



Cryonics

January, 1988

Volume 9(1)

Dora Kent
First Life Cycle
May 1, 1904 - December 11, 1987

Volume 9(1) January, 1988 Issue # 90

Editorial Matters.....page 1
A Timeline of Events.....page 1
What Came Before: A Special Message From Alcor...page 8
The Road to Glory.....page 10
The Road Ahead.....page 14
Where We Are At Now, Or, A Report
 From The Trenches.....page 16
The Past, Present, and Future.....page 20
Coroner's Press Conference.....page 22
Alcor's Press Conference.....page 33
Engines of Creation Available.....page 36
Nanotechnology: A Significant Endorsement.....page 36
Not In 1987.....page 38
Science Update.....page 39
Meeting Schedules.....page 40

CRYONICS is the newsletter of the ALCOR Life Extension Foundation, Inc. Mike Darwin (Federowicz) and Hugh Hixon, Editors. Published monthly. Individual subscriptions: \$20.00 per year in the U.S.; \$30.00 per year in Canada and Mexico; \$35.00 per year all others. Group rates available upon request. Please address all editorial correspondence to ALCOR, 12327 Doherty St.; Riverside, CA 92503 or phone (800) 367-2228 (in California: (714) 736-1703). The price for back issues is \$2.00 each in the U.S., Canada, and Mexico, and \$3.00 for all others.

Contents copyright 1988 by ALCOR Life Extension Foundation, Inc., except where otherwise noted. All rights reserved.

EDITORIAL MATTERS



Since mid-December Alcor has been in legal turmoil because of its suspension of Dora Kent, mother of Alcor member and long-time cryonics proponent Saul Kent. A consecutive account of the happenings of the last 40 days or so will follow, and as the reader digests this history it will become apparent why this copy of CRYONICS is so choppy and disorganized and why it is being received so late. In a word, because of police activity against it, Alcor has been largely prevented from functioning.

This issue is the product of the efforts of Thomas Donaldson, Mike Darwin, and Allen Lopp attempt-

ing to produce a magazine under adverse and very unusual circumstances. The information here is gleaned from various sources, mostly first-hand accounts from the individuals involved in the events. There may be a few inaccuracies, but overall this account should be fairly reliable. There will be a few omissions of events as well, either because the exact details are not known at the time of writing or because attorneys representing the interests of Alcor members have advised us not to release precise statements on some of the details.

With all our disclaimers now in place, our story continues below ...

* * * * *

A TIMELINE ON THE EVENTS SURROUNDING THE CRYONIC SUSPENSION OF DORA KENT

WEDNESDAY, DECEMBER 9, 1987 (Early morning)

Saul Kent receives a call from the nursing home where his mother Dora is being cared for. They tell him she is critically ill and may be near death.

For at least the last four years Dora has been essentially bed-ridden by osteoporosis and senility. Saul decides it is pointless to treat her new case of pneumonia aggressively, and instead chooses to prepare for his mother's cryonic suspension. He orders an ambulance to pick up his mother from the nursing home and transfer her to the Alcor facility.

THURSDAY, DECEMBER 10

Dora Kent is brought into the Alcor facility, and is examined by Steve Harris, M.D. Dr. Harris concurs with the nursing home's assessment that Dora is near death, determines that she has pneumonia and discusses with her son and conservator Saul Kent what kind of care is to be given. Considering her virtually nonexistent quality of life and her previously stated wishes that she not be allowed to exist in such a dependent and "vegetative" state, a decision is made to provide only basic care and comfort and forego any extraordinary measures to prolong life. Basic nursing care and high concentration oxygen are provided to keep her alive until preparations for suspension can be completed. Care given is both aggressive and competent.

FRIDAY, DECEMBER 11

Shortly after midnight, Dora Kent stops breathing, and in a few more minutes the cardiac monitor hooked up to her ceases to reflect any cardiac activity. Mike Darwin and then Jerry Leaf "auscultate" (listen to) Dora's chest with a stethoscope and verify the absence of respiration and heart beat. Unfortunately the physician who was expected to pronounce death is not present; Alcor personnel, misinterpreting the definition of "physician in attendance" as required by the Riverside County Coroner's office, proceed with the suspension process.

The following day the physician signs the death certificate.

MONDAY, DECEMBER 14

The mortician whom Saul contracted with to dispose of the nonsuspended portion of Dora's remains attempts to file a death certificate with the Public Health Service and obtain a cremation permit. The permit is rejected by Public Health due to the fact that a physician was not physically present at the time of death. Alcor realizes that they have a "coroner's case".

TUESDAY, DECEMBER 15

Alcor's mortician notifies the Coroner's office of the oversight and explains the situation. Normally, this kind of error is a minor matter handled by the Coroner's office calling the attending physician and verifying that the patient was indeed terminal and that death was expected.

WEDNESDAY, DECEMBER 16

The Coroner arrives at Alcor, removes the nonsuspended portion of Dora's remains and states that they "might" do an autopsy, although that is "by no means a certainty."

MONDAY, DECEMBER 21

The coroner's office contacts Alcor and notifies us that the autopsy confirmed pneumonia as the cause of death.

WEDNESDAY, DECEMBER 23

Mike Darwin and Saul Kent meet with Mr. Rick Bogan and Mr. Alan Kunzman, two of the Coroner's Deputies handling the case. They are assured by Bogan and Kunzman that the case is closed, they are provided with a copy of the death certificate, and are told that they can cremate the remains. Mike Darwin and Saul Kent walk across the street to the Public Health Services (PHS) office and apply for certified copies of the death certificate. They are told that cause of death is "pending" and the death certificate provided by the Coroner's office is taken from them. They return to the Coroner's office and are assured by Mr. Bogan that the cause of death has been determined and that the completed death certificate will be "momentarily hand carried personally to the PHS" by Mr. Bogan. At this juncture Mike Darwin states his concern that the remains not be cremated if there is any question as to cause of death, since Alcor would then want to retain an independent pathologist to conduct another autopsy.

Woman's head cut off for preservation

By John Hiscock
in Los Angeles

A WOMAN whose head was cut off and frozen in the hope that one day she could be brought back to life with a new body, may have been alive when she was decapitated, say investigators in California.

No doctor was present when 83-year-old Dora Kent died at the Alcor Life Extensions Foundation, Riverside, and the operation to remove her head was not done or supervised by licensed doctors.

The woman's son, Mr. Saul Kent, 48, who had lived with her for most of his life, decided to freeze the head because his mother suffered from severe arthritis and he hoped one day the rest of her body could be replaced.

Brain-dead

Riverside County Deputy Coroner Rick Bogan said that, although Mr. Kent, a believer in cryogenics, gave his permission for the decapitation, his mother had not given written authorization.

Decapitation, like the removal of vital organs for transplants, requires that the donor be certified brain-dead.

"In this case, they didn't do that," said Mr. Bogan. "She stopped breathing and they decapitated her. It was a very sloppy procedure."

Bogan assures Mike and Saul that there "will be no criminal charges" and that "the investigation of the cause of Dora Kent's death is closed". He then provides Mike and Saul with another copy of the death certificate, signed by himself and by the County pathologist.

THURSDAY, DECEMBER 24

Families across Southern California, gathered to enjoy Christmas Eve together, are treated to some of the most lurid evening news programs of the year:

There is a story on the conviction of a chainsaw murderer.

There is a story of a worker in a large bakery on the East Coast who falls into a vat of batter and is impaled by a huge mixing propeller. Rescuers struggle for three hours to remove him from the propeller, and finally the mixing machine is dismantled and a truck takes the man, huge propeller and all, to a nearby hospital. Amazingly, the man lives.

And finally, there is a report on the "bizarre" case that is being investigated by the Riverside County Coroner's Office of a cryonics

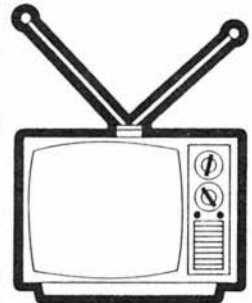
group that removed the head of an elderly woman so that it could be frozen. There was no physician involved with the procedure, and the coroner suspects that the woman may not have been dead when her head was removed. The group froze the woman's head in the hope that sometime in the future a new body can be cloned for her and her head can be transplanted onto it. The source of this gruesome story is the Riverside County Coroner's Office: they held a press conference to announce their ongoing investigation, "Liberace style".

The press conference, conducted by Bogan and Kunzman, raises the issue that "Dora Kent was not brain dead" as is normally required for the removal of organs (in this case the brain itself!).

The ethics of taking off people's heads or, for that matter of even freezing them before brain death is pronounced, are raised.

The media seizes on the issue of Dora possibly being "alive" when her head was removed.

A media extravaganza ensues. The coroner's office is deluged with press.



THURSDAY, JANUARY 7, 1988

Coroner's deputies enter the Alcor facility with a search warrant allowing them to remove all Alcor's patient care records (including personal photos and patient diaries) of all Alcor patients, and specifically, the head of Dora Kent, for the purposes of autopsy.

The deputy coroners then confiscate the records on all our suspended patients and copy down names and addresses of all Alcor suspension members. Finally, they demand that Alcor surrender to them the frozen head of Dora Kent. Mike Darwin tells them that her head is not here at the facility and that he does not know where it is. Shortly thereafter Mike Darwin is handcuffed, along with Hugh Hixon. Other Alcor members return from a trip for lunch, and they are handcuffed as well. Later, Alcor treasurer Carlos Mondragon drives out to the Alcor facility to speak with the press and he is handcuffed and taken away while giving an interview. In all, six Alcor members are taken to the Riverside County Jail, but only Mike Darwin is charged with anything, a charge something to the effect of "inter-



Associated Press

Cryogenics foundation's Michael Darwin is taken in for questioning by Riverside authorities.

6 held in cryogenics raid

7 frozen human heads reportedly found at lab

Associated Press

RIVERSIDE — Authorities held and then released six people Thursday during the search of a cryogenics lab where a woman's head was cut off and frozen in a controversial procedure last month.

Officials arrived at the Alcor Life Extension Foundation with a search warrant about 5 p.m. Chief Deputy Coroner Scott Hill said authorities would release He said

and frozen in hopes that she could someday be brought back to life with a new body.

Authorities said the woman's son, Saul Kent, 48, a member of Alcor, chose to have her head frozen because she had severe arthritis and he hoped that someday the rest of her body could be replaced.

Alcor, which freezes people who die in the hope they can be revived later when cures to their fatal ailments are found, reportedly had seven frozen human heads and one body on the premises.

Alcor attorney Christopher Leanders said one of the detained persons was Michael Darwin, identified as a member of the organization.

fering with a police investigation and destroying evidence." Alcor's attorney, Chris Leanders, is summoned and the charges against Mike are dropped and all the Alcor people are released.

During his "questioning" Mike Darwin is threatened with the destruction of Alcor and the personal ruin of Jerry Leaf and Dr. Steve Harris. "If you just give us the head of Dora Kent," he is told, "you'll still have a salvageable business here." Mike is further warned that unless he gives the coroner's deputies what they want he is risking Steve Harris and Jerry Leaf "being dragged through the mud" and possibly led away in handcuffs from UCLA.

Alcor members who were taken into custody and then released, besides Mike and Hugh, were Mike Perry, Dave Pizer (who was visiting the facility for a day!), Arthur McCombs, and Carlos Mondragon. (Carlos, who had not been at the facility earlier that day, spoke for about 20 minutes to reporters who by this time had gathered, before he too was hauled away.)

JANUARY 12 - 13, 1988

At approximately 8:30 AM the Coroner's deputies, this time with the UCLA Police and a SWAT team, again storm the Alcor facility. Over the next 30 hours the facility is stripped of tens of thousands of dollars worth of equipment. Many items purchased from the UCLA Surplus and Excess Property Department (and still bearing UCLA ID tags) are taken. The coroner's office also removes all 8 computers in the facility and every bit of magnetic media: software, administrative records, hard disks, and even the tapes in the Cryovita answering machine! They also take every printer out of the facility, including two identical high speed C. Itoh printers on which CRYONICS magazine is produced as well as all documentation and manuals for use of the computers.

About \$5,000 worth of prescription medications is also seized. The Alcor facility is left in a shambles. Dozens of items not on the warrant mysteriously disappear after the coroner's raid -- everything from personal effects to major items

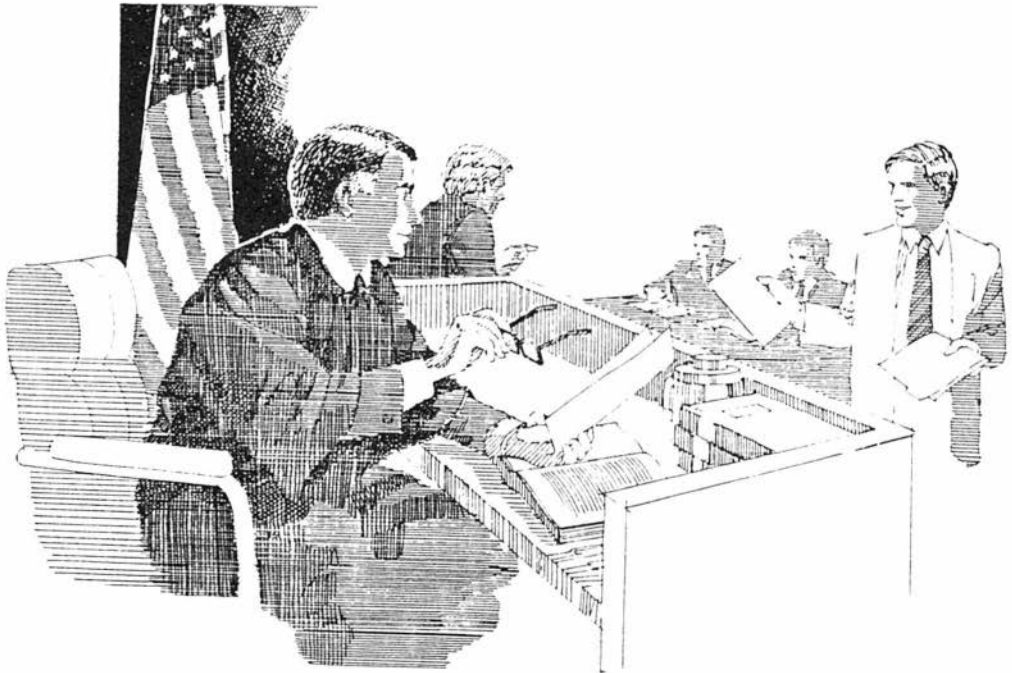
of property (such as the contents of Alcor's electrical service cart).

Sterile tubing packs and supplies are opened and strewn about the facility. Perfusate chemicals and other reagents have been opened and subjected to tests for cocaine and presumably other illicit drugs. Staff personal effects such as notes are taken from the facility and do not appear on the "return warrant" (listing property taken).



WEDNESDAY, JANUARY 13

Alcor is issued a Temporary Restraining Order (TRO) against the Coroner by Riverside County Superior Court Judge Victor Miceli. This TRO enjoins the Coroner from thawing and/or autopsying ANY Alcor patients (including Dora Kent) until a hearing on February 1, 1988. The pleadings for the TRO are prepared by Christopher Ashworth, a Century City attorney with an outstanding reputation in such difficult constitutional cases.



Riverside coroner says he might drop probe if he can check head

By TONY SAAVEDRA
Sun Staff Writer

RIVERSIDE — County Coroner Raymond Carrillo said Tuesday he might be willing to drop the investigation into Dora Kent's death if allowed to perform an autopsy on her frozen head to rule out "bullet holes" or other obvious causes of death.

"She may have died from natural causes, but I'm not going to say that without the head," Carrillo said. "If we don't find anything wrong with the head, we may be inclined to go with natural death."

He added it may be impossible to determine whether the 83-year-old woman was still alive when the procedure was begun to cut off and freeze her head at a

Riverside cryonics laboratory in the hope that she could be restored to life someday.

The head later disappeared from the Alcor Life Extension Foundation laboratory. Officials there obtained a temporary court order protecting the head from autopsy if it is located.

Carrillo shook off charges by Alcor leaders that he mounted a "vicious smear campaign" against the center, and that his investigators had little training and less supervision.

"I have a resolve to do my duty regardless of who gets stepped on," Carrillo said. "Our biggest mistake was not taking the head right off the bat."

Kent's head was preserved in liquid nitrogen at the behest of

her son, Saul Kent, one of the founders of the movement to freeze bodies and heads in the hope that someday science can restore them to life.

Meanwhile, Alcor members are worried that equipment and chemicals seized by authorities will hamper the center's ability to serve the 98 people now signed up to be "cryonically suspended" upon death.

"I'm praying that nobody in our organization dies right now," said Arthur McCombs, a 32-year-old Alcor volunteer. "What kind of interference would we get from (the investigators)?"

Saul Kent concurred, "People in cryonics don't want to be frozen, they consider it the second most terrible thing that can happen to them... The first is dying without being frozen."

THURSDAY, JANUARY 14

The Coroner holds a press conference. It goes very poorly for him. Prior to the press conference, the Coroner's office has given information to the media that large amounts of stolen UCLA property were confiscated and that a cache of automatic weapons and explosives were found in the Alcor facility. A few hours later reports begin to circulate that "books on devil worship" were found in the Alcor facility.

All of these charges are false.

One weapon was taken from the facility, test fired and returned the same day. There were no explosives present. We still can't figure out what the "books on devil worship" were about. But, with over 6,000 books in the facility its hard to tell what struck them as "satanic". Milton's Paradise Lost perhaps?

MONDAY, JANUARY 18

Alcor holds a press conference at the Riverside Sheraton. A press release is issued and questions are answered.



WHAT CAME BEFORE

The following was written on approximately January 4, 1988. It was to open the January issue of CRYONICS. As the above chronology shows, that issue was not to go to press as scheduled. The original diskettes and the core administrative backbone of Alcor were seized in the Coroner's raid of January 12.

*

*

*

A SPECIAL MESSAGE FROM ALCOR

Many of you will know why we are so late in getting this issue of CRYONICS to you. On December 11, 1987 Alcor Suspension Member Dora Kent, the mother of Saul Kent, (a long-time cryonics activist and Alcor Suspension Member) was placed into cryonic suspension.

What Happened

This suspension was the most technically and legally complicated suspension that has ever been undertaken. Due to the fact that a Coroner's investigation into the circumstances surrounding the suspension is still under way at this time, we are not able to share with you the details of the case, as is normally our procedure.

All that we can tell you at this time is that the patient was brought into our facility while still alive and that the patient experienced clinical death (cessation of heartbeat and respiration) from natural causes while in the facility before cryonic suspension was started. Due to an administrative oversight a physician was not present to pronounce legal death. This resulted in a Coroner's investigation.

The Riverside County Coroner removed the body of the patient from our facility for an autopsy to determine the cause of death. The patient was a neuropatient, and the coroner allowed Alcor to retain the patient's head and continue her cryonic suspension.

A Serious Potential Problem

There seems little doubt by all involved (including the Coroner's investigators) that the patient was clinically dead before the procedure was begun. However, the issue has been raised by the Coroner's office with the press and with Alcor that the patient was not brain dead before suspension was begun.

This is a new and irrational twist to things. The brain death criterion in California is defined as "irreversible cessation of all functions of the entire brain, including the brain stem." As currently practiced this determination is normally made by one of two methods: cessation of blood flow to the brain as documented by two blood flow determinations carried out 24 hours apart at normal body temperature; or absence of electrical activity ("flat" EEG) as determined by two evaluations 24 hours apart in the absence of factors which would interfere

with the accuracy of the determination such as barbiturate or other drug intoxication, or hypothermia.

Clearly the overwhelming majority of people who "die" and are pronounced dead in the United States (or the world at large, for that matter!) do not meet brain death criteria. Indeed, brain death criteria are normally used only to determine death in beating heart cadavers to be taken off life support (usually for purposes of transplantation or to allow for discontinuation of costly and useless life support).

The overwhelming majority of people who are pronounced dead are pronounced so on the basis of respiratory and cardiac arrest: cessation of heartbeat and breathing, not on the basis of brain death. Indeed, a large percentage of people who are pronounced dead today could be resuscitated and might go on to "live" and perhaps even remain conscious for a few days or even weeks or months. Thus, the commonly practiced criterion for determining death is in reality a decision to withhold "heroic measures" to support a life that is no longer worth living.

Mrs. Kent's condition was just that. She had been severely debilitated and bedfast for 2 years and institutionalized for 4 years. She was unwilling to take food or water by mouth and had a feeding tube in place for the last 9 months of her life. When she contracted pneumonia, a decision was made by her son to transport her to the facility for clinical death to occur and to withhold further aggressive treatment such as antibiotics and other life support measures. This is a common decision and it is made by many thousands of families and individuals each year across the United States and the world.

Indeed, we have been told that there would have been no questions of any kind raised about the treatment Dora Kent received if cryonics were not involved. But because we acted to artificially restore circulation and oxygenation after natural clinical death, the issue of brain death is being raised and we are being singled out (at least as far as the Coroner's statements to the press and us are concerned) as a special case for potential "selective enforcement" of a criterion for pronouncing death which is grossly inappropriate to this situation in the first place!

The Future In General

Obviously if cryonics groups are forced to follow brain death criteria then cryonics will no longer be a viable option in California (and quite possibly in the United States). The issue of the application of brain death criteria to cryonics cuts to the very core of our ability to operate and offer suspension services. We may find ourselves involved in a long, difficult struggle.

The Coroner's investigation is not over with yet. A number of other state agencies are involved and it will probably be some time before we know where Alcor in particular and cryonics in general stand. We are still very hopeful that there will be a positive resolution to this matter, and Alcor is cooperating fully with the Coroner's office in its investigation.

The Press

The press has been another matter altogether. Associated Press (AP), United Press International (UPI), and the Times Wire Service all carried stories which were picked up to varying degrees by local newspapers across the country. The wire stories portrayed the Coroner's investigation as a bizarre potential homicide case and played up the Coroner's remarks about absence of brain death. The press coverage was a little like describing open heart surgery as "Man's Chest Sawed Open, Blood Drained From Heart in Bizarre Attempt To Save Life..." The local television news coverage was incredibly inaccurate and in several instances, in our opinion, calculatedly vicious. This negative press has severely damaged Alcor's reputation and name.

Current Suspension Readiness

We have been told by the Coroner's office that we can continue to operate (i.e., carry out suspensions) although they have requested that we notify them of any suspensions as soon as we learn of the member's legal death or impending legal death. If there is any change in our ability to continue to provide Emergency Responsibility and Suspension Coverage we will notify our suspension members of this as quickly as we can.

In closing we wish to emphasize that the coroner has by and large been very reasonable in dealing with us and has allowed us to continue with the cryonic suspension of Dora Kent.

We will keep you posted with additional information as we are able to do so.

* * * * *

THE ROAD TO GLORY

by Mike Darwin

courage: mental or moral strength to venture, persevere, and withstand danger, fear, or difficulty. syn. COURAGE, METTLE, SPIRIT, RESOLUTION, TENACITY shared meaning element: mental or moral strength to resist opposition, danger, or hardship. COURAGE implies firmness of mind and will in the face of danger or extreme difficulty <but screw your courage to the sticking place, and we'll not fail -- Shak.>. METTLE suggests an ingrained capacity for meeting strain or stress with fortitude and resilience <a situation to try the mettle of the most resolute man>. SPIRIT suggests a quality of temperament that enables one to hold one's own against opposition, interference, or temptation <constant unremitting drudgery had slowly broken his spirit>. RESOLUTION stresses firmness of character and determination to achieve one's ends <approach an unpleasant task with resolution>. TENACITY adds an implication of stubborn persistence

and unwillingness to acknowledge defeat <the tenacity of the bulldog breed>. ant: cowardice.

--Webster's New Collegiate Dictionary

"What are you complaining about? This is it, this is your golden moment, your road to glory! This is what life's all about! Go in there and show them how flawed and screwed up their world really is!"

--Curtis Henderson, paraphrased on the Coroner's inneundo that "brain death" criteria need to be met by cryonics patients before suspension can begin.

The administrative error which was made that brought us to the attention of the Coroner and the Health Department was, by any objective standards, a small one. It would be easy to descend into an orgy of self-recrimination and blame. Since I, as President of Alcor, am ultimately responsible for making that error, any attempt to minimize its significance might seem little more than a self-serving attempt to avoid responsibility.

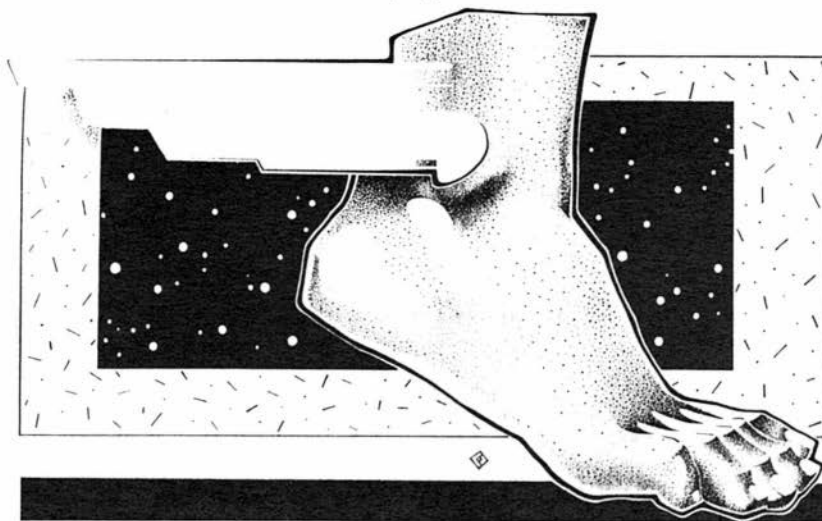
I have suffered many hours of self examination and agonizing doubt over the course of action that was pursued. I wish things had not happened as they have with respect to the Coroner's office. But in reflecting back, I feel a strong and peaceful sense of certainty that the decisions that I and Saul Kent (Dora's son) made were the best ones possible for her at that time based on our limited insight.

Ultimately, the issue that has been raised is the one we knew was coming all along. We are right, they are wrong. What was done for Dora Kent was simply this: for the first time we carried out a suspension with optimum preparations and with the potential for the minimum amount of ischemic time that is allowable under the law. We broke no law and the standards we used to pronounce death are the same standards in use in every hospital and medical center in the world.

What 1988 would seem to hold for Alcor is the enormous challenge we all knew was coming sooner or later -- the challenge that cryonics and the world view that underpins it represent to the status quo.

For over 20 years we have known that existing criteria for giving up on people and pronouncing them "irreversibly dead" are flawed. All such criteria are based on relative and arbitrary functional standards: "Can we restore this person to function given the current resources and limitations of existing medical technology?" Such criteria are rendered meaningless by cryonics.

What if tomorrow's medicine can reverse the aging process? What if tomorrow's biorepair technology can reverse freezing injury (or, put another way, cure frostbite!)? What if current



freezing techniques are effective at preserving the molecular basis of memory and personality?

Many of us have known the answers to those "what ifs" for over 20 years. And what is more, we've understood the implications which flow out of that understanding. Those implications are brutally clear enough: each year millions of people who are potentially salvageable are being embalmed, autopsied, buried, and burned. The magnitude of such a misjudgement and the resulting loss of life are too enormous to grasp in normal human terms.

For 21 years cryonics has existed in the gray twilight of public and official incomprehension of what we are about and of what that means. That twilight may now be at an end.

What will follow? Darkness or light? In the past weeks I have sat alone for more hours than I can count and agonized and worried over the answer to that question. I have tried desperately to figure the odds and thus be reassured to some degree.

And I have arrived at an answer. It was not the one I set out to find. But it is the only answer possible, the only one compatible with my continued survival (and yours too). That answer is that the odds are largely unimportant. All of us in positions of leadership with Alcor knew that this battle would come sooner or later. It does no good to wail over our deficiencies or shortcomings in entering it. The fact is, we are far stronger than we have ever been. We have a strong and supportive relative behind us and, most importantly, we have truth on our side.

If it comes to a fight for existence, I do not know if we will win in any meaningful way. Yes, we care how it will turn out. But we must temper our anxiety over the outcome with the sure and solid awareness that there really isn't any choice.

Some of you will no doubt say "Oh, but there is a choice! I can just step aside, watch my diet, live cautiously and wait for the medical technology to improve." Believe that if you can or if you must. But for most of us deeply involved in cryonics there is the all-too-real knowledge that no one, regardless of health and youth, can be assured of living long enough. And, if cryonics is destroyed, you may have to live a very long time, because the end of cryonics will represent a symptom of an illness in this society which bodes ill for other areas of advance upon which such "wait and see" would-be immortals are counting. The leaders of Alcor have been around this cryonics and life extension business for a long time. We have watched the pace of advance in medicine and science and we are painfully aware that progress most often comes far more slowly than wishful anticipation would have us believe. Our commitment to cryonics has been and is based in no small measure on the grim anticipation that we, and our loved ones, will suffer the misfortune of needing it.

My attitude as an individual is thus simple and direct: if I am deprived of cryonics I am deprived of life. All my actions will thus be in accord with that understanding.

If we are forced to fight now, it will be a difficult battle against great odds. It will take immense amounts of every kind of resource we can muster -- and it will take courage.

I will tell you, all of you, an astounding and to me amazing truth I have discovered in the last few weeks. I have been very afraid. But I have not been personally afraid at all. I have not been afraid of imprisonment or even of death. I have been afraid for the patients whom I have responsibility to care for, for the members who are counting on me, and for Alcor and cryonics. This has come as a strange and surprising revelation. At first I did not understand why I felt as I did. Now, with reflection, I do.

The destruction of Alcor, the patients in its care, and the safety net Alcor represents is equivalent to a personal death sentence. The truism that you can only kill a man once suddenly took on new meaning. And this realization brought home understanding of another truism: "A coward dies a thousand times, a courageous man only once."

And I am not alone in this realization. As I look around me I see many resolute and steely eyes. Some of those who I thought would be weakest have been strongest. If we must fight, we will fight together. If we must face the destruction of cryonics and of our lives we will face it with the knowledge that we did everything within our power to survive.

There is no nobility or victory in defeat, and I am not arguing that there is. But neither is there honor or worth in cowardice and surrender. If we are forced to defeat, I now know, as I look around me, that it will not be without a tough and courageous fight.

Some of you may walk away from us now. Then go, because you were never really with us.

Lest you think we will be tilting at windmills -- rest assured that is not the case. The task is formidable, the odds against us great. Just never forget that we are right and they are wrong. That counts for a great deal.

If we must fight, we will. It will be a hell of a battle, the stuff of which legends are made. The spoils of victory? Not just gold and glory (although there will be plenty of both if we win) but immortality in the only meaningful sense of the word: ours.



* * * * *

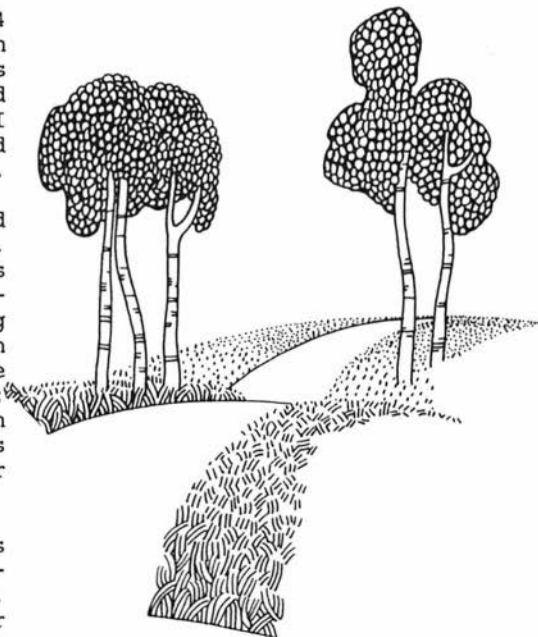
THE ROAD AHEAD

by Mike Darwin

I am 32 years, 9 months and 4 days old as I write this. I can say in all honesty that 1987 has been one of the most intense and challenging years of my life. I think that the same can be said about 1987 with respect to Alcor.

On the "up" side we opened and occupied our new facility. Interest in Alcor and cryonics has never been higher and Alcor finally reached, briefly, the long sought 100 mark: 100 suspension members signed up. Reaching the 100 mark was a real achievement: No other cryonics organization even comes close to Alcor in terms of rigorous requirements for making suspension arrangements.

Of course, those requirements are another big part of the positive side of the equation for 1987. We have greatly improved our administrative and organizational



abilities and as a consequence tremendously improved the strength of the organization. The new financial controls on life insurance that were recently put in place have gone a long way towards insuring a secure future for us. No small measure of thanks for those administrative efforts goes to Arthur McCombs, Alcor Suspension Arrangements Coordinator.

There were also notable gains in training and readiness. Alcor acquired a state-of-the-art paramedic ambulance, put the Mobile Advanced Life Support System (MALSS) cart into clinical application, and upgraded the level of rescue support available to members substantially.

A second vault for storage of patients was acquired, as well as in-house equipment for evacuation and monitoring of vacuum integrity on cryogenic dewars.

By any objective measure it was a very productive and satisfying year. But there were also some "downsides". Misleading press surrounding the activities of competing organizations did much to damage the credibility of cryonics. Alcor's South Florida facility was temporarily shut down due to the problems of our landlord with local law enforcement officials (problems unrelated to cryonics activities in the building) and major financial support for Alcor from the Life Extension Foundation (LEF) was cut off due to action against LEF by the FDA.

And of course, we are now faced with a potentially very serious crisis as a result of the last suspension we carried out.

We have never faced a more challenging year. We have the achievements of 1987 to exceed and the challenge of a potential long and hard fight ahead.

It should be an interesting year. (All I can say is: "That has to have been the understatement of the century!")



* * * * *

Where We Are Now, Or, A Report From The Trenches

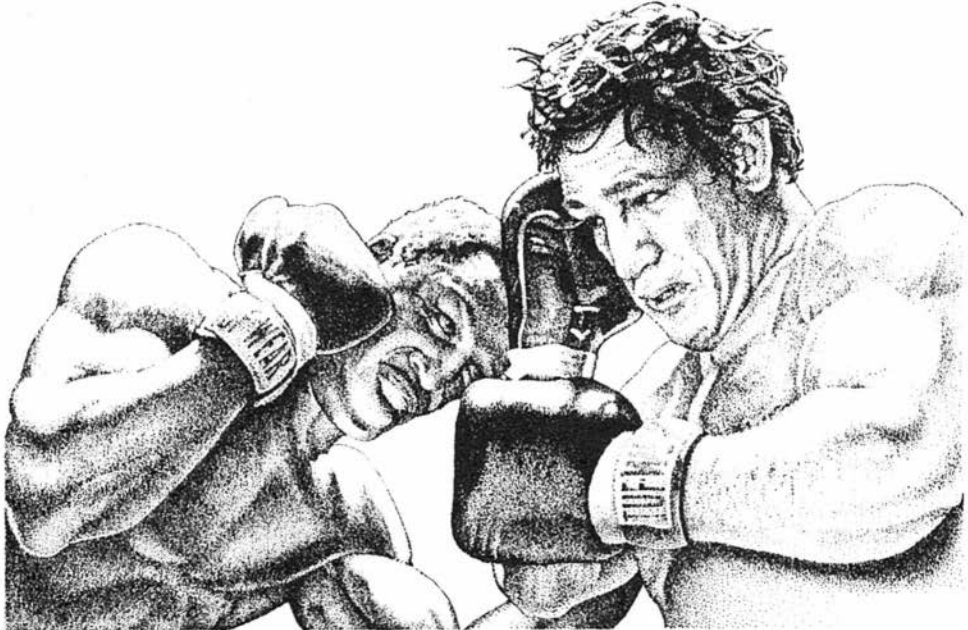
by Mike Darwin

Thomas and others have pretty well sketched the events of the last seven weeks. Unfortunately I, and the other Alcor staffers have had to LIVE through them. I'm not ashamed to say it has been sheer hell -- the worst days of my life. I wrote THE ROAD TO GLORY a few days before the coroner's FIRST raid! I wrote it because I suspected we were in for trouble when I heard Deputy Coroner Rick Bogan on National Public Radio's "As It Happens" show saying something to the effect that Dora Kent wasn't brain dead and "if there was a spark of life left in her then they intended to pursue the matter to the full extent of the law". Well, that's what they did -- and then some!

From Theory To Practice

I wrote of lofty convictions and high ideals, of being willing to fight and die. Less than 48 hours after I read "The Road To Glory" to the Alcor staff I, and most of them, were sitting handcuffed in custody. I cannot describe the pain I felt at standing and watching helplessly as the facility I've worked so long and hard to build was rent apart by savages. But I and the other Alcor people, brave to a man, stood there handcuffed and took it. And to the enormous credit of ALL of us we took it in silence and like men.

I cannot begin to describe the thoughts that ran through my



head as I was taken into a small room and given the nice-cop bad-cop routine. I cannot describe the feeling of hopeless despair as I watched our dogs being loaded into the pound truck and the rest of the Alcor staff tossed into a squad car and taken away. There are no words adequate to express my rage and my despair.

How do you deal constructively with people who seize computer equipment and then toss it, hard drives and all, onto the back of a stakebed truck without so much as a disk drive protector in place? These people are savages. The only trouble is we're living in THEIR world. It's just too easy to forget for a moment and think that we are NOW living in the 21st century. We aren't, and we cannot for a moment ever forget that fact again.

Grinding Us Down?

The Coroner's office is now trying to systematically grind down Alcor. They have brought in a plethora of state and local agencies to investigate every aspect of Alcor's operation. We are discovering all kinds of regulations that neither we (nor any other cryonics organization for that matter) knew existed! Despite the fact we have a business occupancy license as a biomedical research facility we are now told that because we have human body parts on the premises we need a "special" conditional use permit. We have been publicly pilloried for fire code violations. And what were they? -- why we stored acids and bases too close to each other and didn't let the Fire Department know we had a drum of silicone oil in the facility!

Despite all of this, at this writing, we are still operational. Our local suspension capability is back up and running and the only thing we've lost in that department is the ability to measure blood gases: UCLA has our blood gas machine (incidentally, this is not a serious problem).

However, we have been stripped of reserve capacity. Thousands of dollars worth of prescription medications were taken and our total body washout remote standby capability was gutted by loss of both medicines and equipment during the raid. We can still offer remote standby HLR transport and we hope to be back up on remote standby TBW in a month or two.

Most importantly, all of our patient's medical and suspension records were taken in the raid. We are working vigorously to regain control of these materials.

The Extent Of The Hit

The cost of this harrassment has been simply unbelievable. Our loss in computer equipment alone was in the \$32,000 range! Our legal bills are right now in excess of \$45,000! Our mailing lists, training manuals, correspondence, and the hundreds of other administrative forms which used to pour out of the Alcor computers are gone. And what's more, we've been told we are unlikely to get any of it back in the foreseeable future. The Alcor BBS is gone-- and the hard drive almost certainly ruined (they tossed it onto

the back of a stakebed truck!). The Alcor Macintosh, three IBM compatible machines and two Kaypros were removed. We are back to strictly manual methods.

The Need For Money and Help

The crisis which has resulted from Dora Kent's suspension has left Alcor in very desperate straits. Not only are we faced with unexpected legal expenses and the need to consult with highly specialized attorneys, we are faced with no income for the suspension expenses until this matter is resolved. In the absence of money for salaries and legal expenses, Alcor faces a serious challenge to its continued existence. Frankly, we don't know what to do other than to once again ask for your support.

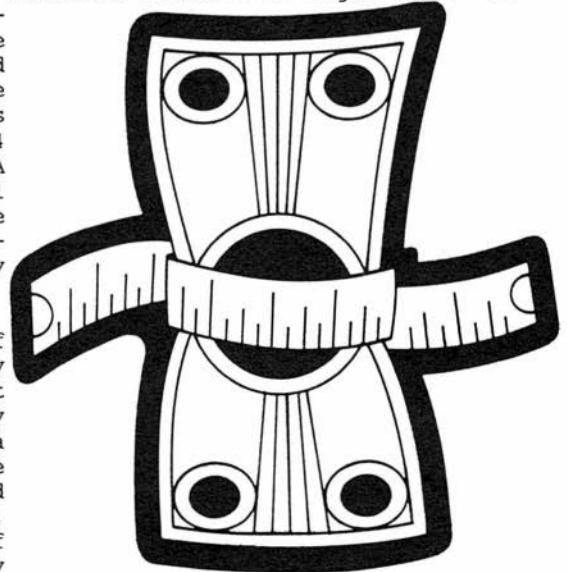


A Call for Help

We are calling for financial support and active assistance. Legal bills alone have mounted to \$45,000 already and will probably go far higher. We are grateful for the many offers of financial support already flowing in for a legal defense fund as well.

The Alcor attorney has advised us that the Alcor bank accounts are not at all likely to be seized or frozen, and that properly setting up a separate entity to accept donations for legal defense would be several thousand dollars of legal work in itself. In the meantime, donations for Alcor's legal defense or operating expenses are indeed needed and welcome. They may be sent to either the Alcor address or in care of Allen Lopp, 13354 Veracruz Street, Cerritos CA 90701. However, please make all checks or money orders payable to "Alcor Life Extension Foundation" at this time, not to any other group name or individual.

Anyone who is afraid of sending in their money directly to Alcor (because of fear that our accounts will be seized) may want to consider sending us a pledge promise, so that in the future we can either accept and disburse the funds very quickly, or possibly send you the name of an Alcor creditor that you may



want to send your money to directly to be credited to Alcor's account with them.

You may wish to set an amount of money as a goal. Steve Bridge has publicly pledged to raise \$5000 for Alcor. It helps both in asking for money and in providing it to have a clear goal in mind.

Although currently Alcor is accepting donations directly, if this crisis continues for months a separate corporation probably will be set up to accept legal defense money. Ideally, this could be an omnibus corporation that could not only be a repository for defense donations, but also possibly engage in political activity such as educating legislators on legal issues posed by cryonics and discussing possible legislative remedies. Currently, our suspended patients are legally dead and have no legal rights -- only their living relatives have rights. Additionally, we must be prepared for the likelihood that some agency or interest group hostile to cryonics will approach legislators to prohibit our work, and we will need to launch the largest lobbying campaign we can to prevent that.

Among the active measures you can take immediately is to consult your state and local representatives, expressing your grave concern about these events and asking them to approach the Riverside Coroner's Office or the Riverside County Board of Supervisors in this matter. You can also telephone the Coroner's Office directly, at (714)787-2001, the Chancellor and Regents of UCLA at (213)825-4321 and (213)206-1243 respectively, and the Vice Chancellor for Community Safety (Police Chief!) of UCLA at (213)825-2151. Whenever you do so, you can explain the circumstances and the reasons for your concern. Finally, you might contact your local Cryonics Coordinator for ideas on other help you can provide. Even putting together this issue of CRYONICS, for instance, needed help from several people.

You can also speak to members of the press describing your feelings about these events as a sympathizer for Alcor or an interested party. Those of you who have some public reputation can do this particularly effectively, but even letters to newspapers from general members of the public will have an effect. We only ask that at all times you make clear that you are talking for yourself alone and are not an official representative of Alcor. The legal situation is complex and unauthorized people who claim to represent Alcor can unwittingly do great harm. Please also consult with Carlos Mondragon, Acting President of Alcor, about any publicity measures you plan to take.

Computers and Software Needed

Most urgently we need things! We need computers to replace the ones taken and we urgently need a high speed printer of letter quality. We don't even have a typewriter in the facility as of this writing! If you have a working computer you can spare and especially if you have a "turnkey" system -- i.e., with a printer, please let us know!

Also, you may have a small piece of Alcor somewhere. We lost everything in the raid -- every back issue of CRYONICS magazine that was on diskette, every letter we sent out to you as an individual. Our administrative correspondence and much of our financial files were seized. They even seized Cryovita's corporate record book and corporate seal!

If you sent checks to us during the months of November or December it is possible the Coroner has them (at this point, this seems unlikely, except as noted below). Much of our accounting and some checks for deposit for December (specifically, Symbex checks) were seized in the first raid.

If you have a little part of Alcor, please save it. Don't send it to us yet. Just save it. We'll let you know when its safe to send it to us.



What Alcor Is Doing

Alcor is fighting back and fighting back hard. The frontrunners in this battle have been Keith Henson, Carlos Mondragon, Saul Kent, Jerry Leaf, and Arthur McCombs. Their work has been incredible and the leadership and good judgment they have shown in confronting this crisis have been nothing short of stunning.

To give you an idea of the astounding nature of this battle, we have, for the first time in history, won a temporary restraining order against a coroner to block autopsy of a cryonics patient. No one thought we would be able to achieve that. But, due to the effort of Jerry Leaf, Saul Kent, and our attorney Christopher Ashworth we got it. On the 1st of February we are going to attempt to get a Preliminary Restraining Order (PRO) which will allow us more time to build our case.

* * * * *

THE PAST, PRESENT AND FUTURE

by Mike Darwin

The past seven weeks have been sheer hell -- but they have also been an amazing, positive adventure as well. I am confident now that Alcor has leaders other than Mike Darwin and Jerry Leaf who are capable of taking the helm and steering the ship successfully. I am also confident that we have a fierce and

dedicated suspension membership. The incredible loyalty and support that has been shown cannot even begin to be characterized here.

What lies ahead is not going to be easy. We may not even succeed. But we sure as hell are going to give it a go. If you haven't helped us already you can do so now. And it doesn't have to be a \$25K check (although that would be GRACIOUSLY accepted too!).

During the second, 30-hour raid Hugh Hixon and Mike Perry stood guard outside the facility and kept watch on the patient vaults. (They bravely confronted the police and demanded they leave the patient bay door up so they could be sure the patients were not being disturbed during the raid.) Earlier, at 8:30 AM, Mike and Hugh were rousted out of the facility. Mike and Hugh had to confront a SWAT team half dressed and were not even allowed to put their shoes on!

In fairness to the Coroner's people (and the considerably more sympathetic officers of the Riverside Police Department), some clothing was soon retrieved from the facility by them (including shoes). Hugh and Mike were briefly allowed inside from time to time, under close supervision, for use of the restroom and shower, and to retrieve articles of personal hygiene from the sleeping quarters. Some refreshments were provided also. A generous neighbor contributed a jacket and a blanket. To maintain the vigil, Hugh and Mike spent the night in a car parked outside the open door of the patient care bay. Alcor stalwart Marce Johnson was alerted to their plight and sent a pizza, something that meant a lot to these two who kept watch.

Thank you for any help YOU can provide.

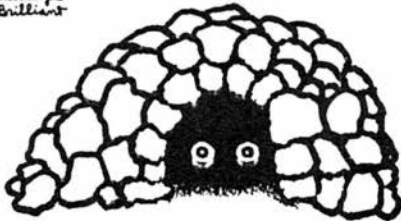
* * * * *

©BRILLIANT ENTERPRISES 1977

POT-SHOTS NO. 436

**IF YOU'RE CAREFUL ENOUGH,
NOTHING BAD OR GOOD
WILL EVER
HAPPEN
TO YOU.**

*Adleigh
Brilliant*



THIS IS ONLY ONE OF HUNDREDS OF DIFFERENT POT-SHOT CARDS. IF YOU CAN'T FIND MORE AT YOUR LOCAL STORE, WE'LL SEND YOU A STARTER SET AND CATALOGUE FOR \$2.00. WRITE TO BRILLIANT ENTERPRISES, 117 W. VALERIO ST., SANTA BARBARA, CALIFORNIA 93101.

Coroner's Press Conference January 13, 1987

The following is a transcript prepared from a taped interview of the press conference held by the Riverside County Coroner's Office on January 13, 1987. The transcript is as complete as possible. Areas where "... " appear indicate either an incompleated statement or loss of information due to background noise. The tape from which this transcript was made was provided through the courtesy of a local reporter.

The transcript itself is an amazing thing. In our opinion it reveals a totally disorganized and incoherent investigation and a Coroner's office in the position of having to answer a number of difficult and embarrassing questions to which they obviously have no answer. The reader can judge for himself.

The Coroner of Riverside County is Mr. Ray Carrillo an elected official. The chief Deputy Coroner is Mr. Dan Cupido. The coroner's office has full police powers in Riverside County. The press conference was conducted by Mr. Carrillo and Mr. Cupido.

Reporter: Do You have any knowledge whatsoever of where Mrs. Kent's head may be at this time?

Carrillo: No sir, we don't.

Reporter: Is that an important part of the investigation and if so, why?

Carrillo: It is an important part of the investigation. We have a resolve to perform our duties and this is the main part of our investigaion and we cannot do a complete investigation without the head.

Reporter: Can you tell without her head whether she was dead at the time she was decapitated?

Carrillo: At this point, no. I don't know.

Reporter: Ray, what do you think happened...what do you think happened at that lab?

Carrillo: What we're trying to establish is whether the (ah) death of Dora Kent came under mysterious circumstances and at this point, we cannot tell, without the complete body and that includes the head. As far as we're concerned, we don't know exactly what happened but we're trying to determine it.

Reporter: How can you determine whether she was dead or alive when decapitated from the head?

Carrillo: I'm sorry, but I can't answer that....

Reporter: Can you tell us anything about Alcor's lab notes? I understand they were siezed and we're being told those notes showed there was a 5 hour gap between death and decapitation?

Carrillo: We do have the details stored at our facility and we haven't gone through them completely.

Reporter: At this time other than the fact that Mrs. Kent's head is missing, have you been able to determine is anything illegal being done in that laboratory? In other words, when someone goes there and they're already dead, and they have their heads cut off like they've been doing, is there anything illegal that at least you can find out about?

Could someone eventually be arrested from that laboratory? Is that where it's headed?

Carrillo: The only thing we can do is investigate, report our findings to the authorities and let them take it from there.

Reporter: Ray, can you give us the chronology of this? There seems to be some dispute as to when the death certificate was originally filed in your office...whether you seized it again from Alcor..or there's two death certificates, are there not? ...The original one that listed pneumonia and the one we have now that says pending.

Carrillo: No sir, as far as we're concerned, there is no cause of death. A certificate was filed with the county health department and vital statistics. That certificate is listed as pending. There is no cause of death.

Reporter: All along, the Alcor people, including their attorney, right out here yesterday, have been contending that you have been responding to public pressure...to media pressure, Ray, and that we're as much responsible for this whole thing as they are. Can you comment on that?

Carrillo: Yes, Conan. They are under the erroneous assumption that media pressure is forcing us. I must say media pressure had nothing to do with it. We have not taken any liberties here that under the law, we're not allowed to do.

This must be seen through and that is what we are doing.

Reporter: Were these people co-operating at the onset and have stopped co-operating?

Carrillo: Exactly. Originally.. that's why we left the head at the facility. They promised they would not remove anything from the facility. When they moved the head, it led us to believe something more was going on.

Reporter: Is there any sign of devil worship or what could be described as voodooism?

Carrillo: I have no comment.

Reporter: Have you been able to locate Saul Kent? Have you been able to locate any other members of the Kent family?

Carrillo: Not to my knowledge.

Reporter: Have you been consulting with out-of-state authorities?

Carrillo: Some of our deputies have been consulting with people out-of-state, San Francisco, Florida, Arizona.

Reporter: I understand the investigation is to determine what killed her, if in fact, she died before or after. Is that the reason you are pursuing it?

Carrillo: We're pursuing it because we want to establish the mode of death and the cause of death.

Reporter: For no other reason?

Carrillo: For no other reason. This is our mandated duty and we're going to try to see it through.

Reporter: ...and you can't do that without the head?

Carrillo: I don't believe you can.

Reporter: Can you do it even if you do have the head. I mean is it possible you can't determine it?

Carrillo: There's a possibility that we cannot, but we have to follow this through as far as the law will allow.

Reporter: Are there any indications of foul play?

Carrillo: I have no comment.

Reporter: Ray, is the TRO that was granted yesterday, going to interfere with your investigation?

Carrillo: I don't believe so, Conan. What was (ah) said in the paper is erroneous...what they were going to try to stop us from doing, we weren't going to do anyway.

Reporter: Ray, is this something that could never be resolved?

Carrillo: This is a possibility.

Reporter: Do you feel that you could be investigating a homicide?

Carrillo: I have no comment.

Reporter: What are the causes of death that could be listed on a death certificate. What are the possibilities?

Carrillo: Mode...how she came to her demise. The toxicology will possibly prove that agents were used for the acceleration of her death. This would possibly later come out. But this is purely conjecture at this point.

Reporter: What out-of-state authorities are being consulted?

Carrillo: I have no comment.

Reporter: Mr. Carrillo, you said they were trying to stop you from doing things you were not going to be doing anyway. What kinds of things?

Carrillo: Well, they want to stop the investigation. They claimed we were going to take all the heads and melt them. I was very upset when I read the papers this morning. We were going to chop up the head...we don't chop up heads we do autopsies. This shows the deviousness. It shows they're working on the people's minds to show that we're doing something illegal, which we are definitely not.

Reporter: Mr. Kent had told you earlier that he would co-operate and you had no reason to believe that he would take off with his mother's head?

Carrillo: I don't believe we got that from Mr. Kent. We got that from the members of the facility when we talked to them...by our deputies at the scene.

Reporter: Why did you believe them?

Carrillo: For one thing, we did not want to ruin the procedures that they had taken. We recognized that it is a bonafide, possibly chartered society. They have their beliefs...they have things to do and we did not want to ruin any kind of procedures that they had undertaken at this point.

Reporter: Sir, that gets back to my other question, again...I hate to keep bringing it up again..So what they do then is not illegal and you're not investigating their procedures and practices...is that correct?

Carrillo: It is not a registered facility. We are not...we are investigating....we come up with things that are illegal, we certainly are going to report them to the authorities, particularly if it focuses on Dora Kent. Does that answer your question, sir?

Reporter: What could possibly be illegal? Can't everybody have the right to choose the way they die?

Carrillo: Did she choose that way? That's what we're trying to find out.

Reporter: It is still illegal to cut off someone's head when they're still alive, correct?

Carrillo: Correct. And assuredly when you find a location when several heads are found, it certainly is going to provoke our interest.

Reporter: If you say "I want my head chopped off after I'm dead, you can say that in your will and that's not illegal"?

Carrillo: You can say it in your will and at this point, we have found no wills...nothing to that effect.

Reporter: That request has to be written down...the request to have the head removed?

Carrillo: I am not that familiar with Alcor, but at this point as far as I'm concerned, it should be specified in some sort of document. There should be some sort of documentation to that effect.

Reporter: If Mr. Kent is found, will he be charged with anything? Will you suggest any charges against him?

Carrillo: No comment at this point.

Reporter: Who regulates cryonics laboratories?

Carrillo: That's the bad part about it, Conan. They're not regulated by the Medical Assurance Quality Board ...the Medical Quality Assurance Board, I should say...or by the mortuary community here. There is no regulations on it at this particular time. This is a new field.

Reporter: Are you trying to fill a vacuum then by taking a look at these folks?

Carrillo: No, I wouldn't say we're trying to fill a vacuum, here, Conan. We're trying to do our job...our mandated duty...that I can't stress enough.

Reporter: So if there was evidence to prove that she was already dead when her head was cut off, you wouldn't be standing here now investigating this company, telling us about it?

Carrillo: No comment, sir, on that...but I feel we still would because we don't have the complete body.

Reporter: Have you spoken with her Doctor who took care of her before her death about her condition, while she was still in the facility?

Carrillo: I believe one of our deputies did.

Reporter: What did he say...she say?

Carrillo: At this point I'm not sure and I don't want to give you any false impressions.

Reporter: Was there any indication that she was coerced to leave the nursing home?

Carrillo: I'm sorry but I can't answer that at this time.

Reporter: The attorney yesterday, was quite concerned about the fact that at one time, after autopsy, the body was autopsied by the coroner, correct? and there were certain findings as to the consequences and that there was a period of days that went by before you became concerned about some of the things on the death certificate, not from your office, but from the crematorium. He

was quite concerned about that, sir. Why the lag time? What happened in that period of time?

Carrillo: The case was still under investigation and as far as that certificate is concerned, it was not filed so it is not a legal document. It was filled out by somebody else...as far as we're concerned, at this time, there is no cause of death.

Reporter: What did the coroner's office list as the three causes of death that were listed on that first death certificate?

Carrillo: I'm sorry, please repeat that.

Reporter: The coroner's office has to determine the cause of death, dementia, or whatever it was...pneumonia?

Carrillo: Pneumonia. It was our pathologist. With the information he had at that particular time, he came up with pneumonia. When he started digging in, he found other concerns that warranted looking into it.

Reporter: Ray, I understand that a doctor signed the original death certificate...the one that was rejected. Was that doctor an Alcor member?

Carrillo: I don't know...I think he was but...at this point....

Reporter: Is he still co-operating? Or is there a need for him to co-operate with you?

Carrillo: I Can't say.

Reporter: The autopsy that you did originally was without the head?

Carrillo: That's right, that is correct.

Reporter: Have you ever done an autopsy like that before?

Carrillo: Not to my knowledge

Reporter: What was the reason given your office and didn't you kind of what to know where the head was and what's the procedure on that? I mean you don't get many headless bodies.

Carrillo: That's why we were called in. When we found out it didn't have a head, we requested it. They said it would ruin their procedure and in the vein of not ruining whatever they were working on then, we agreed to leave the head at the location there. They promised not to remove anything from the premises but when it was decided in the pursuit of this investigation that we should have the head, we went back to them. They said it was not available. It had been removed.

Reporter: Have you ever had a case like this that came so close to this type of...

Carrillo: Never had a case like this in 18 years. Never.

Reporter: Have you ever heard of a case like this?

Carrillo: No, nothing.

Reporter: Ray, the bottom line question seems to be "Why didn't you react right away after the autopsy?" Why wasn't some action taken at that time?

Carrillo: We were treading on very unknown ground and we did not want to ruin the procedure. From what I understand it was an expensive (or extensive) procedure and to thaw it out would ruin the procedure. In the vein of the time we had to work with them we maybe were a little remiss in not acting immediately. But we didn't want to ruin any of the work they had done.

Reporter: There wasn't any lag time then. You were immediately concerned about this and started investigating?

Carrillo: Since we picked up the body, yes sir.

Reporter: You trusted them...and they double crossed you.

Carrillo: We trusted them. This is exactly the way I see it and this is exactly why we have resolved to see this case through.

Reporter: Is there any kind of legal action you can take to compel them to turn over the head?

Carrillo: Not at this time apparently.

Reporter: Is there something you're contemplating?

Carrillo: We're contemplating and we have until February 1st to answer this court order.

Reporter: Is there any kind of State investigation into this as well as yours or is yours the...

Carrillo: No comment.

Reporter: What do you have to do before February 1st?

Carrillo: We have to answer the court order.

Reporter: Which means exactly what?

Carrillo: We have to come up with more information as to whether we will be able to force them to give us the head.

Reporter: Did she die at the Alcor facility? Was your autopsy able to determine when she died and where she died?

Carrillo: She died at the Alcor facility.

Reporter
How do you know that?

Carrillo: They claimed to have brought her when she was still alive..took her out of the rest home and took her to...

Reporter: So their claim only?

Carrillo: Their claim only, right. But there again on the death certificate, they claimed that she died at home...

Reporter: Did they voluntarily take the body to the coroner's..when they take it to the coroner's office, there's no choice on an autopsy?

Carrillo: Right...

Reporter: How long after her death was she brought for an autopsy?

Carrillo: I don't recall.

Reporter: Was the initial certificate...the one that was rejected, was that prepared with help from your office?

Carrillo: The one that was filed?

Reporter: No, the one that was rejected. The one that had the cause of death as pneumonia...the death at home. What date was that?

Carrillo: I don't recall the date. Let me call Mr. Cupido here, he's in charge of the investigation.

Reporter: Was that prepared with help in your office?

Cupido: No sir, it was not.

Reporter: So the cause of death that was listed on that one, the one that was rejected, the one with pneumonia and so forth, that was not from anybody from your office?

Cupido: No sir, it was not.

Reporter: Who prepared the certificate that was rejected?

Cupido: We are not at liberty to say.

Reporter: Wait a minute...let's talk about the evidence. Can you tell us about the prescription drugs that were seized? What kinds are we talking about?

Carrillo: Well, you'd have to put it up to Mr. Cupido because he is aware of the drugs that were seized.

Reporter: One more question, Ray. Why was it...an autopsy necessary? Why was it that you were called in the first place? Why were you called in in the first place for an autopsy?

Carrillo: Why were we called in?

Reporter: Who called it in...who called it in and why?

Carrillo: There are certain questions I'll refer to some of the reporters after we go off the air. (or I prefer to...to speak to reporters after...) so I'll answer some of the questions off the air.

Reporter: Ray, is there a any movement on the part of any agency in Riverside, because of violations, zoning, and so forth to force this company out of the county?

Carrillo: There is a definite possibility of something like that.

Reporter: All right. So there is movement that wouldn't be covered by the court order.

Carrillo: Right.

Reporter: O.K.. How is that moving forward...what agency?

Carrillo: At this point, I won't say. Do you have another question I could answer for you?

Reporter: The prescription drugs that were seized in the raid...could you tell us what kind?

Carrillo: O.K., Mr. Cupido can tell you what was seized there.

Cupido: Narcotics and prescription drugs were seized during the search of the facility, January 12th and January 13th. Some of those drugs were Narcan, Heparin, Phenobarbital. All these drugs are regulated by the Drug Enforcement Agency.

Reporter: What are these drugs used for?

Cupido: I don't think I am able to say..

Reporter: Aren't they the usual things you'd find in someone...about that age...someone's drugs. Was there too much of it? Was that why you were concerned? My grandmother has phenobaritol...

Cupido: I prefer no comment at this time.

Reporter: Any street type drugs found, Dan? Cocaine, perhaps. Anything like that?

Cupido: No, no street or illicit drugs.

Reporter: Based on your knowlegde and your experience, would you care to guess or to theorize...was she alive at the time that her head was cut off?

Cupido: We have no comment to make at this time.

Reporter: Dan, could any of those drugs be used to accelerate death?

Cupido: Most definitely.

Reporter: Which records have you gone through that you said you have in your possession at this time? Have you gone through her patient records yet?

Cupido: Yes.

Reporter: Did you find anything that looked suspicious or out of the ordinary?

Cupido: We are investigating the death of Mrs. Kent.

Reporter: Do you believe the records are forged or fradulent?

Cupido: I'm not really able to speak about that.

Reporter: Is UCLA still involved with this at all?

Cupido: The University of California Police. With relation to the suspected stolen property, yes, they are.

Reporter: Do you believe there is possible????hospital gowns....and how do you find out when somebody died..

Cupido: I beleive we do have to separate the two because there are two separate investigations.

Reporter: Is that regarding the stolen gowns?

Cupido: Yes..

Reporter: Is Alcor, for all intents and purposes, shut down now or are they still in operation? In other words, if someone were to die and was a member of that society, would he or she still be allowed to or the relatives to have that person's head cut off and frozen like the others were? Or have they ceased to operate?

Carrillo: To the best of our knowledge, they are still operating. We have been co-operating by allowing them to maintain personel at the facility even during the search of the facility.

Reporter: Are you to be notified, though, if and when another procedure like that is to take place?

Carrillo: If it falls within the coroner's jurisdiction, yes.

Reporter: Would they be able to go through this process with the equipment they have left after the

seizure of equipment?

Cupido: We're not that familiar with the exact procedure, so I couldn't answer that.

Reporter : Regarding the drugs found on the premises, is there any reason to believe they were obtained illegally or the fact of their being there was somehow illegal?

Cupido: That is being analyzed meticulously.

Reporter: Can you give us any idea of the quantity. I couldn't hear what you said.

Cupido: There was a large amount of prescription drugs.

Reporter: What's large...a year's supply?

Cupido: We retrieved boxes of drugs.

Reporter: Boxes?

Reporter: From what you took and obtained, can you determine when they remove a head, is it done properly...I mean...is it done with care? Or is it a very slipshod type of procedure that they do there?

Carrillo: We will not comment on that.

Reporter: But you do know?

Carrillo: We will not comment.

Reporter: You will not comment, but you do know?

Carrillo: No, we don't know.

Reporter: Are you concerned, not only that she may have been alive when she was decapitated, but that she may have been killed first and then decapitated?

Carrillo: To correct the record, I don't believe we are concerned that she was alive when her head was removed.

Reporter: Are you concerned that she died of natural causes?

Carrillo: We are trying to determine the mode of death.

Reporter: So you are not concerned that she might have been alive when she was decapitated?

Cupido: No.

Reporter : So you think she was dead?

Cupido: Yes.

Reporter: Excuse me, but Mr. Carrillo just told me day before yesterday or two days ago, that we have to resolve how that woman died and her head was severed. I can't understand what you're saying, Dan...you're not concerned with whether she was alive when the head was removed?

Carrillo: I think it's a matter of attitude. I think it's a definite concern, but as far as the investigation, concern is not focused on that particular point..whether she was alive or dead at the time.

Reporter: Do you feel confident that she was dead when she was decapitated?

Carrillo: Ah, yes....

Reporter : Ray, I'm not hearing you real well. When Steve asked you about why were you called in for the autopsy in the first place, what was your response?

Carrillo: I said it's our mandated duty because anytime...you will agree, it's an unusual death...any body without a head... Any questionable death comes under our jurisdiction, we're...

Reporter
Who called you?

Carrillo: I believe it was the mortuary that was called to pick up the body. Of course, when they saw the body...a headless body, they backed off and called us.

Reporter: Who was that Mortuary? Was that the one at Buena Park...where the remains were ultimately sent?

Carrillo: I believe so.

Reporter: Buena Park Mortuary?

Carrillo: I don't want to say...

Reporter: I mean, but that's where it's located.

Carrillo: The one where it's located.

Reporter: So they did the right thing? They could have been unscrupulous. They could have just taken the body and not let you know.

Carrillo: Right.

Reporter: Ray, There were other body parts at the Alcor facility. Why haven't you been involved in any of these other cases, prior to the case involving Mrs. Kent?

Carrillo: For one thing, to reiterate, we did not want to mess up any of their procedures and it did not fall in under our jurisdiction.

Reporter: But you are acknowledging that you will in fact, if you have to somehow forcibly take this head. They're saying that they have to keep it at a very low temperature in order to preserve it. If you're going to proceed with an autopsy on the head, that's going to blow that procedure out of the window, is it not?

Carrillo: Well, I'm going to defer that question until later.

Reporter: Could I clear something up? You say You're trying to determine the mode of death. You mean the cause of death, correct?

Cupido: No, the mode of death.

Reporter: Could she have died because her head was cut off? I mean you said you were not concerned that she was alive at the time of decapitation. So you're still trying to determine her mode of death?

Cupido: Uh huh.

Reporter: I'm not sure if I understand.

Cupido: There is a difference between the cause of death and the mode of death. The mode of

death can fall within one of four categories...either being a homicide, or a suicide, an accident, or a natural death. That is the determination of mode. The cause of death is determined by medical science.

Reporter: And right now, you're not worried about whether she was alive or not when she was decapitated. You're trying to establish the mode of death.

Cupido: We are trying to establish the cause of death along with the mode of death. The issue of whether Mrs. Kent was alive at the time of decapitation is not an issue.

Reporter: Was it ever an issue?

Cupido: It is not an issue at this time.

Reporter: What do you know that the mode of death is not?

Cupido: We haven't completed our investigation yet. We can't determine any of those yet.

Reporter: If the mode includes homicide, how could it not be an issue?

Cupido: I don't think we are at liberty to discuss that pending completion of the investigation.

Reporter: Just to clear up one more time, you do feel confident that she was not alive at the time of decapitation, is that correct?

Cupido: Yes, it is.

Reporter: Would you step up to the microphone to make that statement? You're too far away from us. Can you reiterate what you said about whether this woman was alive when decapitated.

Cupido: At this time, the investigation is not suggesting that Mrs. Kent was alive at the time she was decapitated.

Reporter: How about at the time the procedure was started.

Carrillo: OK ladies and gentlemen thank you very much.

* * * * *



THIS IS ONLY ONE OF HUNDREDS OF DIFFERENT
POT-SHOT CARDS. IF YOU CAN'T FIND MORE AT
YOUR LOCAL STORE, WE'LL SEND YOU A STARTER
SET AND CATALOGUE FOR \$2.00. WRITE TO
BRILLIANT ENTERPRISES, 117 W. VALERIO ST.,
SANTA BARBARA, CALIFORNIA 93101.

ALCOR PRESS RELEASE

January 18, 1988

On January 18, 1988, Alcor held its press conference, at the Riverside Sheraton. The following is the press release, followed by questions which the press was asked to put to the Coroner. As it turned out, the questions were asked, not by the press, but the Riverside County Board of Supervisors, in closed session. We do not at this time know how Mr. Carillo answered.

*

*

*

ALCOR LIFE EXTENSION FOUNDATION PRESS CONFERENCE

January 18, 1987

FOR IMMEDIATE RELEASE:

Ladies and Gentlemen of the Press,

We have called this press conference today to express our outrage at the public conduct of the Riverside County Coroner's office in the recent matter of the death of Mrs. Dora Kent -- and to set the record straight. During the past three weeks the Alcor Life Extension Foundation and many fine people associated with it have been the victims of an absolutely vicious smear campaign directed by the Riverside County coroner's office -- a campaign largely conducted in lieu of the coroner's office doing its rightful job of investigation.

A statement from the recent January 14 press conference given by the coroner's office should illustrate the nature of this campaign: at that conference the coroner stated that the investigation of Mrs. Kent's death was temporarily "being made secondary" to the investigation of whether or not Alcor was in the possession of stolen UCLA property. In fact Alcor was not in possession of stolen property, but the point to which I draw your attention is this: The entire question of possible stolen property should not be a coroner's office's proper business at all, let alone its primary occupation at any time. Nor is it the place of the coroner's office to announce the possibility of stolen property to the media in a way that will almost certainly result in the media later being silent when no stolen property is found.

This sort of thing has been a recurring theme. The coroner's office has inappropriately instigated inspections of Alcor by public officials such as the fire inspector and the building inspector, and released long lists of small violations of code to the media. The coroner's office has accused Alcor of violating public health codes and zoning ordinances. They have stopped at nothing to destroy's Alcor's credibility and engender feelings of hostility and alarm about Alcor in the public.

Witness their recent statement to the media that Alcor endangered public health by dumping untreated AIDS contaminated

body fluids into the public sewage system. Not only were such charges false, (such waste was first treated with appropriate disinfectant to protect personnel handling it) they are irresponsible red herrings calculated to produce public hysteria and emotional reaction. The fact is, hospitals and mortuaries routinely dispose of AIDS contaminated fluids down the drain without taking any special precautions and this in no way jeopardizes public health or safety.

Similarly, the coroner's office has announced to the media that a cache of automatic weapons and explosives had been found at the Alcor facility, when in fact the items turned out to, be a fully legal gun collection and a pair of souvenir fake grenades. It might be natural to assume that the coroner's office has little expertise in telling legal firearms from illegal firearms, but after all, it shouldn't be attempting to do so.

The coroner's office has even gone so far as to arrest Alcor members and drag them handcuffed to jail with full media coverage, only to realize later that it had no jailable crime to charge them with.

Our impression of the Riverside coroner's personnel from all of this, is one of people who have been given guns and badges, but little training and less supervision. The result seems to be a sort of semi-legal despotism which runs without checks and balances.

Alcor, an organization of decent and law-abiding people whose only "crime" is attempting to save the lives of their loved ones has been made out by the coroner's office to be satanic and possibly murderous. This has been done quite deliberately by a county agency which has previously shown a taste for the media limelight. It has, without doubt, been done at remarkable expense to the taxpayers of the County of Riverside.

This is where you of the press enter the picture. Bluntly, you are being used as an instrument of a witch-hunt, the objective of which is the gratuitous destruction of Alcor and of the people in Alcor's care. The success of such a campaign will mean a further erosion of the basic freedoms all of us cherish, regardless of our optimism about the future of medical technology, or lack thereof.

Please do not misunderstand us. Determination of cause of death is a legitimate function of medical examiner's and coroner's



offices. This function should be carried out swiftly, professionally and discreetly. A coroner's office that turns an investigation into a media circus, which strays from its legitimate areas of investigation, or which carries grudges, is both a danger to justice and a genuine liability to any decent civil government. I ask nothing more than that you take an active role to see to it that this does not happen in Riverside.

Michael G. Darwin, President
ALCOR FOUNDATION

*

*

*

Questions For The Coroner

Mr. Carillo:

1) You stated in your January 14 press conference that you "don't chop up heads", and you have characterized Alcor as being "devious" for suggesting anything like this. But the fact is, that an autopsy does involve routinely removing and chopping up or slicing the brain. Isn't that what you intend to do to Mrs. Kent? Also, is "deviousness" a word you ordinarily use in unbiased investigations of cause of death?

2) In your last press conference, you stated that there was some concern over whether Mrs. Kent had received drugs before her death. Isn't the body enough to allow you to decide this question at autopsy without the head?

3) Alcor has stated from the beginning that some preservative medications were injected into the corpse just after death. Isn't it scientifically impossible to tell whether a drug was given just before death or just after, if circulation of the blood is artificially restored? How then can your investigation ever determine the difference?

4) You have stated that your pathologist "came up with pneumonia" as the cause of death, but that "deeper digging" showed other concerns. What kind of "digging" are you referring to and how did it result in new concern over the cause of Mrs. Kent's death?

5) You have stated that you told Alcor not to allow Mrs. Kent's head to be moved. Exactly who (which deputy coroner) told them? Who did he tell? Will he swear to this under oath?

6) You have confiscated two pet dogs from Alcor which have been with Alcor for years. Can you tell us how this might be germane to your investigation of Mrs. Kent's death? Why have you stated they would be returned only when the investigation is finished? Are you holding them hostage?

7) You have confiscated high speed printers from the Alcor facility, which has severely crippled the organization's communications and publications ability. Specifically, can you tell us how printers are germane to your investigation of Mrs. Kent's death?

8) You have called in fire marshals and building inspectors to inspect the Alcor facility, and then released lists of minor code violations to the press, including violation of zoning ordinances. Do you believe that these are relevant to an investigation to determine cause of death? Why did you call these agencies in?

9) You have called in public health inspectors and accused Alcor of violating public health laws in disposing of AIDS infected body fluids into the sewer system. Later these charges were dropped. What did this investigation and this charge have to do with Mrs. Kent's death?

10) You have initiated searches which confiscated a single firearm from the Alcor facility, which was later returned after being found to be legal. How specifically does a search for firearms come to be the business of the coroner's office?

11) You have stated to reporters that your investigation of Mrs. Kent's death has temporarily been made secondary to an investigation of whether equipment was stolen from UCLA. Why did the coroner's office initiate, and why is it assisting with, a stolen property investigation? How is this germane to the cause of Mrs. Kent's death?

12) Why did you handcuff and take into custody several Alcor personnel when you had no charges to jail them with?

* * * * *

ENGINES OF CREATION IN STOCK

At long last we now have a supply of the trade paperback edition of Engines of Creation. The circumstances of the delay were such that a hardened bookstore owner was driven to despair, but that's over now. The cover price is \$10.95. We are selling them to Suspension Members for \$9.00, and \$10.00 for everyone else. This includes 3rd Class postage.

* * * * *

NANOTECHNOLOGY: A SIGNIFICANT ENDORSEMENT

by Mike Perry

It is widely recognized among cryonicists that revival of patients from suspension would almost certainly require nanotechnology -- controlled manipulation of matter on the atomic and molecular scales. The idea of nanotechnology is not new, but it received a fresh impetus from the 1986 publication of Engines of Creation, by K. Eric Drexler. Since then the subject has been treated favorably in a number of publications offering "science for public consumption" such as Omni (November, 1986) and Analog (November, 1987). Now what is largely an endorsement of nanotechnology has appeared in Scientific American, whose articles are written and read by scientists at the cutting edge, and easily the most solid and widely read of all the magazines presenting scientific research for popular consumption.

The article takes up the balance of A.K. Dewdney's Computer Recreations column, in the January, 1988 issue. Dewdney, a computer scientist, summarizes the important ideas laid out by Drexler in his book. In particular there is a detailed discussion, complete with illustrations, of rod logic, which would enable mechanical computers to be built of carbon-bonded molecular components at sizes in the sub-nanometer range, with switching times on the order of picoseconds (trillionths of a second). Possible applications are discussed, including the very important one of life extension through computer-controlled nanomachines that would roam through the body making microscopic repairs. (There is no direct mention of cryonics, however, the emphasis being on computers and computer-controlled devices.) The reader is then reminded that "it is all a dream -- for now, at least." Drexler is praised for scientific diligence and objectivity, but a word of caution is included: "He remains, however, a technologist without a technology, an informed speculator whose greatest contribution might be to stimulate the dreams that guide our technological development." The possibility of attaining physical immortality through nanotechnology is briefly touched on, but treated lightly by comparing it with the promises of an old-time evangelist.

From the tone of the article it seems unlikely that the author will become a nano enthusiast (or immortalist, for that matter) anytime soon -- but that is hardly to be expected. What is significant is that a potential new technology is being offered for serious consideration by the more general scientific community, a technology with sweeping implications if it can be implemented. For now it is still largely at the thought-experiment stage. Bringing it to the attention of the thinking community will help gain it credibility and eventually, if enough goes well, transform it from dreams to reality. And as the idea of nanotechnology gains credibility, so will our own movement of cryonics, something that could well be crucial to our success and our survival.



NOT IN 1987

by Dave Pizer

It was late Christmas Eve, 1987, and we had returned from the wife's folks' house after an evening of gift-swapping, feasting and family fun. I wasn't quite ready for sleep so I turned on the TV, thinking I'd watch something light and amusing to bring on sleep. I couldn't have been less relaxed or amused by what I saw.

The very first program caused me to sit bolt upright. There on the screen was the Alcor facility. What followed was as disgusting an experience as I can remember. What could have been a story of heroism, honor, and scientific advancement was distorted into an untrue, irresponsible, sensationalized account that, in the end, can only discredit those who chose to misrepresent things so badly.

The announcer described what I knew was a normal cryonic suspension, but he purposely misconstrued the facts and tried to make it look, instead, as if a bizarre murder had been committed. Excitedly he proclaimed, "A woman was decapitated today and her head frozen," and went on to explain how "she was probably still alive" when this happened. Apparently, a healthy woman had been done to death in a painful way, though "the Coroner hasn't decided what charges to file at this time." Next the scene flashed to Saul Kent and indicated that here was the man who had done this (awful) thing to his own mother, while Mike Darwin was introduced as "the president of this group, Alcor, that helped Kent do the deed." Mike was quoted out of context saying, "We made a mistake. I'll admit we made a mistake." That's all they allowed us to hear of Mike, though I was sure he explained the whole procedure in detail that would show it was far more sensible than the report indicated. Placing the woman in cryonic suspension was no "mistake" compared to what the alternatives -- burial or cremation -- would have been! But the media chose to make it look completely different, and the whole story was clear proof of their obvious bias against cryonics.

I turned off the set, rolled over, and thought to myself how nice it would have been if the story could have been presented in proper perspective:

"Saul Kent, pioneer in the life extension movement, had his infirm mother removed from life support systems, after doctors had given up any hope for her, and allowed her to deanimate with dignity. Then Mrs. Kent was placed in cryonic suspension, thus offering her a chance to defeat death. Mike Darwin, also a longtime leader in the cryonics movement, is president of the Alcor Foundation which carried out the suspension. Darwin and Kent have devoted their lives to developing strategies and methods that offer people of today the hope of surviving to a future when all may live indefinitely in good health. It just may be that cryonics offers the only real chance for biological immortality, and we at station XYZ salute the Alcor organization and wish Mrs. Kent the best."

But of course it wasn't to be, not in 1987. As if to

underscore this, after the distorted report on Alcor, there was a tribute to "the greatest man on earth" -- the Pope. Over 1.5 billion people, it was reported, were inspired by the Pope's recent message which ironically was, "Don't look for salvation in technology or science." So, besides discouraging birth control, His Holiness is now telling people not to look for hope in science.

Maybe in a hundred years we'll have the last word. The breaking news story could be: "Mrs. Kent, recently revived from cryonic suspension, went to an all-night rock concert after running a 50-mile marathon and taking her autolift for a spin around the moon."

* * * * *

SCIENCE UPDATES

by Thomas Donaldson

CRYOPROTECTANTS AND CELL MEMBRANES

Over the last few years, cryobiologists have become much more reflective about their subject. Scientists like McGann and deKruuv have done very interesting studies on the exact nature of freezing damage. Their aim isn't to immediately find a new cryoprotectant, but to understand what really happens. Once we understand it fundamentally, we can hope to intelligently devise systems which will better prevent it.

A new paper on this subject has recently appeared in CRYOBIOLOGY (24, 324-331 (1987)). Several zoologists at the University of California at Davis (Thomas Anchoroguy, John Crowe, and others) present thier studies of several different cryoprotectants and how they interact with cell membranes during freezing and thawing.

The main effect of freezing on membranes is to disrupt them. The exact nature of the disruption isn't yet clear. However, it seems to involve the effects of a phase change in the chemicals which make up the membrane so that it doesn't spontaneously remain in its normal configuration. The cells, once thawed, can't restore their membranes quickly enough. They decline and die.

Anchoroguy and his coworkers used artificial membrane "packets", liposomes, made of similar lipids to those of normal cell membranes. They tested membrane disruption by measuring whether or not these liposomes would fuse. They tested for fusion (all of these liposomes were microscopic) by making two populations, each containing a different chemical which would react with the other if put in contact with it. They measured fusion by measuring the fluorescence caused by their chemical reaction.

They studied several known cryoprotectants, including glycerol, DMSO, polyvinylpyrrolidone, and two sugars, sucrose and trehalose. All of these substances protected liposome membranes to some extent. However, the most interesting protection came

from the two sugars. Both these showed a rapid rise in protection even with low concentrations. The sugars also protected membranes even though they couldn't penetrate the liposomes, and for a wide variety of freezing protocols. The antifreeze cryoprotectants (glycerol and DMSO) worked best with rapid freezing. The speed of freezing had little effect on the sugars.

These authors have previously described the protective effects of sucrose and trehalose (A.S. Randolph and J.H. Crowe, CRYOBIOLOGY, 22, 367-377 (1985)).

These authors also studied the chemical nature of this protection. We can do this by seeing whether or not other, modified, molecules will work as well. Since we know the chemical structure of our cryoprotectant, and the structure of the modifications, we can find out just what parts of this structure play a role. They also used another chemical probe, the element europium, to work out the chemistry of protection.

These studies suggest that sucrose attaches to one particular site on the lipid molecule, where there is a phosphate group. Glycerol appears to attach to the same site, although less strongly. These authors studied other cryoprotectants which don't appear to work this way. In particular, the amino acid proline appears to bind to the hydrocarbon part of the lipid.

One major effect of the traditional cryoprotectants like glycerol is that they reduce the freezing point. These authors propose that we actually consider sucrose or trehalose as a superior cryoprotectant. That conclusion may be uncalled for, but their results remain extremely interesting. It is not just the ideas about particular chemicals, but even more important the ideas about mechanisms of protection, to which we should pay attention. This information should help us work out better ways to protect cells from freezing.

It should also help us work out just what happens to cell membranes during poor freezing. Molecular crosslinks are not even a minor problem with reviving current patients. Disruption of cell membranes is. Even as early as this, it would help to think about how nanomachines could fix the actual problems of suspended patients.

* * * * *

ALCOR MEETING SCHEDULE

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

ALCOR

ALCOR LIFE EXTENSION FOUNDATION
12327 Doherty Street
Riverside, CA 92503

**FORWARDING AND RETURN POSTAGE GUARANTEED
ADDRESS CORRECTION REQUESTED**



For information on cryonics call Alcor toll-free 1(800) 367-2228