: *What we intend to do is explicitly in no way part of any myth. We are creatures of technology -- a much more powerful force, since it can DELIVER.* The mighty hero may harness up his goat chariot and go whizzing across the worlds, but I've got a plane to catch.

Hugh Hixon  
Riverside, CA

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## **CRYONICS THE HOME TOWN WAY: PRACTICAL PLANNING FOR A CRYONIC SUSPENSION IN YOUR OWN AREA.**

by Steve Bridge, Midwestern Coordinator

So, you're all signed up with Alcor; you've got your life insurance policy; your will is impeccable; you are wearing your shiny little bracelet or necktag. Now all you have to do is live your life and Alcor will take care of everything else, right? If you live in Southern California, especially in Riverside County, you might be able to say "right." But if you live in the other 99% of the country, the answer is: WRONG! WRONG! WRONG!

For most of us in this big world, Alcor is too far away to handle all the steps of an emergency. Alcor *is* a mutual aid society and its staff and Suspension Team will do everything humanly possible to suspend you should the need arise. But while Alcor may be our friend, it is not our *mother*. If you want to be suspended in as good a condition as possible, and if you want the same treatment for your nearby friends and family, there is a lot you must do for yourselves.

In Indianapolis this fall, we had the first full test of the Alcor Cryonics Coordinator program, which was established in 1986. The basic purpose of this program was to establish various members around the country (and in other countries) as leaders for members in their areas. It was apparent twenty years ago that the need for prompt response to emergencies would eventually require regional suspension facilities. Of course, such sophisticated local organizations are hopelessly impractical at the current stage in Alcor's growth, but Alcor's leaders felt that there were interim steps which could be taken. Two types of coordinators were appointed (some individuals could function as both types). Some would share information, speak to the public, and/or follow up on membership leads. Others could receive enough training to be able to coordinate the first steps of a suspension. These steps might include:

1) Arranging with hospital personnel, the coroner's office, or other officials to effect the transfer of the patient's person to Alcor after the patient's legal death.



Steve Bridge

- 2) Arranging for a mortician to pick up the patient and transport him to his facility.
- 3) Packing the patient's body (especially the head) in ice to stave off the damaging effects of ischemia.
- 4) Providing cardio-pulmonary support.
- 5) Providing for air transport to Alcor's Riverside facility.

And some individuals with more extensive training might be able to:

- 6) Put in an I.V. and administer various first level medications to further reduce ischemic damage.

Currently, Alcor maintains fully equipped facilities in Riverside and in South Florida. Thomas Donaldson in Northern California and myself in Indianapolis also have rescue kits and much of the training necessary to use them. I am sure that Thomas, the Florida team, and our Alcor members in Australia and England have their own stories of what preparations they have made and ideas they have which might be useful for all of us to know. I hope they will each share those someday. My perspective will be a bit different, however. Here in Indianapolis, far from any cryonics facility, three local members and myself managed to prepare pretty well for a cryonic suspension, which we then actually accomplished under the direction of Mike Darwin and Jerry Leaf. In the November, 1988 issue of *Cryonics* ("The Cryonic Suspension of Alice Black"), you read how the suspension occurred. In this article, I will describe the organizational background required to do this, with suggestions on how you might organize your friends to do something similar. While you might not be ready for the full responsibilities of Coordinator, there is a lot any Alcor member can do to increase his or her chances at a successful suspension.

### Getting Your Thoughts In Order

Preparing for a suspension will obviously be pretty difficult if you are the only suspension member in your area. Any kind of organization you can put together will have to be planned far in advance of a serious illness and must rely on the commitment of friends and family who are not dedicated to the idea of cryonics. One of the most important motivators for commitment to the work required for a suspension is the thought of each participating suspension member that they want the same level of dedication from others when their own ischemic coma begins. If you do not have that advantage, you may have to encourage cooperation through financial means. You could (for example) place a sum of money in a trust account, which would be paid out in fees to your physician, mortician, attorney, friends, or family only if they properly assist in getting you suspended.

While this level of organization will require some commitment of time and resources on your part, you may be surprised at how many people are quite willing to cooperate. Many people who do not themselves desire to be suspended nevertheless see cryonics as a rational choice. This is especially true if you have presented it to people as the result of a *rational decision* on your part.

Whether you are by yourself or part of a group, the first essential step is: *Tell people you desire to be suspended.* Make this known to your family, friends, co-workers,





and neighbors; discuss your wishes and commitment in detail; emphasize the seriousness and long-term nature of your decision; make sure they understand that you have made definite legal and financial arrangements to ensure suspension. This course of action gives you many advantages:

1) If you die or become incapacitated suddenly without anyone knowing of your wishes, your Alcor bracelet may well be ignored, and the odds on you getting suspended become extremely low. However, if you have been honest and open about your desires, there will be many people available to call Alcor, to refuse permission for autopsy, to pack your head in ice, etc.

2) If your friends and family have known of your interest for several years, they are more likely to consider your decision acceptable and less likely to panic when it comes time to call Alcor. (Some of your friends and family might even become interested in cryonics themselves -- an advantage for all of you.)

3) It will be impossible for anyone to claim that some cryonics organization suddenly had taken advantage of your illness to defraud you of your money (and to defraud your relatives of their inheritance). This is a serious consideration, proven by several real-life conflicts with relatives by Alcor and other cryonics organizations.

If you are worried that you will lose all of your friends and be thrown out of your family if you tell them of your interest in cryonics, past evidence (including my own personal experience) suggests that your fears are probably unjustified. Your family will be surprised, perhaps even shocked at first; but your involvement in cryonics is unlikely to make them change your opinion of you. If they loved you before, they will still love



you. If they already thought of you as a damn fool and a crackpot, cryonics is hardly likely to change that opinion either. You may lose a friend or two, but rarely a close one; and many of your friends will actually see you as *more interesting*. Besides, you will gain many more friends in cryonics than you will lose elsewhere. I have had two romantic relationships badly affected by cryonics; but I can realistically say, in retrospect, that I am much better off now with someone who shares my views than I was with someone who did not. In any case, if you are deciding to stay alive, is not that decision more important to you than the sensibilities of friends and family? Few important decisions have 100% positive results. Part of growing up is to accept all of the results of our decisions and go on. If you have strong convictions, you must stand up for them.

Finally, some members state that they don't want to tell anyone about their decision to be frozen because it would "upset" their family or friends too much. Now if these people are honest with themselves, the real reason is more likely that they are short on confidence and are afraid to test their family's love for them. Still, consider this: It will be a lot easier for your relatives to handle this information coming from *you*, when they can still ask questions and give you a hug, than it will be after your legal death when I or someone else try to explain to them that we are carting your body (or head!) off to California to be frozen. The latter course may eliminate *your* pain, since you won't be there to deal with it, but it will certainly increase the pain of others. If you really love your family and friends, give them the chance to know your true feelings.

Whether you are alone or part of a group of suspension members, most of the following suggestions will be useful to you.

#### What You Need To Prepare For

There are two basic scenarios you will need to prepare for. The better circumstance (which we in Indianapolis had for our first experience, thankfully) is that of a member who is hospitalized, in a nursing facility, or at home, with a relatively slowly developing illness (cancer, congestive heart disease, pneumonia, emphysema, etc.) This is better because it gives you and Alcor more time to prepare and because it lessens the need for an autopsy, since the cause of death will usually be well established in advance. With advance warning,



Alcor has the possibility of sending a team out to your location to assist you at the time of legal death. (Don't let this make you lazy, though. They can't hang around for weeks at a time, and you still need to have the same basic preparations accomplished.) In this case, Alcor would send out half a dozen crates of equipment and a transport team (probably two people), so they could do a full blood wash-out (but not a glycerol perfusion) at the mortician's before bringing the patient back to California.



The other circumstance will require more advance preparations and be harder to motivate yourself for: a sudden, unpredicted illness or injury of a member (maybe yourself!), with legal death occurring before your organization can be called in, and possibly with the member being in ischemic coma (without circulation) for many hours before you can do anything for him or her. In this case, the object is to cool (not freeze) the patient as rapidly as possible, pack him in ice, and ship him to Riverside. This may require negotiations with hospital personnel, attorneys, police, and coroners. An emergency like this means that your advance preparations must be thorough.

### Physician

"A cooperative physician is a thing of joy forever." If you can manage to get a cooperative physician and mortician, a great number of your problems will be solved. If you manage to get either one, that person might help you find the other.

Ideally, the physician's duties would include:

- 1) Interceding for you with hospital or nursing home staff to ensure reasonable discussion and cooperation.
- 2) Avoiding medical treatments (such as long periods of resuscitation without cerebral blood flow) which would tend to damage the patient's chances for future recovery.
- 3) Planning for his own prompt arrival at the nursing home or hospital to pronounce legal death.



4) Authorization and perhaps administration of cooling, CPR, and post-mortem medications to prevent brain damage.

5) Prompt release of the patient to Alcor representatives or to the cooperating mortician.

I can't tell you much about how to find a helpful physician. Many physicians are willing to be cooperative when the emergency occurs, yet will not commit to such action in advance. Most physicians fear legal action more than death. You will just have to be persistent and keep asking. Giving your doctor a completed copy of the "Patient's Declaration to Physician" and the "Agreement to Hold Harmless" may be helpful. At least it shows him that you intend no harm to him. Don't count on him signing your "Physician's Affidavit," though. I'm not sure if anyone has ever signed it. (We keep hoping someday to find a format that physicians *will* agree to.)

We were incredibly lucky here in Indianapolis, since the patient's personal physician seemed totally unperturbed by this idea. He agreed to come promptly to the nursing home to pronounce legal death, to advise us on the patient's condition, and to advise her son, "Jim," on his decisions concerning her medical care. He would not agree to administer the medications after her legal death; but not many physicians are willing to do this anyway. While it would be handy for this to be done by the physician, it is the least important of the ways in which he can cooperate. You will be doing well indeed if you can find someone who can promise the rest.



## Mortician

Just as important (perhaps more so in many circumstances) is a cooperating mortician. The list of a mortician's duties and abilities includes a number of things which you may find legally impossible to do for yourself. Fortunately, Alcor's experience is that cooperative morticians are somewhat easier to locate than physicians. For one thing, handling and transportation of deceased human beings is their *job*. They do it every day; they know the laws and the customs; and they are used to unusual requests and circumstances. Cryonicists might expect that morticians would tend to be defenders of the status quo since they profit, in a sense, from death; but, in fact, many morticians are independent thinkers who are not interested in following the crowd. They are practical businessmen who do not promote death, but merely see a job which needs doing. And you don't have to hem and haw with morticians. They have few, if any, of the taboos against talking about death or disposition of remains which afflict so many in today's society.

I suggest that you begin by asking your friends if they know any morticians. A friendly referral is usually a good place to start. If you cannot come up with a referral, try sending out a few friendly letters. Seek for an independent mortuary, not a big chain. Like anywhere else, the bigger the bureaucracy, the more conservative it probably is. Also try to find one which specializes in shipping bodies to other states.

They will know the procedures and the right people to make the shipping go smoothly. It is probably a good idea to have at least two cooperating morticians. Murphy's Law would indicate that the one time you need a mortician, your first choice will be on vacation.

When you begin interviewing morticians, tell them your basic requirements. If they do not seem interested, ask if they can recommend anyone else. That is how we got our mortician in Indianapolis (courtesy of member Angalee Shepherd's efforts), and it only took about four phone calls. Before going into details with the mortician, simply say that: a) you want to contract with him to use his facility for the initial steps of a cryonic suspension (freezing someone after legal death); b) that this would include his cooperation in picking up the "body" (I would use this word initially, rather than "patient") from the nursing home and arranging for air shipment to California; c) that you would not ask him to do anything illegal; and d) that he would be reasonably compensated for this.

When a mortician agrees to talk with you further, you will need to explain his duties in detail. Do not expect that he will think of everything on his own. We nearly had a problem with our recent suspension when our mortician booked shipment to California for the patient, but neglected to book flights for the suspension team. We hadn't asked him to do this, so why should he have thought of it?

#### Fees



"Reasonable compensation" may vary according to the locale and situation; but we suggest that a fair beginning point would be to offer \$500.00 for use of his facilities for a simple "pack in ice and ship," and \$1000.00 for a full blood washout, cool-down, packing in ice, and shipping. Shipping charges would be extra and would be paid either by Alcor or by you (see "Air Shipment" later in this article). If any member of his staff wishes to assist with the patient preparation, the staff member would be compensated by Alcor at his full hourly rate.

#### Mortician's Duties

a) Pick up patient at the nursing facility, hospital, etc. Sign whatever release forms are required. Complete mortician's part of the death certificate. Obtain burial/transit permit and fill out correctly (with consultation from Alcor).

b) Transport patient to mortuary. Allow your local group to use mortician's preparation room to pack patient in ice and seal up shipping container, *or* allow Alcor transport team to do blood washout and other procedures (primarily using Alcor's equipment) in preparation for shipment.

c) Arrange air shipment to Ontario Airport, California at earliest possible time. Shipment should be *non-stop* (i.e., no change of planes -- a brief stop in another city is acceptable). Arrangements for transportation for any Alcor personnel returning to California should be made at the same time, either by you or by the mortician. At least one Alcor team member should be on the same flight as the patient if possible. If not, it would be best to have at least one team member return *earlier* than the patient.

d) Transport patient to airport and deliver to carrier.

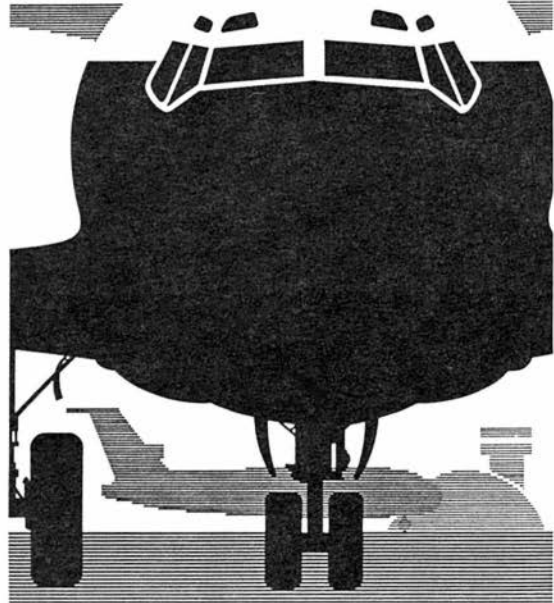
If a transport team member is not on the same flight as the patient, a local member must watch and make sure the patient is actually loaded on the plane.

e) File death certificate and obtain at least three (3) certified copies: one to be sent Federal Express to Alcor; one to be given to next of kin; and one to be kept by the local group (if such a group exists). In most situations, a FAX copy of the death certificate should also be sent to Alcor as soon as it is available.

### Air Shipment

Often, transport will be made by "common carrier," i.e., a regularly scheduled passenger airline, via its air cargo service. Payment should be made to the air carrier by a local member, or a member of the patient's family, or the patient may be shipped collect to Alcor, depending on the arrangements made with Alcor. If the patient has normal or above normal funding, the transportation costs will come out of his or her suspension fund. But don't guess at this -- make precise arrangements with Alcor as the case occurs.

In the recent case in Indianapolis, our patient was shipped out via *US Air*. The weight of the loaded container was 437 pounds (a small patient, but a lot of ice). The rate was \$120.80 per 100 pounds (the normal shipping charge of \$60.40 per 100 lbs. is doubled for human remains), for a total charge of \$527.90.



Note: there may be cases where a carrier will not normally allow shipments or pickups by the receiver on weekends. Special arrangements may have to be made before shipment to allow for this. Pointing out that you are shipping a unembalmed body on ice for the purpose of an anatomical gift will frequently convince the carrier that they don't want this package sitting around for a long time.

Further note: The regulations for shipping unembalmed human remains vary significantly from state to state. Most states will allow such shipment by common carrier as long as the deceased person did not have one of a list of highly communicable illnesses. Know those details before any suspension is even contemplated. Alcor keeps a list of such regulations, and your mortician should also have such information in his *National Directory Of Morticians* (frequently referred to as the "The Red Book"). You should also be able to obtain the regulations on this from the division of your State Board of Health which deals with human remains.

If you get caught by one of these regulations, it may be necessary for you to hire a private air ambulance to fly the patient to Riverside or even drive the patient to the destination if it is within driving distance. Even then you may have to go through a lot of legal flack to accomplish one of these. Staying on the good side of a hot-shot attorney or two is always useful.



## Air Shipping Case

The air shipping case we used was one put together by Alcor and sent to us when it was apparent that our patient's ischemic coma was imminent. Alcor only has one of these, though, and it won't do any good if you have an emergency situation. But you certainly don't want to be shipping your patient in anything less. Putting your patient only in a "Ziegler case" (the standard metal container for shipping human remains) could cause problems if one of the ice bags should rupture or be poorly sealed. A leaking or sweating container would probably result in an investigation, complete with local health department and possibly the coroner -- a delay which is definitely something to be avoided.

Fortunately, this shipping container is something which nearly anyone should be able to put together for around \$200.00. It consists of a standard "Ziegler" case placed inside a custom-made 1/2" "marine exterior" plywood crate and insulated with styrofoam and fiber glass insulation. The Ziegler case can probably be purchased from a local casket company for about \$165.00. You could make the box yourself or have it made, possibly even by the casket company.

The shipping box should be made enough larger than the Ziegler case to allow for 1" of styrofoam in the bottom and on all four sides, but so the case will fit tightly. Do not overestimate. Passenger planes have a limited cargo area and a box too large simply won't fit, no matter how much you plead. A *US Air* cargo employee suggested that the outside dimensions of the crate not exceed 32" high, 42" wide, and 80" long.

The object is to make a watertight container. Mike used urethane varnish on the inside of his box and oil-based paint on the outside (latex would also be fine on the outside). The outside should be painted orange or some other bright color to make it easier to see it being loaded on the plane and to make it easier to trace if it somehow gets mis-directed. As you assemble the parts of the box, caulk all joints with paintable grade silicone caulk. Use screws -- not nails -- to hold the pieces together, including the lid. If you want to get the unit back from Alcor, you should include your name or the name of your group on the *inside* of the lid. *Do not* include any outer labeling which might make a carrier nervous, such as "Frozen person. Handle with care!"

Note: Here is a great opportunity for someone with good carpentry skills to contribute to the organization by contracting to build these units for various people at a reasonable price.

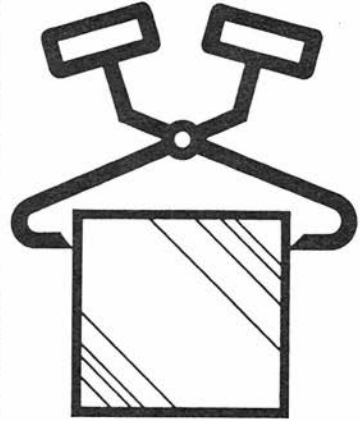
*Placing the patient inside the unit:* The patient should be placed inside a plastic body bag (you might be able to get one of these from your mortician) and laid inside the Ziegler case. The patient's body, beginning with the head, should be rapidly covered (above and below, as much as possible) with ice in Zip-Loc bags (1 gallon size), *tightly sealed*. Have at least 100 bags on hand. Get as many ice bags into the Ziegler as you can fit. Do not place ice bags around the outside of the Ziegler. Before sealing the top of the Ziegler case, if there is room, lay a piece of fiberglass insulation -- paper side down -- over the body bag. Seal the lids on both the Ziegler case and on the plywood container with silicone caulk and screws. All of this care appears to work very well. When our patient's container was opened in Riverside after 12 hours of transportation, only about 10% of the ice had melted and the patient's core temperature was 1°C, exactly what we desired.

## Ice

The immediate availability of large quantities of ice is crucial to the protection of

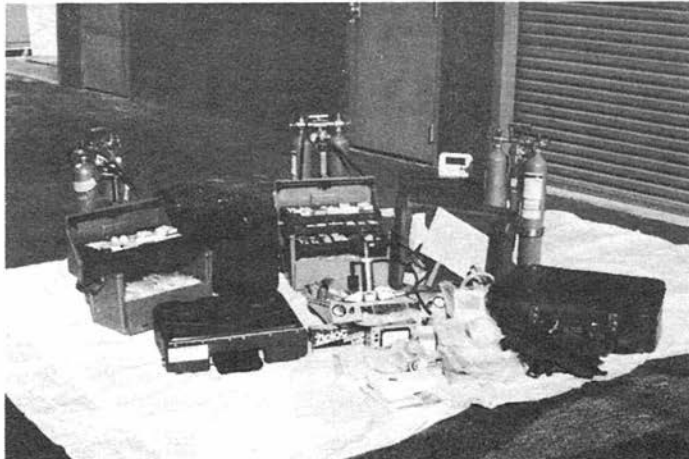
your patient. Reducing the temperature of the patient's brain is probably the single most important factor in preventing rapid ischemic damage. It is certainly more important than CPR. You will need to look for ice sources in the hospital or nursing home your patient is in (if you have the luxury of a warning), and you will need to check sources for large quantities (up to 500 pounds) of ice in your area. Obviously, this should be cube ice, not block. You don't have time to chop.

Indianapolis has only three major ice producers. None offer 24 hour delivery, but one company has a 24-hour vending machine where one can get 15-pound bags by feeding quarters into the machine. (We now keep a supply of quarters on hand.) You will need to have this sort of information in advance. Mike suggests it might be possible to make some kind of personal agreement with employees of an ice company to give you emergency service for a fee. We were fortunate that our patient's nursing home had a large ice machine which we could use to do rapid cool-down at the nursing home. Also, her suspension began during normal business hours, so ice availability was not a problem.



### Oxygen

The Heart-Lung Resuscitators (HLR) we use on suspension patients are powered by the same pressurized oxygen they deliver to the patients. (Talk to Mike about the availability of HLR's.) As part of our HLR setup, we have two "E" cylinders with a dual-tank yoke. The E cylinders are small enough to carry easily; but they only carry enough O<sub>2</sub> to run the HLR for 15-20 minutes. With the advance notice we had, we were able to arrange to have one "H" cylinder (about 200 cubic feet and hard to move) delivered to the nursing home and two others delivered to the mortuary. (With the anticipated question, "Say, why would you need oxygen at a mortuary?" I played dumb. "I don't know. They just asked me to wait here for the delivery.")



*Two sets of Alcor Coordinator's equipment.*

You will also need to know which oxygen companies offer prompt, 24-hour delivery. There will be several, since hospitals and home care services need this service. We are continuing to keep one H-cylinder at the mortuary for emergencies, to cover the time before a delivery could arrive.

Note: If a patient has undergone more than one hour of warm ischemia before treatment can start, we do not recommend the use of CPR, which might actually accelerate the damage. In that case, the patient would receive sternal compressions only, while medications are given, if even that is possible. Ignore the oxygen, cool the patient, and transport to California as rapidly as possible. (Details in "Emergency Instructions for Stabilization of Alcor Biostasis Patients".)

### Sterile water

If you have a situation where a total-body washout will be done, it will be handy for you to have about 16 liters of "Sterile Water For Injection." This is a bulky item and will save a great deal of trouble for the transport team. You can also use "Sterile Water For Irrigation", if it comes from a reputable company like Travenol. I recently purchased a case of nine 1500 ml bottles of Sterile Water For Irrigation for \$70.00.



### Pager

It would be useful for at least one person in your group to be available by pager at all times. The burden of being "on call" could be shared by several people, if you have that luxury. In any case, you should strongly consider this option if one of your members is likely to need Alcor's services soon. We compared local companies and ended up with a Motorola *Bravo Numeric Display Pager*. It displays the phone number you need to call, or any other prearranged numeric code. (For us, 999-9999 meant "drop everything and head for the nursing home.") This pager was a small size which easily fit into a pocket, but had a clear display. It cost us \$25.00 each per month and was very useful. We currently can't afford to keep up this expense, but we are hoping to start it again soon. Cheaper options exist, of course, and may be adequate for your needs, although we should point out that the reliability of answering services is subject to question.

### The Coroner

The tough question: Do you discuss cryonics with your local coroner or medical examiner in the hope that he or she will understand your point of view and be cooperative? You may get the tremendous advantages of cooperation; or you may discover you have sensitized an official who will do everything possible to prevent this suspension. Most coroners are probably honorable people who want to do their job well and avoid publicity (although this does not seem to fit the personality profile of coroners in Southern California). We have seen both obstructive and cooperative coroners in the past. Perhaps someone else has ideas on how to approach this.

One thing is for sure: if you have a situation which is not a coroner's case (as adjudged by your physician and mortician), there is no need to drag one in. Stay in close touch with Alcor to avoid this type of complication.



### The Press

While it is true that cryonics needs more publicity, you certainly don't need a bunch of hyperactive reporters running around while you are trying to save someone's life. If at all possible, keep the press out of the situation until the patient has left your care. This will not always be easy, since there will be many people, especially healthcare personnel, who will find out about the suspension as it proceeds. You cannot control which of them might decide to call her friend the reporter (or her friend, the policeman, for that matter).

In many cases, it is not even a very good idea for the press to become involved *after* the suspension. If you have an uncooperative or extremely private family, or if the legal climate at the time has made officials especially suspicious of cryonics (such as during the past few months), a low profile might be best.

If in spite of your best efforts, the press does become involved, or if you have a situation with a family or group that is *prepared* for publicity, there are two basic ways to handle it. Simplest is a brief statement to the effect that "My mother wanted cryonic suspension and made the legal arrangements for it. We are simply carrying out her last wishes." Then you should resist the temptation to answer any questions or provide any further information, except perhaps some official Alcor literature. Nothing will inflame a reporter's investigative instincts more than a story where little bits of strange information keep popping up.

If you want to tell all, hold a press conference (have your attorney there, too) and prepare to hold nothing back. Alcor leaders can probably advise you how to handle these, and may even be able to participate if they have had time to recover from the suspension itself. If you opt for full disclosure, *please* consult with Alcor first. Your friends in California will not be pleased if the reporters and coroners decide to hold another "surprise party" at the Riverside facility.

### Start Your Planning Now

I know that every cryonics group constantly harangues its members about the evils of procrastination. But many people have died and disappeared from our lives before they could "get around to" signing up. Others went into their terminal illnesses assuming they had done what was necessary to get to the future, but were lost anyway. We react to our pain and frustration by doing everything we can to prevent further losses. I am delighted if you have completed your documents; but please don't stop there. We really do want you to be there with us in the future. Following through on this advice will be a big step in that direction.

\* \* \* \* \*

### DEJA VU

by Mike Darwin

The place is California. The time is late summer. The subject: suspended animation. The media is full of it. A spectacular experiment has been conducted which opens the doorway to suspended animation in humans. Hibernation as a cure for the leading and most frightening causes of death is just around the corner.



Does the story seem familiar? Can you place the year, the date, the event? Can you guess what I'm talking about? Well, you're probably miles from getting it right.

The year is 1935. The month is August. The characters are a young, Russian-born and very media-hungry scientist named Ralph Stanley Willard and a rhesus *monkey* named Jekal. Willard leapt into the spotlight with a media demonstration of the "freezing" and "thawing" of Jekal. This was before the days of television so the men and women of the "global village" had to contend with second-hand reports. No live-at-five footage of Jekal waking up. Ahh, how Willard would have loved television.

I have known about Ralph Willard and his extraordinary claims since I was boy. I even managed to track down a brief newspaper article or two about him. But then I forgot. I must have been 13 or 14 years old at the time. It was a fascinating story, but I never pursued it. Willard was, I reluctantly concluded, a fraud. (A conclusion I still hold.)

I did not think of Willard again for over 15 years. And then, after a recent Alcor meeting, Steve Harris showed a remarkable film called *The Man With 9 Lives* (see his review later in this issue). There on the screen was Ralph Willard's name as technical consultant!

*The Man With 9 Lives* was made five years after Willard "opened" the doorway to suspended animation with his Jekal media splash. The film came about as a result of the legitimate work of two researchers from Temple University School of Medicine who were experimenting with the effects of deep hypothermia as a means of treating cancer. This research, published in the *Journal of the American Medical Association* must have filled Willard with envy and anger. After all, he had predicted all this and his work, at least in his own mind, had made the success of the "legitimate scientists" possible.

Thus the movie. It is a good movie. A prescient movie. Willard's "thoughtprints" are all over it. And they are thoughtprints which cryonicists, or at least Alcor cryonicists can identify with.

The irony of the situation and the sense of *déjà vu* it invokes in those of us who have lived through the events of the past few years are not to be described in printable words. Steve Harris does a fine job of telling the tale -- or at least part of it, in the movie review later in this issue. As to Willard's story? Well, that's another matter and one which we are still investigating. For now, we simply offer a page from history: *Time* magazine, dateline August 19, 1935. Enter Dr. Willard and an energetic primate named Jekal:



*Dr. Ralph S. Willard with monkey. (N.Y. Times photo)*



# SCIENCE

## Jekal & Mr. Simkhovitch

Last week California flared out again in the news as the favorite stamping ground of obscure young scientists who bemuse the nation by bringing "dead" animals back to life. Of all places in the world, Hollywood seemed the ideal spot for the spectacular experiments conducted for the past fortnight by young Dr. Ralph Stanley Willard.

Two weeks ago, Dr. Willard said, he took an ill-tempered, 20-lb. rhesus monkey named Jekal, asphyxiated it with ether, injected sodium citrate into its veins to prevent its blood from coagulating. When the animal's breathing and circulation had stopped, a chiropractor pronounced it "dead." Then Dr. Willard popped Jekal into an ice-box where the temperature was kept at  $-30^{\circ}\text{C}$ . ( $-22^{\circ}\text{F}$ ). Five days later he removed the small, rigid, grey clump of fur & flesh from the refrigerator, invited newshawks to watch the proceedings, began to thaw it slowly in a chamber equipped with heating coils and a fan. When the body was warm and pliant, Dr. Willard gave the monkey a blood transfusion, then injected adrenalin chloride solution into the belly.

Jekal opened his mouth, gagged.

Dr. Willard injected an ounce of anterior pituitary fluid.

Jekal grimaced, twitched spasmodically. "Alive!" exulted Dr. Willard. He filled his hypodermic with posterior pituitary fluid, administered that.

Jekal coughed, tried to sit up.

The final injection was vaguely identified by Dr. Willard as a sex hormone from sheep. In an hour, Jekal sat up, fingered the adhesive tape on his belly, stared about vacantly. In a day or two the creature was back in its cage, apparently none the worse for wear. In a corner of the laboratory lay the body of another monkey named Matilda, its belly turning blue. Matilda had been "frozen too fast," was dead beyond repair. In the ice-box was a third stiff monkey named Gaston, which Dr. Willard did not intend to revive until after a ten-day congealment.

The experimenter's declared purpose was to learn whether tuberculosis, cancer and syphilis might not be cured by prolonged freezing. Before entering the ice-box Jekal was tuberculous. After his resuscitation Dr. Willard examined the blood for tubercle bacilli, found none. It was his theory that cold inactivated the germs, prevented them from propagating.

Newshawks who spread this fat tale through the fairyland of the tabloids had little or nothing to say as to whether Jekal had actually died, by sound biological standards. The traditional definition of death is a careful one: "Permanent cessation of all vital activity." Stoppage of breathing and circulation are not reliable signs of death. Prison doctors may pronounce an electrocuted criminal "dead" when the heart stops but an immediate autopsy is always performed to make sure. Even when death is indubitable and permanent the actual moment when life ceases is vague because organs and cells outlive the individual. Apparently the

brain and liver die first, then the heart, next the skeletal muscle, then the stomach and intestines, then the cartilage and bone, finally the skin. The fingernails of corpses sometimes keep growing for days after burial. Stopped human hearts have been re-started time & again by adrenalin, electric needles, manipulation. It is true that no human has been revived after rigor mortis has set in, but scientists hesitate to call any organism dead until actual breakdown of tissue has started.

Judged by such criteria Dr. Willard's Jekal was not dead in his ice-box, because presumably the preliminary asphyxiation had failed to start decomposition. The hard-headed scientific view seemed to be that it Jekal was really as cold as Dr.



Keystone

DR. RALPH STANLEY WILLARD

For prisoners and the poor he favored freezing.

Willard said he was, the blood would have frozen and expanded, rupturing the blood vessels, and that in any case it was extremely unlikely that a warm-blooded animal could chemically survive the formation of ice crystals in the blood.

Ralph S. Willard was born in Georgia, in Southern Russia, 32 years ago, looks not unlike a composite picture of his renowned compatriots, the Brothers Mdivani. He studied chemistry at College of the City of New York, was employed for a time at Columbia University, drifted into experiments with frozen animals, starting with guinea pigs. He was preparing to freeze dogs when humane societies interfered. Then he turned to monkeys. Said he last week: "When I know that it will not fail, I will try a human being." He announced a four-point program: 1) Freezing long-term prisoners to save the cost of upkeep; 2) freezing armies, of jobless to await better times; 3) freezing curious persons who would like to come to life in subsequent centuries; 4) freezing would-be suicides in the hope that congealment would cure their despondency.

His words had hardly been slapped into

newsprint when 150 persons volunteered for ice-box treatment. The one selected by Dr. Willard, pending financing and development of apparatus for handling humans, was a burly, brooding scenario writer named Stephen Simkhovitch. Said Volunteer Simkhovitch: "I wish to know what happens when a person dies and I want to be able to come back and tell of these happenings. Life itself is unimportant. I want to do something for humanity for a change." Attorneys drew up a contract purporting to free Dr. Willard of responsibility if things went wrong.

Stephen Simkhovitch is a son of Dr. Vladimir Gregorievitch Simkhovitch, professor of economic history at Columbia University. Stephen's mother is bustling, pompadoured Mrs. Mary Melinda Kingsbury Simkhovitch, founder and head of Manhattan's Greenwich House (social welfare), president of the National Public Housing Conference. Informed at her summer home in Maine of her son's intention, she said it was her impression that Stephen was not doing very well in his career, added: "I can only hope it is some publicity venture in the way of scenario writing."

Nevertheless, she telegraphed a protest to the Los Angeles authorities. Dr. George Parrish, Hollywood health officer, observed: "Dr. Willard is entering a dangerous field. I am sure the law would not permit him to carry his human guinea pig idea any further than the exploitation stage."

At this point, as if to prove himself as lively as ever, Jekal somehow escaped from Dr. Willard's cluttered little laboratory, ran wickily through the corridors of an office building, snarling and baring his long fangs. Frightened tenants telephoned police. Dr. Willard arrived, calmly picked up Jekal, returned him to his cage.

# BORIS

# KARLOFF IN



# THE MAN WITH NINE LIVES

## A Mad Cryonicist Gets His Innings

Movie Review by  
Steven B. Harris

*"Revenge is a dish best eaten cold..."*

-- Proverb

\* \* \*

Most cryonicists who have any sense of the dramatic have at one time or another speculated that cryonics may have some potential as background for a movie or a play. In the cryonics idea itself there seems ample opportunity for such storyline staples as the eternal conflict between the visionary individual and society, and the eternal struggle of the mythic hero against Death. In addition, cryonics offers a chance for many dramatically effective action scenes, such as portrayals of cryonic suspensions and reanimations.

A plausible cryonics tale might be set in the contemporary world. Conflict might be generated when a cryonics researcher and a frozen patient are suddenly threatened with destruction by society, in the form of a greedy patient's relative, or a coroner, or the police, or a district attorney, or perhaps even all of these people. (In fact, this much is not even fictional). The ultimate cryonics fantasy might then go on to have the beleaguered cryonics researcher trap all of his narrow-minded legal opponents in the freezer of his remote cryonics laboratory -- thereby turning *them* into suspendees. Perhaps to make things complete, the researcher might even find a way to successfully thaw and revive all of his frozen enemies ten years later, just to be able to rub their noses in the truth of their shortsightedness. If such a movie had been made in the old days, the mad scientist might have been played by Boris Karloff.

Wonder of wonders. It happened just that way. The first cryonics movie ever made was released in 1940 by Columbia Pictures. *The Man With Nine Lives* starred Boris Karloff as the mad scientist, and the plot was much as described above. The year 1940, however, was so long ago that the film has since lapsed into obscurity, and today even cryonicists don't know the work. It is high time then, that this obscure and interesting little movie received a review in *Cryonics* magazine.

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Opposite: *The police look on as a mortally wounded Kravaal demonstrates to Dr. Mason that Nurse Blair, although frozen, is still alive.*

## The Movie

Movies and movie ideas do not generally spring out of nowhere, and this is particularly true of science fiction movies. *The Man With Nine Lives* did not simply come into being as the completely original creation of imaginative screenwriters. Rather, the story is a product of a milieu generated in the late 1930's by reports and rumors regarding various sorts of cold-therapy "treatments" for such (then hopeless) ailments as tuberculosis and cancer. Such clinical hypothermia treatments had been named "frozen sleep" and "cryotherapy" (sic). In tribute to these reports, *The Man With Nine Lives* opens with a matter-of-fact printed text lead-in, to prepare the audience for the subject of deep hypothermia, which in the movie has been renamed yet again. The new modern miracle, we are told, is called "frozen therapy":

*"Added to the many miracles of modern science that have accounted for the saving of thousands upon thousands of human beings, comes its newest and most modern discovery -- frozen therapy.*

*Estimates of how long frozen therapy can induce a state of suspended animation range from days to years. But on the fact that disease can be arrested -- that life can be prolonged, by freezing human beings in ice, the medical world agrees.*

*In research hospitals today, men and women are alive and breathing -- their bodies encased in ice."*

The idea that the medical world ever actually agreed about value of "frozen therapy," of course, is purely fiction. However, the lead-in to the film is indeed based on real research work that was being done at the time the movie was being written and produced. In 1939 several centers were testing clinical hypothermia as a treatment for cancer and cancer-related pain. The technical background for *The Man With Nine Lives*, in fact, is based primarily on a single rather sensationalistic report in an orthodox medical publication, the *Journal of the American Medical Association* for August 19, 1939. In this article, Drs. Lawrence W. Smith and Temple Fay at Temple University School of Medicine in Philadelphia, report the first original use of whole body clinical hypothermia in an attempt to treat cancer.<sup>1</sup>

Fay and Smith had noticed that local application of cold seemed to promote healing and was helpful in the treatment of superficial tumors, and they therefore decided to apply the low temperature treatment to whole patients with advanced disease. Patients were subjected to "artificial hibernation" by anesthetizing them with barbiturates, maintaining them in a 50-60°F environment, and applying ice bags to external lesions and the body as necessary. The patient's body temperature was held between 85° and 90°F in these initial experiments, for as long as five days. Fay and Smith erroneously reported that under these conditions "metabolism is reduced to an almost negligible figure, with arrest of bowel and renal function, and during such hibernation neoplastic lesions are diminished in size even more strikingly than by [local] refrigeration alone."<sup>1</sup> Several amazing case reports were detailed.

Unfortunately, as with many enthusiastic initial reports in science and medicine, none of this held up to close scrutiny. About the time *The Man With Nine Lives* was being released, follow-up studies published from Temple University and other institutions such as Lenox Hill Hospital in New York, were presenting data which not only showed that renal and digestive function did continue under modest hypothermia, but which also argued that whole-body clinical hypothermia was not efficacious against cancerous tumor, and that the pain relief it produced was too transient to be worth the risk of the procedure.<sup>2</sup>



*Dr. Mason and Nurse Blair demonstrate "frozen therapy" before an audience of medical personnel.*

But all that is in the unexciting future, and in the real world of medicine. The action in the movie begins contemporaneously in March of 1940, at a fictional medical research center called King Hospital. The opening scene of the film evokes the famous painting of the first surgical anesthesia demonstration, in 1846; a doctor named Tim Mason (Roger Pryor) is demonstrating "frozen therapy" in a hospital theater to seated tiers of his professional colleagues and reporters. In the demonstration, an anesthetized middle-aged female patient is being cooled on an operating table by packing her in ice and using circulating water cooling pads. Her temperature is being measured by a nurse wielding an oral thermometer. It is explained that with the cold treatment "repair tissues are greatly strengthened," while "malignant cells are retarded from growing."

In the film, the patient's body temperature is gradually lowered to a modest 88°F. Heartbeat and breathing continue, but Mason tells the audience that "metabolism, at this time, is practically nil." (At this temperature it should have been about 60-70% of basal). One of the doctors in the audience solemnly tells a man next to him that "kidneys and digestive organs no longer function," [look nurse, no bedpans], but goes on to say that the woman is "actually frozen." Apparently, there is as much confusion over the difference between "cooled" and "frozen" in 1940 as there would be 47 years later with the Segall beagle experiments.

In any case, the movie patient continues in hypothermia for Smith and Fay's longest time of five days, and is eventually re-warmed and revived, (still in the same room on the same table, it seems), by a procedure which interestingly includes administration of hot coffee by naso-gastric tube (one forgets what medicine was like in 1940). When the woman wakes, her cancer pain is gone -- quite in accord with the clinical experience of the day.





*Dr. Mason and patient.*

All of this causes Dr. Mason to be acclaimed a success by the press, which proclaims that a "cure" for cancer has been found. Mason, however, is not satisfied. He knows he only has a "treatment," and a cure is what he wants. It turns out that Mason has been drawing heavily on the work of another scientist, one Leon Kravaal, M.D., who has made further incredible experimental claims which even Mason has been unable, as yet, to duplicate. These claims include (for instance) being able to freeze cancerous mice to a temperature of 100 degrees below zero in "liquid hydrogen," and restore them to life, cured of cancer, after two weeks. But Mason is frustrated that Kravaal was a loner who did not give details of his cryoprotection methods, and frustrated even more by the fact that Kravaal himself had mysteriously disappeared ten years before from his isolated laboratory in a place called Silverlake, "near the Canadian border." No one knows what happened to him, and he is assumed dead.

At this point, especially with the reference to Silverlake (a Hollywood Boulevard) the astute reader will have caught an echo of our familiar Hollywood amateur cryobiologist Dr. Ralph S. Willard, who had claimed in 1935 to have cured a monkey of tuberculosis after keeping it deep-frozen at the incredible temperature of  $-22^{\circ}\text{F}$  for five days. And the reader will be correct. The screen credits for *The Man With Nine Lives* list "Dr. Ralph S. Willard" as the technical advisor for the film. One can only wonder if Willard, in his Hollywood clinical chemistry lab, felt himself to be as isolated from mainstream medical cryothermia research -- and if he fantasized himself to have been as far ahead of it -- as the mysterious and shadowy Dr. Kravaal.

In the film, Dr. Mason has always wanted to visit Kravaal's abandoned lab, to see if he can obtain some clues to the missing doctor's work. He is given his chance after the head of King Hospital shuts down his cryotherapy project and turns it over to a committee for replication and verification. "The day of the lone-wolf experimenter," he is told, "is dead." But Mason is not so sure, and after a naked and gratuitous pronouncement like



that, neither are we. Quite obviously, a lone-wolf experimenter is coming up. Obliging, the Good Doctor decides that a vacation is in order, and he leaves immediately for the Canadian border, taking Nurse Judith Blair (Jo Ann Sayers), his fiancée-assistant, with him on the trip\*

The cryobiology laboratory of Dr. Kravaal turns out to lie on an isolated island in the middle of a glacial lake. The abandoned lab, as our investigators discover from a local citizen, is now government property, having been sold years before for taxes [A moral is to be drawn: cryonicists may escape death, but never the tax collector]. Kravaal's lab has become a place of superstitious dread from which the locals shy away, ever since Kravaal and four prominent citizens disappeared there without a trace, ten years before.

Mason and his fiancée investigate, of course. They find nothing on the island except a dusty, cobwebby house/laboratory. Fortunately for the pace of the plot, the girl immediately falls through a rotten floor and thereby reveals a secret stairway which leads deep below the ground. Descending, Mason and Blair now find themselves in a hidden vault which grows cooler in temperature with every foot they descend. It is now becoming eerily clear to the viewer that the missing people from years gone by are no doubt still Down There.

Somebody is, at any rate. The first thing found in the subterranean lab is a human skeleton (A tradition with horror movies and dungeons, now being applied to a different subject -- no film about suspended animation ever since has been without at least one decayed body). Soon after, a huge metal door is discovered which is rimmed in frost. Chiseling the door open reveals a layer of clear ice completely blocking the doorway, behind which a human form is dimly visible. Dr. Mason uses an axe to chip through the foot-thick ice wall, in one of the most effective of the movie's scenes. Inside, icicles hang from the ceiling. The frozen man in the coldroom is none other than Dr. Leon Kravaal.

Dr. Mason is an expert in 1940-style cryobiology (the word is of course never used, since it has yet to be invented), which means apparently that he knows to warm people up slowly and to give them hot coffee. He therefore decides to try to revive Kravaal (Boris Karloff), since there is a fireplace and a coffee pot in the lab. After due attention of this sort, Kravaal revives, wakes, and is eventually informed that he is now in 1940. He is, of course, astonished. Encouraged to tell the story of how he came to be in the freezer, Kravaal has no difficulty with his memory. The tale starts with his being arrested ten years before, but for Kravaal, it is like yesterday....

As Dr. Kravaal tells the tale, we flash-back to an office scene in 1930. The room is full of angry people, all confronting Kravaal. One of the most angry is a young man named Bob Adams, who is demanding to know what has become of his dying uncle Jasper Adams. Other people in the room include a county sheriff in a suit, the district attorney, and an ascetic and skeptical-looking doctor named Bassett, who is the county coroner. Kravaal has explained to the group that Jasper Adams, as a patient, is being treated by himself for cancer -- but that Adams' condition precludes his being examined. The dialogue which follows is enough to send a chill from 1940 right up into the present day:

DISTRICT ATTORNEY: You say your patient is alive...  
 KRAVAAL: He is.

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\* Shocking. And this is a 1940 movie! Where was the Cinema Code?

DISTRICT ATTORNEY: Then why are you hiding him?

KRAVAAL: I refuse to answer.

NEPHEW: He refuses to answer because my Uncle is dead!

DISTRICT ATTORNEY: Doctor Kravaal, let me warn you that the law has means of forcing you to produce your patient unless you reveal [him] to us voluntarily.

KRAVAAL: I doubt that.

DISTRICT ATTORNEY: We can trace every move you made since you took Jasper Adams from the hospital to your island home. We can tear your house down bit by bit, if necessary, until we find your patient -- or his body! Now what have you done with him? *What have you done with him?*

KRAVAAL: I have given you my personal and professional assurance that Jasper Adams is alive and on the way to recovery. He placed his life unreservedly in my hands and I am responsible only to him.

CORONER: Look here, Dr. Kravaal, I'm a medical man of good standing. I examined Jasper Adams six months ago and I say no power on Earth could ever cure that man.

KRAVAAL: And I say that 30 years ago medical men of your standing were saying the same thing about the yellow fever patients. But because a handful of men had the courage to give their lives to a great experiment, yellow fever is now a thing of the past.

CORONER: Fever's one thing, cancer's another. If you've been able to cure Jasper Adams, why don't you publish it to the world for the benefit of humanity, instead of hiding it away?

NEPHEW: Because he's a fake! He knew my uncle was rich -- knew he'd spent thousands of dollars all over the world trying to find a cure. So he got to my uncle -- promised him an absolute cure, if he could work on him secretly and alone. My uncle fell for this scheme because he was dying and desperate! Why, this whole thing has been nothing but a cold-blooded murdering scheme to bleed a dying man of money...

But Kravaal continues to be reluctant even when threatened with the destruction of his laboratory:

DISTRICT ATTORNEY: But if you'll take a competent authority such as Dr. Bassett [the coroner] to your patient with you, to make an examination on behalf of the State....

KRAVAAL: No other doctor has been able to grasp the basic principles of what I'm doing. I've explained it to the highest authorities of medicine and they've scoffed at it -- called me insane. I must furnish them a living proof.

CORONER: You show me Jasper Adams alive and improved in health and I'll be the first to admit I'm wrong.

KRAVAAL: But the treatment is so drastic. I'm just afraid that you'll try to interfere, and that would be fatal.

It is hopeless, though. Inevitably, Dr. Kravaal is forced to allow examination of his patient in order to avoid arrest and perpetual incarceration on suspicion of murder. A





*Kravaal extracts a promise from the district attorney, coroner, nephew, and the sheriff not to interfere with his patient if he will demonstrate his therapeutic practices.*

visit to the mad scientist's lab is in order, and there is an appropriate thunderstorm for the occasion. Arriving by boat at his island house with the sheriff, the district attorney, the nephew, and the coroner in tow, Kravaal opens a secret panel in the laboratory and descends a long stairway into his subterranean cavern. Eventually the party comes to the coldroom with the iron door, which Kravaal explains is refrigerated naturally by an underground arm of a glacier. He opens the door, and there on a hospital cart, mostly covered in a sheet, is the still form of Uncle Adams. Needless to say, he doesn't look good:

KRAVAAL: He's been sleeping this way for almost a month, and when he awakens he'll be cured.

CORONER (hand on the patient's forehead): This man's *frozen*.

KRAVAAL: Of course.

CORONER: You said he was alive.

KRAVAAL: He is.

CORONER: This man's stone dead.

DISTRICT ATTORNEY: Are you sure, Doctor Bassett?

CORONER: Of course I'm sure.

NEPHEW: I knew it! He killed him and that's why he hid the body!

DISTRICT ATTORNEY: Take him in charge, Sheriff!

KRAVAAL: Wait a minute! I warned you you wouldn't understand it, and you promised not to interfere!

DISTRICT ATTORNEY: That promise is withdrawn.

KRAVAAL: You lying cheat!

CORONER: Better put handcuffs on him. [Apparently, coroners haven't changed much.]

KRAVAAL: Wait, Doctor Basset! This is not the first time but the *sixth* time this man's been under frozen therapy. And each time in advance I've given him protective medicine to keep the freezing process from harming him in any way. Each time he's appeared as he does now -- dead. Just as life existed then, I know it exists now.

DISTRICT ATTORNEY: What do you think, Basset?

CORONER: We're wasting time. No human being can live after his temperature drops 10 degrees below normal. This man's *frozen* through and through -- he's dead.

DISTRICT ATTORNEY: What about this protective medicine...?

CORONER: There's no such medicine known to science! Better have him locked up.

DISTRICT ATTORNEY: Take him in!

SHERIFF: Come on, Doctor...

KRAVAAL: Doctor Bassett, I protest! You must allow me to remain with my patient!

CORONER: Help me move this stretcher...

KRAVAAL: Dr. Bassett, this man is not dead. He's under deep anesthesia.... !

In the end, the four skeptics wheel Adams out of the freezer, and decide that they will not permit Kravaal to attempt to demonstrate a revival if it takes more than a few minutes. They're all cold, the storm outside is getting worse, and they're afraid that they won't be able to cross the lake until morning if it gets much later or the weather becomes more severe. Basically, everyone wants to arrest Kravaal for murder and go home to a hot meal.

Kravaal is beside himself. Finally, he responds to the threat by asking for "just one moment" to prove the man is alive. Given permission, he mixes a batch of "protective chemicals" -- which also happen to be deadly poisons. That done, he suddenly uses the glass container of poison as a threat to attempt to force the others into waiting, while he takes the time to revive his patient slowly and properly. This does no good, for no one believes Kravaal in the least. When Kravaal indicates that he will hold everyone in the cold room *until Adams revives*, it is too much. Apparently believing this a death sentence, the nephew jumps Kravaal.

There is a struggle, and the container falls and breaks, forcing all the men to go into the coldroom to escape the deadly fumes. Kravaal gasps to the choking group that a second door leads to escape from the room, but when they open it and go through they find themselves in yet another inner ice room without an exit. Kravaal weakly slams and locks the door behind them, but himself falls into a stupor before he can escape the outer cold room. At this point there is a heart-warming scene of the meddlesome agents of the State getting colder and colder and colder....



*Trapped in Kravaal's cold room by the noxious vapors of the cryoprotectant, the sheriff demands to know if there is another way out.*

Here we end the flash-back and take up the main narrative again in 1940, with the revived Kravaal. With the telling of the tale, Kravaal speculates on the curious problem of why he is still alive, when the unprotected freezing process should have killed him. Eventually, he decides that the answer lies in the chemicals that he mixed at the spur of the moment when being threatened. By accident, after 20 years of work, he must on the stress of the moment have hit on the perfect suspension cocktail -- one that works by inhalation and protects against freezing indefinitely. Kravaal has scribbled the mixture formula automatically on a piece of paper as he was making it (scientific habits die hard), and he finds the paper on the laboratory bench where he had left it ten years previously. The secret of suspended animation at last!

It follows that the four men in the inner, unopened cold room may be revivable, and this the nurse and two doctors attempt to do. All the revivals are successful, and in the end, a rather confused group of suspendees is sitting around Kravaal's underground fireplace. As the sheriff begins to come to, he groggily reaches for his gun, and Kravaal relieves him of it. Eventually, everyone is convinced that the year is 1940. The dates of the driver's license and club membership cards in Mason's wallet help by providing documentary evidence.

The suspendees' brains, however, still seem to be frozen. The district attorney makes it known that he would still like to prosecute Kravaal for the murder of Adams. Kravaal points out that it is actually the D.A.'s fault that Adams (the skeleton) is dead, since the position of the body indicates that Adams revived spontaneously on warming up outside the freezer, and then died in a fall later because he was not attended. Kravaal accuses the D.A. of contributing to Adams' death. This at last wakes up the D.A.'s neurons better than nanotechnology. He opines finally that since he himself has been missing for 10 years, he must be legally dead himself and therefore cannot be held responsible for any of his actions. (Attorneys haven't changed much either).

Adams' nephew, however, is very upset at the thought that he has been declared legally dead, since that means that he has lost all of the inheritance from his Uncle. For this, he blames Kravaal. Kravaal, waving the formula unsympathetically in the nephew's face, tells him that his money is not important -- what is important is practical suspended animation, which will be Kravaal's free gift to the world. In a rage over this, the nephew snatches the paper with the formula and throws it in the fireplace. In an attempt to stop the paper from being burned, Kravaal shoots the nephew with the Sheriff's gun, and the nephew is killed.

Now the district attorney really does have something to use against Kravaal. Again he indicates that he will press charges for murder, or at least manslaughter. This is finally too much for Kravaal, who has visions of rotting in prison while the greatest medical discovery of the century fades from his memory. Covering his persecutors with the gun, he announces that he will immediately begin a series of empiric experiments to discover the correct proportions of ingredients in the suspension gas, and that the sheriff, the D.A., and the coroner will serve as human cryonic guinea pigs. What's more, the coroner will go first (now that's entertainment!). Dr. Mason, who thinks Kravaal "a great man trying to do a great thing" and his assistant, Nurse Blair, will help with procedures.

In the following scene, Kravaal locks everyone but Mason and Blair in one part of the laboratory, and begins to mix a batch of cryoprotectant for the coroner. There follows a wonderful bit of dialogue as Dr. Mason seems to be a bit morally confused about the whole situation:





*Kravaal tests a possible cryoprotectant mixture on the coroner.*

KRAVAAL: You don't approve, do you?

MASON: Would it make any difference if I did?

KRAVAAL: Not the slightest. You were shocked at the death of young Adams. That's because you're not yet steeled to the hard bargains fate sometimes drives for us. But tell me, Doctor Mason, which is more valuable to humanity, *his* life or *my* work?

MASON: (thinking) Your work, I suppose.

KRAVAAL: You suppose? You know. This work is worth a thousand lives like his.

In the following sequence, Kravaal kills the Coroner in a cryoprotectant toxicity experiment. At this point, Mason and Blair decide that reality drives a harder bargain than theory, indeed. They protest, and Kravaal locks them in another room before proceeding. Next, the sheriff violently opposes being a guinea pig, and Kravaal is forced to shoot him ("sorry" he writes in his lab notebook). The next trial formula of cryoprotectant kills the D.A.

At this point, none of Kravaal's original opponents are left, and Kravaal is stymied. He is on the point of giving up and ordering Dr. Mason and his assistant back to the world with the negative results of his work. Then, with a truly diabolical look, he suddenly realizes that the deaths may be due to *repeated treatment* with the suspension mixture, not the proportions of the mixture itself. What he really needs, then, is fresh flesh -- someone who has not been frozen. Which is to say, either Mason or Blair. Knocking Mason unconscious, Kravaal forces nurse Blair to inhale the protective chemical, then carries her into the cold room where she slowly cools.

She cools all the way. By the time the cavalry (actually, State Troopers) arrive to untie Mason, break down the door to the cold room, and shoot Kravaal, nurse Blair is down to 30°F. Her heart, however, is still beating. Thus, the confusion in the movie about what constitutes the difference between life and death, persists to the end of the tale. Certainly Dr. Kravaal is still unsophisticated in the matter, for he expires at the side





*Kravaal tries the cryoprotectant mixture on nurse Blair.*

of his frozen patient (after committing his notebook to Mason), without even a suggestion that his body be cryonically preserved. "The work's finished," he merely says resignedly, "Case closed."

Kravaal is right about the success of his work, however. The suspension process works. Sleeping beauty is rescued from her frigid state by her lover, Dr. Mason, and the revived Ms. Blair appears once again faithfully by Mason's side in the ending scene of the movie, which takes place at a news conference in King hospital. The scene opens as Kravaal's handwritten dedication to his laboratory notebook is being read to all present by the hospital director:

*I, for one, am resolved that no matter what sacrifices I may be forced to make -- of myself, or of others-- I will not be stopped in my search for this secret, so long as I shall live.*

(signed) Leon Kravaal

The director continues, holding up the lab notebook: "This book contains the records of some of most amazing experiments I've ever read. Experiments on every kind of animal - - including man. I feel that we can do no better than to stand back of Dr. Mason with everything we have -- give him unlimited time, and equipment, to complete the great unfinished work of Dr. Kravaal."

There is a standing ovation. Mason's answering speech ends the movie:

"It's unfortunate that Doctor Kravaal's intensity of purpose, his reaching for success, forced him beyond the limits of the law. He paid with his life, that we might have this,

his parting gift to humanity. Whatever his crimes may have been, I for one shall always remember him as a great benefactor, and a great man."

And so the movie ends, with a speech which is a model of pre-World War II innocence. Just five years later, the world would be confronted not only by scientific atom bombs, but by the records of scientific Nazi hypothermia experiments in concentration camps -- and nothing would ever be the same in research or the public attitude about science again.

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### Background

Boris Karloff (b. William Pratt, England, 1887, d. 1969), appeared in more than 150 films in a long career. He played in silent movies for years, until a big break in 1931 as he mimed his way expertly through the role of the mute Frankenstein's Monster in the classic Universal movie. In *Frankenstein*, even under all that make-up, Karloff managed to evoke a queer bit of sympathy and pathos along with the revulsion -- an effective emotional combination that was to mark most of the leading roles in his career. Over the years, Karloff's expressive, intelligent face, his stage-trained English voice, and his trademark lisp, all combined to give him an air of faintly seedy alienation that was to serve him well in many roles as the diabolical villain or the quintessential mad scientist.

By the time of *The Man With Nine Lives*, Karloff had already played title roles in *Frankenstein*, *The Mummy*, *The Mask of Fu-Manchu*, *The Ghoul*, *The Man Who Lived Again*, *The Man They Could Not Hang*, and *The Walking Dead*, among many other films. Through the years, Karloff's movie roles included those of numerous scientific researchers who made it their business to unwisely meddle with life and death, and who were destroyed or corrupted because of it. The net result of all these roles is that today, more than any other actor, Karloff is associated with the horror theme which characterizes non-religious life-extension stories in American culture (see my partial review of this phenomenon in *Cryonics*, (Dec., 1988)).

Karloff's horror movie contracts in the 1930's were most often with Universal, but *The Man With Nine Lives* was made with a relative newcomer called Columbia Pictures. Incorporated only in 1924, Columbia was not then in the same league with Universal, or other giants like MGM, Fox, and Paramount. Nevertheless the company had gained greatly in the 1930's through the depression-era success of the films of director Frank Capra, a graduate of the school of hard knocks who made films with the somewhat autobiographical theme of a talented nobody succeeding against all odds. By 1940, Columbia was beginning to be quite profitable, and had settled down to making a series of solid black and white "B" pictures that did well at the box office. One of these was *The Man With Nine Lives*, a slick 72 minute "two-reeler" horror/sci-fi flick which moves like a shot, and which has all the marks of a film made by people who know the business, and who have enough money to do things reasonably well.

*The Man With Nine Lives* is actually the second of a contracted series of five mad-scientist movies which Karloff made for Columbia between 1939 and 1942, in order to take advantage of the boomlet in the horror film market which followed the tremendous success of yet another Karloff film, *Son of Frankenstein* (Universal, 1939). The first three of the Columbia series were directed by Nick Grinde and either co-written or screenwritten by Karl Brown, and their plots are broadly similar -- a subtheme for all being that there are horrible moral penalties associated with the search for immortality.

In *Before I Hang* (Sept., 1940), Karloff plays a kindly doctor who is sentenced to

prison for a mercy-killing of an aged and suffering patient. In prison, the doctor develops a youth-serum from the blood of an executed prisoner, uses it to make himself young, and is pardoned. Unfortunately, the serum, derived from a murderer, also makes him into a homicidal maniac.

*The Man They Could Not Hang* (Aug., 1939), is a movie influenced by two contemporaneous scientific happenings. The first was a series of Charles Lindbergh/Alexis Carrel artificial organ experiments summarized and published the year before. The second influence lay in the exploits of biochemist Robert Cornish, who in the 1930's achieved some fame by reviving dogs asphyxiated by nitrogen, and even more notoriety when he proposed to try the experiment on executed prisoners (see also the earlier Karloff play on this theme, *The Walking Dead*, 1936).

In *The Man They Could Not Hang*, Karloff plays a certain Doctor Savaard, who has developed an artificial heart that can restart blood circulation in people who have undergone cardiac arrest. The mechanistic Savaard intends to use the machine for resuscitation of persons who been deliberately cardio-arrested so that surgery can be performed on them (like stopping an automobile engine for repair, he explains matter-of-factly). Unfortunately, the police burst into his lab at exactly the wrong time and mistake a volunteer in cardiac arrest for a corpse. Being basically unenlightened minions of the State, the cops refuse to let Savaard attempt the resuscitation. Sentenced to hang for murder, Savaard wills his body to a student, who then uses the artificial circulation device to resuscitate him after he is executed. At this point, the old mal-resurrection theme presents itself: The former cool researcher and would-be benefactor of mankind spends the rest of the movie exterminating the judge and jury who condemned him, in a diabolical house-of-horrors scheme that must be the forerunner for Agatha Christie's *Ten Little Indians*. Again Karloff, as the wronged and scheming inventor, earns both our horror and our pity.

*The Man With Nine Lives* itself, released in April of 1940, garnered generally favorable reviews as a horror picture, although a few reviewers complained that the plot was bit on the far side of believability. Reviewers also could not help noticing how much the plot was reminiscent of *The Man They Could Not Hang*. Since 1940, however, the film has faded into obscurity, apparently without ever having had much effect on the general public\* beyond perhaps cementing the unconscious association between cryonics, mad scientists, and moral monsters. Once again even in this movie, cheating death is seen to exact its moral price -- Karloff is a kind, dedicated physician before he is frozen and revived, after which he goes 'round the bend. Again, it must be remembered that, mythologically, non-religious resurrection always creates evil.

#### The Man With Nine Lives, Today.

There is much about *The Man With Nine Lives* which remains a mystery today, and no doubt much of the story that remains to be told. Although Ralph Willard is listed only as "technical advisor" to this film, one can see the hand of a persecuted experimental loner in every turn of the cryonics plot. What actually happened with Willard's first monkey? The one thing we may be sure of is that it did not revive after being at -22°F for five days. Did Willard fake an experiment, one that he was sure was about to succeed anyway? And did he spend the next five years in a fruitless search for the ultimate cryoprotectant, killing animal after animal, until he felt as frustrated and murderous as the fictional Dr. Kravaal? Perhaps we shall never know.

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\* One wonders whether Robert Ettinger saw this movie in his late teens.

Today the person who wishes to see *The Man With Nine Lives* must either catch an extremely rare showing on television, or locate one of the few surviving 16 mm prints in existence and pay the exotic fees for rental of that media. Digging an old copy of *The Man With Nine Lives* out of a dusty file in a film archive is not unlike a resurrection itself: the act satisfies some of the same collector/researcher/preservationist instincts so common among cryonicists. The *information* represented by this movie still exists today -- long dead people still walk and talk -- but it is all fading. One wonders about the state of preservation of the original nitrate master, no doubt moldering in the Columbia vaults at room temperature, much less well protected from the ravages of time than any human being in a dewar of liquid nitrogen.

Some research shows that *The Man With Nine Lives* is curiously little discussed in standard science fiction or horror movie critical literature, and for some reason it seems never to have made the public splash of some of Karloff's other films. Nor did the movie make it to video release, and seems unlikely to do so (if ever) until after its copyright expires in 1996.

And yet for all of this, there is no denying that for a certain select audience, *The Man With Nine Lives* remains a dramatic, even electrifying movie today. In particular, no cryonicist in Southern California can see this film today without experiencing a horrible shock of *déjà vu*.

How obvious it all is in retrospect! Of *course* cryonics was bound to run headlong into a social wall. How could anyone have failed to be forewarned? Frozen people really *do* look completely, irrevocably, and forever dead. There really *are* bound to be problems with greedy relatives, and police, and coroners, and district attorneys.

"Those who do not know history," said Santayana, "are condemned to repeat it." Sometimes the same goes for fiction, and this movie again hammers home a message that every cryonicist now understands. The hard truth is that, for a certain time to come, cryonics promises trouble. And in the absence of a nanotechnological equivalent of 1940-hot-coffee for revival of frozen patients, cryonics promises trouble of a sort that is likely to be at least as long-lasting and virulent as that predicted so well by the magic of Hollywood, half a century ago.

**References**

- 1) *J.A.M.A.*, 113:653-660, 1939.
- 2) Reviewed in *Surgery*, 73, 736-58, 1973.

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**CURRENT TRENDS IN THE POLITICS OF EUTHANASIA**

by Thomas Donaldson

Why, in *Cryonics*, is there an article on euthanasia? Because to the outside world the problem becomes more and more pressing. Furthermore, for years cryonics has been a third alternative, always ignored. Any presentation of cryonics should point it out as such an alternative: among its advantages is that it doesn't result in the death of the patient! Furthermore, when cryonics is proposed, many people react as if we wished to do it to them at that moment. Placing cryonics in the context of no-code patients and euthanasia candidates makes it very clear that we don't advocate freezing "well" people, or even people who can get out of bed in the morning.

Recently in the *New England Journal of Medicine* (Nov. 17, 1988, p. 1348) Marcia Angell (MD) has written an editorial on the subject of euthanasia. She begins with a brief summary of its advocacy. In the Netherlands, euthanasia is formally illegal but widely practiced. It has become part of the Netherlands Civil Code. Several Dutch associations have issued reports on euthanasia. Among the conditions which a patient must satisfy for euthanasia are: intolerable suffering, repeated requests for euthanasia, and mental competence. (Note that this last condition would exclude many patients, including Alzheimer's patients, the retarded, and handicapped newborns). Over 5000 Dutch lives suffer (or enjoy) euthanasia every year.

Dr. Angell also describes the Hemlock Society's efforts to put a euthanasia law on the November, 1988 ballot in California. The law would have been called the Humane and Dignified Death Act. It would not have required that patients be competent, but only that they had left clear legal word about their wishes. Many cryonicists were involved in soliciting signatures. The Hemlock Society is now planning efforts to place this issue on the ballot in 1990, not only in California but also in Washington, Oregon, and Florida.

Dr. Angell then reviews the various arguments for and against euthanasia. I will not repeat them because I'm sure cryonicists know them already, and probably find them tiresome to boot. The one point which she makes strongly is that *if* euthanasia is legalized, it should only apply to competent adults. Medical surrogates should not be able to ask for it, even if authorized in advance. (This fact may make a euthanasia law only of very limited usefulness for cryonics).

There is also another point, particularly important because Dr. Angell nowhere made it. Indeed, a logical approach to medicine tells us that it is a major question we must answer before we can even pretend to decide euthanasia. It is the one rarely raised in *NEJM* or elsewhere, and important because of that. It is: just what is the purpose of medicine, anyway? Fundamentally, what are doctors trying to do?

Cryonicists have decided that question. The purpose of medicine is to make people, everyone, immortal. It appears to me that if you choose any other purpose, then euthanasia is a logical choice. It can alleviate suffering (indeed, why even require that a patient ask for it repeatedly? If he asks on a mere whim, why shouldn't he receive it?). If we want to prolong life and alleviate suffering, but only up to a certain age, then why not apply euthanasia after that age. For that matter, why should some people live to 90 while others only survive to 35? Why shouldn't medicine alleviate everyone's suffering at the age of 77?

A second paper in the same line (Louise Printz, *Geriatrics*, 43(11), 84-88 (1988)) presents some new data on a practical question of interest both to cryonicists and those who want to practice euthanasia. As the controversy about treatment of dying and very ill people grows, issues such as artificial feeding and artificial drinking (hydration) become more and more pressing. Printz's article has some serious data about whether or not withholding hydration to terminally ill patients may not actually make them more comfortable rather than less.

The main point is that dehydration may actually lessen pain. Printz's observations are not experiments but impressionistic. However she reports that patients choosing not to be artificially hydrated generally seemed more comfortable. She can also present some rat experiments showing that water deprivation causes an increase of dynorphin (a natural opiate) in the hypothalamus. It's important, also, that all of her patients who were not hydrated were maintained so that the levels of ions in their blood was in balance. Otherwise, the patient becomes lethargic or enters a coma, probably automatically analgesic.





Alcor members in the San Francisco Bay area have recently formed an Alcor chapter, and are aggressively pursuing an improved rescue and suspension capability in that area. Meetings are generally held on the second Sunday of the month, at 4 PM. Meeting locations can be obtained by calling the chapter's Secretary-Treasurer, Thomas Donaldson, at (408) 732-4234 (home), or at work, (415) 593-3200 (ask for Thomas Donaldson).

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The MARCH meeting will be held at the home of:

(SUN, 12 MAR, 1989)      Thomas Donaldson and Cathy Woof  
1410 Norman Drive  
Sunnyvale, CA

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The APRIL meeting will be held at the home of:

(SUN, 9 APR, 1989)      Frank and Geraldine Rothacker  
3017 Greer Rd.  
Palo Alto, CA

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The South Florida Chapter of Alcor will be holding a meeting in March. For information and directions, call Bill Faloon at 800-841-5433.

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The MARCH meeting will be held at at 7:30 PM at the home of:

(FRI, 10 MAR, 1989)      Bill Faloon and Tina Lee  
( 7:30 PM )              524 N. Rainbow Dr.  
Hollywood, FL

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The New York Cryonics Discussion Group of Alcor meets on the the third Saturday of each month at 6:30 PM, at the El Paso restaurant, in Manhattan's Greenwich Village. The address is 134 West Houston St., between McDougal and Sullivan. Telephone (212) 673-0828. Ask for the Alcor group at the rear of the restaurant. Subway stops: Houston St. on the 1 train; Spring St. on the C, E, or K trains.

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The meeting dates are as follows:

MARCH 18      APRIL 15      MAY 20      JUNE 17      JULY 15

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If you live in the New York, Philadelphia, New Jersey, or Boston areas and would like to participate in the rebirth of New York cryonics please contact one or more of the following people:

Gerard Arthus      (516) 273-3201  
Al Roca              (201) 352-5268  
Curtis Henderson      (516) 589-4256

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