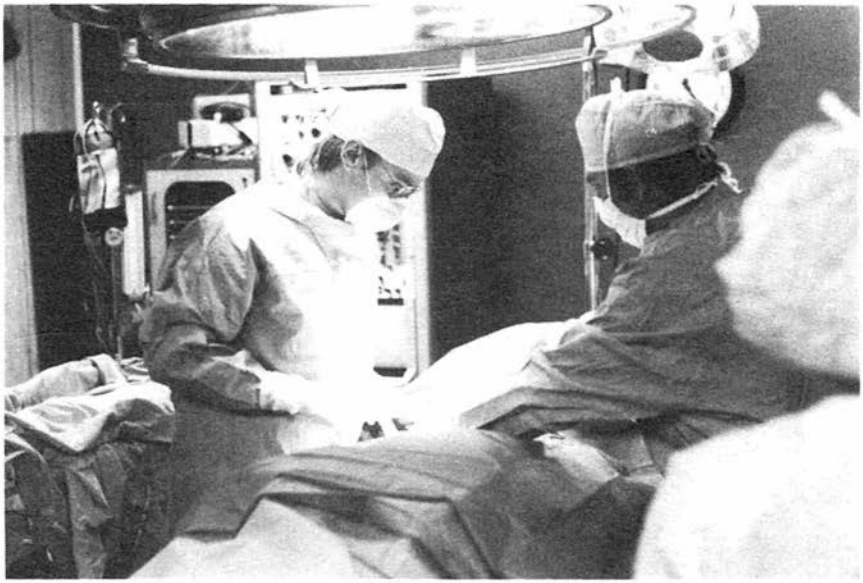
CRYONICS

VOLUME 6(4) APRIL, 1985 ISSUE # 57



ALCOR MEMBER PLACED INTO SUSPENSION

VOLUME 6(4) APRIL, 1985 ISSUE # 57

CONTENTS

CRYONICS is the newsletter of the ALCOR Life Extension Foundation, Inc. Mike Darwin (Federowicz) and Hugh Hixon, Editors. Published monthly. Individual subscriptions: $15.00 per year in the U.S., Canada, and Mexico.; $30.00 per year all others. Group rates available upon request. Please address all editorial correspondence to ALCOR, 4030 N. Palm St., #304, Fullerton, CA 92635 or phone (714) 738-5569. The price of back issues is $2.00 each in the U.S., Canada, and Mexico, and $2.50 for all others.

EDITORIAL MATTERS

In case you've been wondering why your March issue of CRYONICS may have arrived a little late, the saga of the difficulties involved in putting out that issue goes on... Shortly after we completed preliminary paste-up (for final proofing), the suspension which had seemed only a possibility suddenly turned into a reality. One of CRYONICS' two editors, Mike Darwin, flew off to Wisconsin to do a remote standby and the other editor, Hugh Hixon, took over preparations on the home front. Over long distance lines between Wisconsin and California it was decided to put the issue to bed--take it to the printer's--without further work. This was done. Then the suspension took place and CRYONICS sat at the printers' for four days, until things settled down enough for someone to remember that we had to go get it, collate it, staple it and prepare it for mailing!

Forgive us if we were a bit tardy. We've been **busy.** Also please forgive the production gaffes, such as the goofed up caption and the greater than normal incidence of misspellings. As we mentioned above, the March issue didn't get the final once-over it usually receives before going to press.

Our thanks to Al Lopp for figuring out how to get our printer to do its tricks. Ever since we first acquired a computer (3 years ago) we have had a very versatile C. Itoh letter-quality printer capable of doing all kinds of things such as boldface, superscripts and subscripts, as well as microjustification. It has been a source of intense frustration to Mike Darwin that we were unable to use these features on our old, S-100 machine.

Problems with the S-100 machine finally reached the breaking point a little over a month ago. The machine has become a virtual orphan and cannot be adequately serviced or repaired. In recent months it has developed the disconcerting habit of eating discs--damaging them so that the disc is ruined and the information on it is rendered difficult or impossible to access. There are simply no words to describe the feelings of anger and resentment this can cause. In a fair number of instances the machine has gobbled up many hours of creative or laborious work which is NOT recoverable in any straightforward way. Imagine writing a 10 page term paper--only to hear a little beep as you put the finishing touches on, along with a flashing message telling you a week's worth of hard work is probably gone forever!

So, to make a long story short, we bought a Kaypro 2X to handle our word processing needs and the Kaypro gives the added benefit of being able to fully

use our printer for the first time. Again, our thanks to Al who came out and puzzled out how to fit computer and printer together.

AVOIDING AUTOPSY

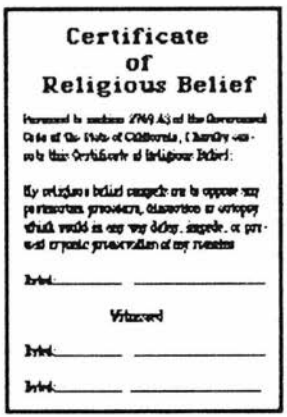
Enclosed in this month's magazine is a "Certificate of Religious Belief" as prepared by Bay Area Cryonics Society President Jack Zinn. This certificate meets the requirements of California law as laid out in SB 1824, which was passed by the California State Legislature in the closing days of 1984.

Basically, what SB 1824 sets out to do is to protect individuals from gratuitous autopsy by the coroner or next of kin if their religious belief opposes it. The law **does not** prevent the coroner from conducting an autopsy when:

> "...he or she (the coroner) has a reasonable suspicion that the death was caused by criminal act of another or by contagious disease constituting a public health hazard, and would permit a court to authorize an autopsy or other procedure if the cause of death is not evident, and the public interest in determining the cause of death outweighs the decedent's exercise of religious convictions."

Perhaps the most interesting thing about this law is that it appearently protects a suicide victim as much as it does a victim of any other cause of death. Presumably, a clear-cut case of suicide (i.e., committed before witnesses or otherwise excluding the possibility of homicide) would be exempt from autopsy under the provisions of this law as well. (We are not, however, recommending that anyone test this interpretation!)

What constitutes a person's religious beliefs is a highly personal thing, and often very hard to define. Some cryonicists have staunchly maintained that **cryonics** is a religion, with its strong emphasis on faith in the future capabilities of mankind. Also, some of our members are adherents of more conventional religions such as Christianity and Judaism, some sects of which do proscribe postmortem procedures such as autopsy.



Certificate of Religious Belief

Pursuant to section 7705 A.) of the Government Code of the State of California, I hereby execute this Certificate of Religious Belief:

My religious belief compels me to oppose any preservation procedure, dissection or autopsy which would in any way delay, impede, or prevent cryonic preservation of my remains

Dated:_____ _____

Witnessed

Dated:_____ _____

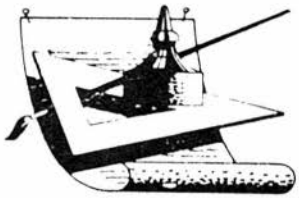
Dated:_____ _____

For these reasons we are making the certificate available to you. Any person 18 years of age or older may execute a certificate of religious belief. The law requires that the certificate be witnessed by two witnesses (who must also be competent adults) and that these witnesses

print on the certificate their name and residence address. The certificate must be filled out correctly, or the coroner can successfully petition the court to set the certificate aside.

If you choose to execute a certificate of religious belief, you should make a copy for your files and send the original to us for safekeeping. Better still, execute **two** original copies and keep one available locally (for prompt access by friends or relatives in an emergency) and send one to ALCOR. If you are a suspension member of BACS or CI you should send the certificate to them. You should also make every effort to deanimate in California. This is strictly a California law. We are not aware of a similar law in any other state.

LETTERS TO THE EDITORS



Dear Mike and Hugh:

I am writing regarding the "Special Case Option" (SCO) suspension and payment plan proposed in the March '85 issue. I am strongly opposed to this proposal, and I welcome publication of my arguments against it, which follow:

1) **THIS PROPOSAL RADICALLY ALTERS THE NATURE OF ALCOR BY CHANGING ITS OBJECTIVES AND THE WAY IT FUNCTIONS.** ALCOR is a research organization and one which provides services to members who each pay for services they contract to receive. Guiding everything it does is the objective of extending human life with the most effective tools that science and research can offer, applied with the most diligent effort available. Now the additional objective of becoming a charitable organization is proposed, and that less than the most effective tools be applied (e.g. outdated supplies and outmoded perfusates) with only moderately diligent effort (e.g. dispensing with full sterile technique and using a smaller perfusion team) for certain members. You acknowledge that these measures "represent a considerable and serious compromise", including, I would add, to the integrity of the organization.

2) **THIS PROPOSAL UNILATERALLY CHANGES ALCOR'S AGREEMENT WITH ANY MEMBER WHO DOESN'T AGREE TO IT BY ALTERING ITS ABILITY TO DELIVER SERVICES PROMISED.** What happens to the skills of suspension technicians trained to take all medical precautions and to perform suspensions with the most effective teams and methods possible? You continually stress the importance of training and practice, and even suggest that this SCO would provide additional training. The proposal would introduce variables in techniques and tools which would weaken and dilute the skills of suspension technicians, thereby making all suspensions more difficult. (If such training is necessary, then select special suspension cases based on training value, and don't confuse the issue by adding a "neediness" criterion.)

3) **THIS PROPOSAL WOULD INTRODUCE LEGAL COMPLICATIONS BY VIOLATING THE SUSPENSION AGREEMENT PROVISION FOR ALCOR'S BEST EFFORT AND DUE DILIGENCE IN PERFORMING SUSPENSIONS.** This is a key legal provision which protects ALCOR from subsequent suits by a patient or his agents for complications and consequences arising from suspension. The proposal introduces a major vunerability which could threaten the organization's viability at any time.

4) **THE SCO PROPOSAL INTRODUCES THE INSOLUABLE COMPLICATIONS OF BEING "CHARITABLE" WITH OTHER PEOPLES' MONEY.** The objectives of ALCOR are now fairly clear to members, who understand what is done, and why, with the resources we each contribute. Many of us have accepted the pooling of basic funding, although we disagree with the concept, because we rely on the integrity of the organization to respect the funds that each of us has committed. You now propose to introduce "discretion" based on the "individual situation" to decide not only who will be suspended, but by what methods and therefore by what resources of ALCOR. Even at $17,ØØØ or some other set level, you acknowledge that suspension methods would vary from patient to patient.

You propose to limit the availability of this procedure to those who really need it (i.e., relatives of ALCOR members and the aged or severely disabled). I submit that that there is no way to be "fair" and "objective" under these circumstances, despite your humanitarian intentions. Why are relatives most needy, and which relatives? (I have about 87 relatives, by the way, all very needy.) How do you define "disabled"? Whose individual situation is most compelling, or worthy of research? By what standard do you decide these matters? Most importantly, who decides? the Board? a Charity Committee? a Research Committee? a vote of all members? a group of unaffiliated clergy? God? Add to all of this the need to make decisions regarding specific techniques to be used immediately when someone dies.

5) **CHARITABLE COMPLEXITIES WOULD TURN ALCOR INTO AN INTENSELY POLITICAL ORGANIZATION,** with efforts focused on becoming one of those who gets to "decide" these questions. They would bring out the worst in people, giving them the incentive to lobby these chosen "deciders" that they or their relatives were the most "needy" or "deserving", or that they faced the most "intense frustration of being unable to afford to suspend a parent or loved on who is uninsurable." This is why ostensibly humanitarian socialist and communist societies don't work and degenerate into political sewers.

As stated in our flyer, "we are cryonicists because we know that each of us is responsible for his own life and survival". This proposal encourages people to focus on their "neediness" rather than on their individual responsibility to strive to obtain the resources a market and pricing system demand. As cryonics becomes more widely accepted, demand for suspension will probably greatly exceed supply for a period of time, and ALCOR can look forward to an ever-increasing number of "special cases" demanding its services. An objective pricing system is the only way to address this imbalance.

All of us have paid for our suspensions by varying degrees of sacrifice; some greatly, and some not so much. We affirm as cryonicists our faith that people can achieve the "unachievable", and that with great effort, lofty goals (like unlimited life) can be reached. This is not to discourage individuals or separate groups from contributing to those who can't afford suspension if they feel them deserving. But as an organization, let's not discourage people from striving for their values by recognizing them as "second class", "special cases", and let's not allow ALCOR itself to become second class. There's already to much of that elsewhere in this world.

Yours in long life,
Michael Anzis
Irvine, CA

Dear Editor,

Cryonics is at its infancy, and like anything in its infancy (at least anything I'm aware of), it requires special care and nurturing in order to become strong. It needs to be constantly improving upon its techniques, it needs to share this knowledge and any achievements with people who can appreciate it and realize its value as it may overlap into other branches of science and medicine, and it needs positive P.R. in order to gain support to continue the hard work, because that takes time and money to accomplish.

It became painfully apparent at Cryo 84 that there is a great deal of prejudice, narrow-mindedness, and politics involved when it comes to Cryonics (a "body freezer" is not the thing to be, it would seem); all things which clearly have nothing to do with science, but unfortunately are thrust upon it by the people involved — in this case, the International Society for Cryobiology. It seems to me that one way to overcome this is to maintain the highest standards possible. Simply freezing people in order to ease someone's mind is a humanitarian and easy enough thing to do, but I believe has no place in this organization. I believe that it will cast a bad light on ALCOR and Cryovita (or, for that matter, anyone who chooses to do it). It's like the ear, nose, and throat specialist who says he'll take your tonsils out for $5Ø0 and he'll use sterile procedure and the best surgical instruments, but for 5Ø bucks he'll use a handy wipe and a pair of pliers. It reeks of "rip off". So what, if he warns the poor bastard in advance that he may bleed to death or get a lethal infection. So what. That doesn't make it any less negative. If he wants to be charitable, then he should do the procedure (as it should be done) at no charge, or refer the person to someone else, or just refuse...not offer some less than "state of the art" hack job that accomplishes who knows what. As long as it's less than the best he can do, then he's not really doing anyone a favor, nor is he even being charitable.

It's not ALCOR's job to take on the problems of the world or of the millions of people who can't afford suspension at this point. We just don't have the room. What we do have is a young, energetic, farsighted, dedicated, skillful, and talented group of people trying to accomplish a noble goal, who are working at a distinct handicap because of negativity generated by people who are uninformed about our activities in the first place, and by other organizations, I might add, with lesser standards. I say, let's give them the facts and make sure that when the time comes to do so that the facts are positive and beyond reproach. We're like the minority groups who have to be overachievers to be looked upon as equals. Let's generate a professional, scientific, hard-working, clearheaded, if farsighted (to some people it is evidently folly to be farsighted) image. If people know that we use nothing less than the very best methods available and maintain the highest standards possible, then we are much more likely to gain support and respect, thus helping our cause in general.

I believe there's a lot at stake here. ALCOR and Cryovita Laboratories are the heart and soul, the guts, of Cryonics. In short, we "where it's at". Let's keep it that way.

We could quote Mr. Spock, saying "The needs of the many outweigh the needs of the few...or the one". If we are to take such a sentiment literally, however, we would rapidly dissipate our energies without effect. I think we must instead look to the future for the needs of the "many". The "many" who

could truly be helped if this organization prospers and grows: the "many" who could truly experience extended lifetimes if suspended animation is perfected; something which will only be accomplished through the respect and added support which is there through the scientific and public communities. It's us to us to gain that respect and support.

What after all is the real goal of this organization? Is it to be a "body bank", or is it to perfect suspended animation? That the research continue, and gain support and funds, seems to be the single most important objective. I don't think we're in business to freeze people, I think we're in business to do research with the hope of perfecting suspension. I suggest that we don't have the time or the manpower or the space to do a "sidewalk sale" on suspensions. I can't see where it truly benefits anyone, and I think anyone who thinks they can receive any benefits from it is kidding him or herself. It's risky enough using the very best facilities and procedures that we have.

I think our energies need to be focused in other areas. I think it's essential to the success and even the perpetuation of the organization.

We need manpower, space, time, and funds, and I don't see where "cut-rate Cryonics" supplies any of those.

Brenda Peters
Reseda, CA

Dear Mike and Hugh:

I am happy that you printed the letter from Michel Laprade defending the Christian orientation in cryonics. I don't fully share his orientation, but there is much in what Mr. Laprade said that we cryonicists might take to heart. Being a cryonicist is not inconsistent with having what might loosely be called "spiritual" concerns.

I avoid the word "spiritual" as much as possible because, for me, it has unpalatable theological connotations. But I am willing to use it if I must in order to express my awe when I consider the possibilities of human consciousness. In my judgment, "spirit" and "consciousness" are very nearly synonymous. Since consciousness is the source of all human values, it deserves to be treated with enormous respect. Thus, spiritual concerns are of the utmost importance.

Mr. Laprade would presumably agree with that conclusion.

I suspect further that Saul Kent, who wrote the excellent article "Programming People for Immortality" which elicited Mr. Laprade's letter, would also be in harmony with the intention of that conclusion, although he might object to the language used in stating it.

Consciousness -- "spirit," if you will -- is the big human treasure. But the sixty-four gigabuck question is whether consciousness continues after "death." Kent says that it does not. Laprade has faith that it does. I believe that logic and evidence are strongly on the side of Kent. It looks to me as if death does us in, once and for all.

But still, maybe not. Maybe Laprade is right. In fact, in spite of my

heavy doubts I hope he is.

Isn't it best to be agnostic in the matter, stop worrying in the question, and give our energies to prolonging life, preserving consciousness as we know it, and expanding it along all of its incredible and beautiful dimensions?

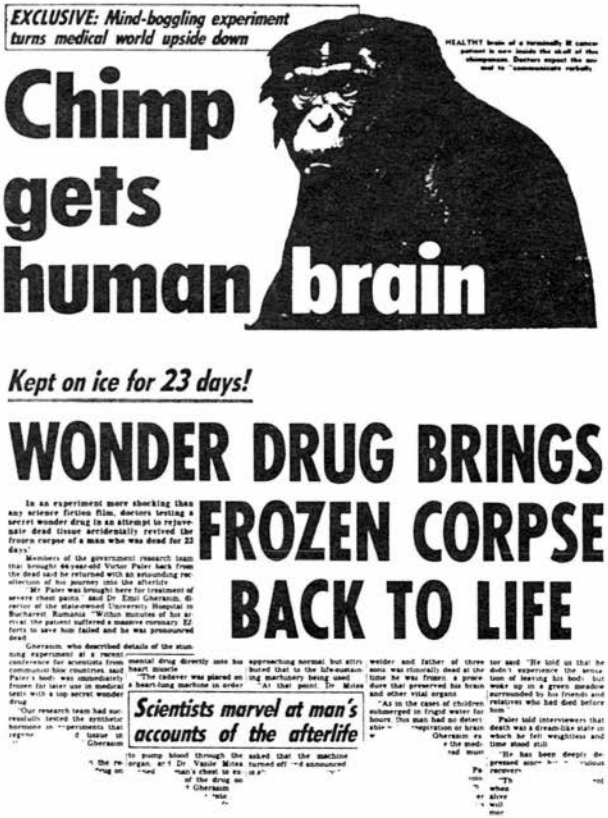
I am thankful that cryonics welcomes religious people, including intelligent Christians like Michel Laprade. But I want to emphasize that there is a third position beyond either religion or atheism. and that is the view that the higher states of human consciousness - however, wherever, and whenever these are achieved — should be our goal, and that this goal is absolutely compatible with the cryonics philosophy.

I am going to try to expand on this at the Tahoe Life Extension Conference this May in a short talk entitled "Hi Tech, Hi Touch, Hibernation." I understand that you and Saul Kent will be there, I hope that Michel Laprade is there, and I will be pleased if CRYONICS readers and others interested in life extension show up in droves.

Long Life,
Dick Marsh

WEEKLY WORLD NEWS: WHAT ARE THEY TRYING TO PROVE

Over the past year, and particularly in the past few months, the tabloid newspaper WEEKLY WORLD NEWS has been running articles which relate to cryonics directly or bear on themes of importance to cryonics. Current libel law restrains us from giving vent to the kind of evaluation we'd like to put on the veracity of these stories. However, the titles alone provide some hint of the substantiveness of their content: "HUMAN BRAIN PUT IN CHIMP", "WONDER DRUG BRINGS FROZEN CORPSE BACK TO LIFE", "600 YEAR OLD BABY BORN..." Many of these stories revolve around or even directly mention cryonics. The 600-year-old baby story was purportedly about an infant who was recovered from her mother's remains found frozen in the Russian tundra. The "WONDER DRUG"



EXCLUSIVE: Mind-boggling experiment turns medical world upside down

Chimp gets human brain

HEALTHY brain of a terminally ill cancer patient is seen beside the skull of the chimpanzee. Doctors report the pair tend to "communicate verbally."

Kept on ice for 23 days!

WONDER DRUG BRINGS FROZEN CORPSE BACK TO LIFE

Scientists marvel at man's accounts of the afterlife

story purported to detail the "after death" revelations of a Rumanian heart attack victim who was frozen after death and then, 23 days later revived as a result of the use of a secret "wonder drug" and support on a heart-lung machine.

The NEWS' stories have all featured freezing or extended hypothermia as a central theme, and the story about the frozen infant even contains a lament by the Russian doctor supposedly in charge of the revival team that the child might not have died (after several months) if she could have been treated by "cryonics experts" in the United States. The stories all carry different bylines, and in our estimation they are pure bunk. They are not worth a second thought as to their credibility or technical content. Needless to say, the sources for these stories are always inaccessible; conveniently out of reach behind the Iron Curtain or in communist China. (It should be noted that these stories may well be carried by these countries' press. Things of this nature are often published there without verification, and once it's in print, it's official.)

We wonder why the WEEKLY WORLD NEWS has such a focus on bogus cryonics related stories. Apparently such stories are selling newspapers because they consistently run these articles as cover stories. Perhaps this should tell us something about public attitudes towards cryonics. The question is, what does it tell us? Have we captured one writer's fantasy, or is this what the public is hungry to believe? Or is the notion of frozen people coming back to life just sufficiently bizarre and outside normal experience that people expect and are willing to pay, to read about it in the pages of the WEEKLY WORLD NEWS?

BUCKLEY DISCOVERS LIFE EXTENSION

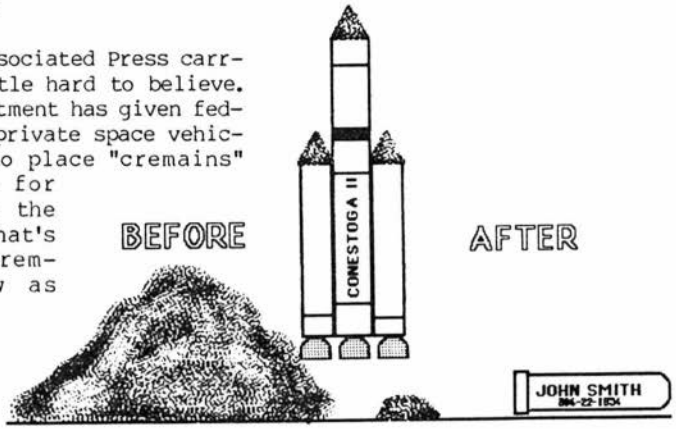
Columnist, author and political satirist William F. Buckley has finally arrived at a conclusion reached by Curtis Henderson, president of the now inactive Cryonics Society of New York, years ago; longer lifespans are the solution to the national debt and the social security dilemma. Echoing Budget Director David Stockman's remarks about early retirement of military personnel, Buckley sagely observes "Suppose that, 50 years from now, the scientists make the average lifetime 100 years. Obviously we would not think in terms of generating an economy that would permit us to retire at the equivalent of young middle age, measured back when the average life expectancy was in the late 60's?" Buckley goes on to observe that a plan to delay retirement could be implemented incrementally so that resistance was minimized: "The pursuit of such a reform has the added advantage that those who oppose it would be a relatively small number of people, and in a democracy it is realistic to think not only in terms of what is "right" but of what is doable."

Once again the bureaucrats are acting as bureaucrats always do: they are reacting to a challenge rather than acting with foresight. We wonder if Mr. Buckley and Mr. Stockman have given any thought to helping the process along a little. Maybe if somebody actually tried to significantly extend people's productive lifespans, the budget drain might be even further reduced. Maybe if people didn't grow old any more, they wouldn't need

social security or medicare or nursing homes or retirement centers. Obviously Buckley and his fellow political sages understand that longer lifespans are here already. The question is, will they ever figure out that just a little money (comparatively speaking, of course) in the right area could produce a permanent end to all these costly programs and the human misery that they represent an attempt to redress? And, to echo Buckley's closing remarks "...do not forget the dividend. The deficit goes away."

AND THEY THINK WE'RE CRAZY

A few days ago the Associated Press carried a story we found a little hard to believe. The Transportation Department has given federal approval to launch a private space vehicle for the first time--to place "cremains" into orbit! Cremains, for those unacquainted with the mortuary industry, are what's left after you've been cremated. A company know as Celestis, based in Melbourne, Florida, has contracted with Space Services (a private launch company headed by former astronaut Donald "Deke" Slayton) to launch the ashes into orbit. Celestis is composed of engineers and morticians who plan to offer their services through the National Funeral Directors Association's 23,000 members.



CELESTIS: ASHES INTO ORBIT?

What you get for a $3,900 price tag is to first have your ashes reduced in volume to about 2.4 cc and then be bundled into an appropriately tiny package with your name, and, of all things, your social security number engraved on it (mustn't forget an important thing like our social security numbers...). The first step in the operation puzzles us a little (no, not paying the $3,900, that part doesn't puzzle us at all). How do you reduce the normal volume of human ashes from the average of 2,400 cc and 6 to 7 pounds to the Celestis "secret process" volume of 2.4 cc and a fraction of an ounce? Celestis reportedly has a secret process for doing this which involves some high temperature cooking of the cremains. What all this boils down to, if you'll forgive the pun, is that Celestis proposes to boil away better than 99.7% of the cremains and launch the other 3/10ths of 1% into orbit in the Van Allen Radiation Belt (more attractive orbital sites are unavailable due to stiff competition from the living, who need space for communications, weather, and spy satellites).

A call to Celestis confirmed that business is brisk and that they expect to have filled all 13,000 "berths" on the first capsule by the end of this year. The company has designed the capsule with a reflectorized outer skin, so that loved ones still confined below on this dusty ball of sin can be reminded of the "dearly departed".

At $3,900 a clip with 13,000 customers, the gross revenues for Celestis will be $50,700,000! Of course, that's only the gross, and Celestis hasn't

commented on the cost of launch.

That people are apparently willing to pay such a sum for such a service leaves us here at ALCOR a little in awe. Who would have dreamed that anyone could have found a way to turn all that ash into cash? And they think we're crazy?

ALCOR MEMBER PLACED INTO SUSPENSION by Mike Darwin

Late in January, we received a phone call from the husband of an ALCOR member in Florida informing us that his wife was experiencing some serious health problems and that both of them were planning on returning to their "home" state of Wisconsin for more definitive diagnosis and treatment. Neither the member nor her husband want any publicity, so we'll assign them the pseudonyms of Paul and Mary Clark here, in order to protect their identity and facilitate relating the events that follow.

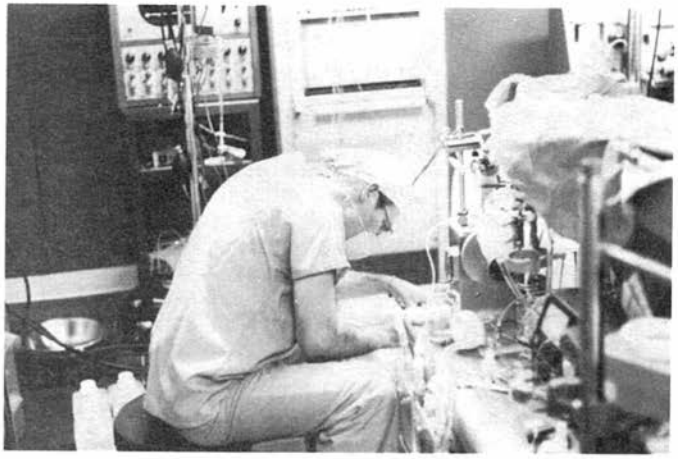
Mary Clark had a long history of lymphoma which, until a few months previously, had been in remission. With the reactivation of her cancer, Mary's health had taken a steep decline and it appeared likely that in the relatively near future she was going lose her 12-year battle with the disease. Paul and Mary have both been cryonicists of long standing and have been intimately familiar with all aspects of the cryonics program. In fact, this was not the Clarks' first brush with the possibility of Mary's death and they had taken the precaution of having personnel standing by several times in the past.

Scott Greene looks on as the patient's temperature is checked following her arrival from Madison, Wisconsin via air freight.

This time, however, Mary's condition seemed far worse. She was already in advanced liver failure by the time she left Florida, and a diagnostic work-up, which included a liver biopsy, indicated that her liver had been almost completely replaced by tumor. Her condition began to deteriorate rapidly and Paul placed a call to us. We had already been preparing for the possibility of flying out to a "remote standby" so, when the pager went off and we learned that one of our members was perhaps only a few hours away from deanimation, we went into high gear. The pager sounded at a little after 10:00 AM on the morning of Friday, February 8th, and by 2:50 PM the same afternoon, Jerry Leaf and Mike Darwin were airborne, en route to the University of Wisconsin Hospital, located in Madison, Wisconsin.

In the cargo hold of the aircraft were six heavy trunks containing resuscitation equipment, stabilizing medications, and a

portable blood pump, bubble oxygenator and enough premixed perfusate to do a blood washout. Shortly after Mary had arrived at the University of Wisconsin Hospital, we contacted a mortician, Richard Bartell whom we had dealt with on another suspension who was located in a small town about 80 miles southwest of Madison. Mr. Bartell proved to be his usual honest and cooperative self, and suggested that we use the facilities of another firm which he was acquainted with, located just a few minutes from the hospital. Mr. Bartell offered to contact the owners of the firm and act as a reference for us.



Perfusionist Bill Jameson laying out circuit diagram.

As it turned out, the mortuary we were referred to, Fitch, Lawrence and Sanfillippo (which I'll abbreviate here as FLS) proved invaluable. FLS was the oldest mortuary in Madison, and had moved into brand-new facilities only 11 years previously. The mortuary was very well situated with respect to the hospital, and was, without a doubt, the most intelligently designed facility of its kind that I have ever seen. The preparation room (where bodies are embalmed and cosmetized) was considerably larger than our 16' x 20' operating room at Cryovita, and was a well lit, thoughtfully laid out, and sparkling-clean expanse of tile and wood-grain Formica countertopping and cabinetry. In fact, the preparation room at FLS was more spacious and better appointed than many **clinical** operating rooms I've seen! The prep room adjoined a large garage area which could be accessed by automatic overhead doors. In short, the facilities were superb, orders of magnitude better than the cramped, dirty prep rooms I've been accustomed to finding in most mortuaries,

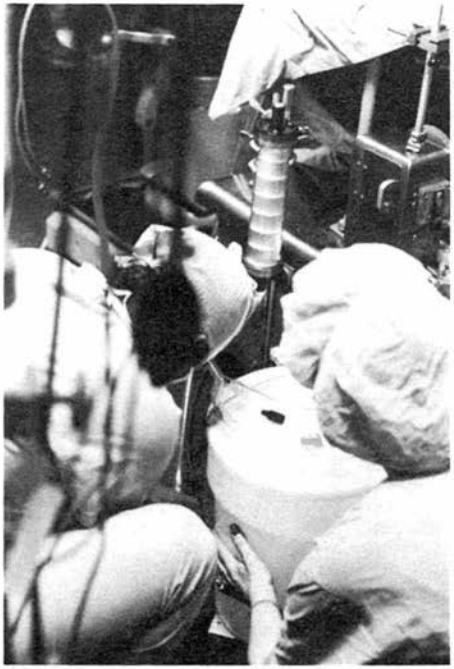
The only thing better than FLS's facilities was its staff. Mr. Sanfillippo is a community leader and fisherman par excellence; his walls are adorned with **hundreds** of fishing trophies and photos of Mr. Sanfillippo with VIPs from astronauts to Governors competed with the trophies for space. Mr. Sanfillippo proved to a genuinely warm and pleasant man, and his son-in-law Dan Ketelsen, who handles the day-to-day business of running the mortuary, proved to be not only equally pleasant but 110% reliable and cooperative.

We first spoke with Dan by phone about week before our arrival in Madison. We were fairly apprehensive about obtaining the hospital's cooperation and in making sure that supplies such as ice and oxygen would be on hand to facilitate our transport and washout of Mrs. Clark. We followed up our phone call with a letter of detailed instructions, and Mr. Clark went over to the mortuary to meet Dan and look the place over.

Immediately, Dan took control of the situation. He and Sam began

negotiating with the hospital, using their respective professional and personal contacts to smooth things over. Arrangements were made with the hospital mortician to facilitate quick release of Mary's "remains" and to allow us to wait on the premises for deanimation to occur. Dan took over the complicated job of running paperwork around to hospital physicians and lawyers and basically had everything arranged when we arrived on the scene.

Dan met us at the airport upon our arrival, and he and his wife assisted us in loading our trunks into their van. Then they drove us directly to the hospital where we met with Paul to discuss his wife's condition and prognosis. Our arrival at the hospital found Mrs. Clark to be considerably improved, but still in the Intensive Care Unit in critical condition. At that time Mrs. Clark's blood pressure was being supported with intravenous medication and fluid. We met with the nursing staff caring for Mary and explained who we were and what "this was all about." We found the staff to be somewhat guarded and suspicious at first, but this quickly changed. As soon as they realized that we were "medical people" and that we were genuinely concerned about Mr. and Mrs. Clark their attitude changed to one of supportive cooperation.



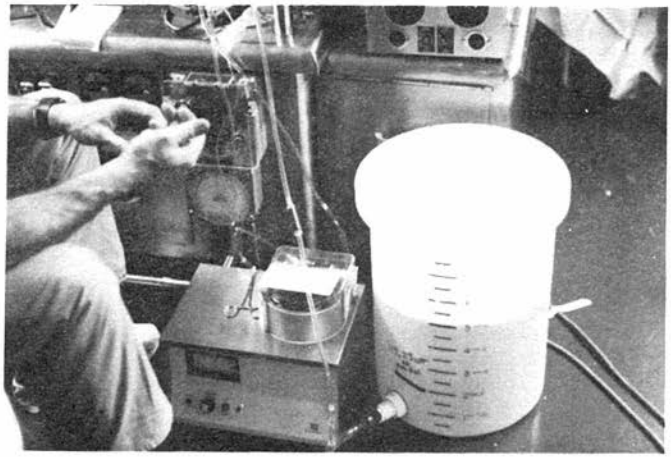
Brenda Peters stabilizes the recirculating perfusate reservoir as Jerry Leaf connects it to the heart-lung machine circuit.

Since both Jerry Leaf and I work in a clinical environment, we were able to speak the language and share the concerns and frustrations of the nursing staff. I know what my reaction would have been if two strangers had shown up in the middle of the night on my floor with six crates of equipment and a long list of strange requests! The first major issue would be where to put them and their equipment. Hospitals are notoriously overcrowded places--they simply don't have an inch of storage space to spare, and I'm sure that one of the places they considered putting us at first was out the door. I stated immediately that I knew this would be a problem and that I sympathized with the serious inconvenience our presence was likely to cause. Once we had a good rapport established with the staff they went out of their way to accommodate us. Since it was a weekend and things were quiet, they cleared some space in their supply room and let us station our equipment there.

The next hurdle was to talk with the physician who was following Mrs. Clark in the ICU. He proved to be a very approachable fellow who's skepticism diminished as he discussed Mary's case with us and answered questions we asked about her condition and listened to our explanation of what we had planned. Everything was proceeding smoothly, more smoothly in fact than we had dreamed possible.

The following day Mary was still doing well, far better than anyone expected, including her doctors. ICU bed space is valuable, and since Mary was clearly terminal, it was decided to move her to another floor. Two other factors had a part in this decision. First, Mary's physicians were concerned that she be moved to an **unmonitored** floor, in other words to a bed where she would **not** be on a cardiac monitor. They had taken our requests into consideration and were concerned that she would continue to show cardiac **electrical** activity many minutes after true **mechanical** cardiac arrest had occurred. This is a common phenomenon in slowly dying patients and is known as an "agonal rhythm." Agonal rhythm can last as long as 30 to 40 minutes following true cardiac arrest. In Wisconsin, death can be declared either on the basis of cardiac and respiratory arrest or on the basis of brain death. If the patient is on a cardiac monitor, then cardiac arrest cannot be declared until all electrical activity has ceased. If, on the other hand, the patient is not on a monitor, then death can be pronounced on the basis of auscultation or listening for a heart beat and respiration, and checking for absence of a pulse.

Clearly, it would be better for Mary if she didn't have to be exposed to 30 or more minutes of warm ischemia while we waited for the heart to exhaust all of its metabolic reserves and stop generating electrical signals. The other side of this coin was that someone had to be with Mary more or less continuously to call in the physician as soon as death occurred or appeared imminent. Unfortunately, cryonics personnel cannot serve in this capacity in a hospital setting because of "conflict of interest." Technically, we stand to "gain" if the patient dies, so we can never be alone with the patient unless a relative or staff member is present. On such short notice, supportive private nursing personnel would be almost impossible to get. So, the task of sitting with Mary fell to Paul.



The rate of glycerol addition to the recirculating system (the patient) is checked by timing pump head revolutions with a stop watch. The glycerol addition pump is on the floor in the foreground.

Another issue to be settled was the kind of supportive care Mary was receiving. Such support had been appropriate early-on in order to give us time to arrive and get deployed. Now, however, it served only to prolong the inevitable. While Mary was not in any pain at this point, being confined to bed with numerous I.V. and arterial lines cannot be described as exactly comfortable. It was decided to discuss with Mary what course of action she wanted to follow since she was fully alert and oriented. Quite sensibly Mary elected to have the medication and I.V. support withdrawn and

to "get it over with."

To everyone's amazement, this action did not result in immediate cardiovascular collapse. Mary improved somewhat and was able to take food and fluid by mouth. She knew there was a cryonics team standing by, and asked to meet with Jerry and I. My impressions of Mary Clark are difficult to share. I was struck immediately by her great warmth and gentle concern for everyone but herself. Understandably, Mary was very apprehensive about the well-being of her husband of 35 years and we ended our first meeting by her extracting a promise from me to see to it that he had a good lunch and got a little rest. She also joked with me and apologized for "not dying on schedule." She was genuinely more concerned about the welfare of Jerry and I than she was about her own situation. She seemed reassured by our presence and by the support she knew that we would provide Paul when the inevitable occurred. Her sense of humor and realism about her situation remained intact up to the bitter end. A few hours before deanimating she was remarking on the injustice of finally being able to fly out to California lying down ("first class") and not having any windows to look out of! Only a cryonicist could keep that kind of balance. When I spoke with her last, by phone, and tried to provide some optimism about her condition, she was quite firm with me that she needed no false hope and that she knew she had very little time left.

After Mary's move to the Hematology floor, we established a relationship with several new sets of nurses and her attending physician, Mark Bozdick, chief of Hematology/Oncology. Dr. Bozdick took time to sit down and talk to us, and we discussed cryonics, cryobiology and resuscitation medicine at some length. Dr. Bozdick was aware of the long-standing interest of the Clarks in cryonics (this proved to be important, since it defused a suspicion that some of the staff had that we were vultures preying on people's last minute panic and desperation) and provided a tremendous amount of support and cooperation. Amazingly, we were allowed to "camp out" on sofas in a waiting room a few feet from Mary's room, and the staff rounded up a Lazy-Boy chair for Mr. Clark to "sleep" on in Mary's room. So, the vigil began. For three days and four nights Jerry and I were at the hospital almost round the clock. For the first couple of days we took sponge baths in the restroom adjacent to the waiting area, and finally rented a motel room nearby so we could bathe. I even grabbed a few hours of sleep in a real bed at the motel early on, when Mary looked stable, but Jerry stuck with sleeping at the hospital.

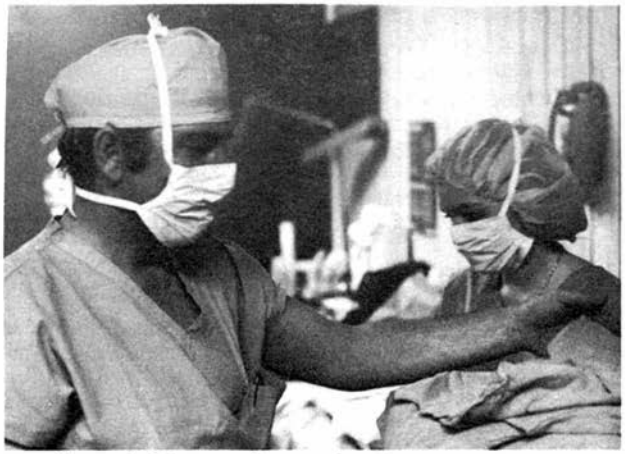
Late in the evening of the 11th, Mary began to complain of shortness of breath. Over the next four hours or so her condition deteriorated and at 2:48 AM on the morning of February 12th the physician on-call pronounced Mary Clark legally dead. Within four minutes or so of respiratory arrest, we coupled Mary to an HLR and began administration of transport medications and external cooling.

Intubation and HLR support went smoothly. We were very concerned over the adequacy of gas exchange, because the proximate cause of death was pulmonary edema. Undoubtedly gas exchange was not anywhere where we would have liked it to be, although we were pleasantly surprized when we drew an arterial blood sample on arrival at the mortuary and found that it was bright red. Venous blood was appropriately dark and desaturated of oxygen.

By the time we began the femoral cut-down to couple Mary to the blood pump and oxygenator, her temperature had dropped to 26.5^{o}C. It was here that we

encountered the only serious problem of the entire operation. Mary was **massively** edematous at the time of deanimation. Surgical wounds filled up with fluid as fast as we could sponge it away. The wound behaved like a hole in sand at the beach. No sooner was the field sponged dry than it was full again. Neither Jerry nor I had ever encountered working conditions like this. It slowed down location of the femoral artery considerably. We couldn't find the right femoral vein. Not only was tissue fluid a problem, but bleeding was a problem. We administered heparin (of necessity) as part of our transport protocol, and the bleeding, which normally would have been manageable was yet another complication overlayed on the deluge of tissue fluid. The bleeding not only contributed extra fluid to fill the wound, but also rendered the tissue fluid opaque. Despite careful extensive searching and expansion of the wound (including assistance from the mortician) we could not find the femoral vein. After about forty-five minutes of further searching, we decided to explore the left groin. We **immediately** found the femoral vein and slipped a cannula into it. We experienced real difficulty on this side and were forced to shut down the HLR to control the bleeding. Fortunately, by this time Mary's temperature was under 25°C and we could afford a few minutes of circulatory arrest to facilitate venous catheter placement. We later learned that Mary had had a history of phlebitis in her right leg. Apparently this had resulted in complete obliteration of her femoral vein. This points up the importance of making medical records available to us before death. Had we known of a history of vessel disease in the right leg we would either not have attempted cannulation on that side, or would have abandoned the search for the femoral vein in a more timely fashion. The presence of the edema and the difficult working conditions, coupled with lack of critical information held us back.

Once we had the cannula in place, we were able to go on bypass with a portable blood pump and a bubble oxygenator. We selected a bubbler over a membrane because of simplicity of set-up, the larger reservoir capacity of the bubbler, built-in heat exchanger, and better capability of dealing with clots. We were particularly concerned about clots, because we had been unsure to what extent the hospital would cooperate with us before we arrived on the scene. It was quite possible that there might have been as much as a one or two hour delay in releasing Mary if the hospital refused to cooperate and made us go through "normal channels." This would have provided more than enough time for clotting to get started. Bubbler oxygenators have a large foam column which we've found acts ideally as a prefilter for larger clots and prevents them from blocking the circuit. As it turned out, clotting was not a problem we had to deal with.



Scrub Nurse Brenda Peters assists lead surgeon Jerry Leaf in gowning for surgery.

Once we had Mary on the pump, she cooled quite rapidly

to 1Ø °C. We then carried out a total body washout with 13 liters of MHP-1, the perfusate we've been using in our recent series of dog experiments. We terminated perfusion at a little below 1Ø°C and transferred Mary to a Ziegler case where she was packed in ice from head to toe for shipment to California. Dan Kettelson had thoughtfully constructed a special wooden shipping case to act as a thermal and mechanical protector for the Ziegler. The former was especially important since the temperature outside was considerably below the freezing point. We are especially sensitive to this risk since a patient in the past was inadvertently frozen by morgue personnel where death occurred prior to shipping to California for cryoprotective perfusion. During the six-hour wait for our departure time to roll around, we put the shipping case in one of FLS's two walk-in coolers to conserve the ice inside. We checked the cooler temperature on a frequent basis with two thermometers, to insure that the temperature was above freezing.

I watched the shipping case containing Mary be loaded onto our plane, and explained to the handling personnel that she should not be dropped or manhandled in the way "corpses" often are. When we arrived at Ontario airport, Al Lopp whisked Jerry Leaf off to Cryovita to get a jump on final preparations for the perfusion, and Hugh Hixon met Paul and I with the van. I went out onto the ramp to assist the lone cargo handler unloading the shipping crate, since it weighed over 45Ø pounds with all the crushed ice. Within about forty minutes of landing, we were en route to Cryovita.

I arrived to find Cryovita awash in personnel in surgical garb, and Mary was quickly unloaded from the van and transferred to the staging area behind the operating room. Hugh Hixon had been coordinating activities while we were away and he had done a beautiful job of assembling people and preparing the lab for perfusion. Anna Tyeb, Scott Greene, and Al Lopp had come in during the morning to do a complete clean-up of Cryovita. The operating room, which has been used for the washout experiments on dogs, got a double dose, plus a last-minute scrub-down by Anna, and calibration of the test equipment. We had our usual 1ØØ% turn-out of staff. I took a few minutes to assemble everyone and tell them of Mary's last few minutes. I explained that her deanimation had been difficult and that Paul and the nurses and I were with her at the last holding her hands and comforting her. I told the team that I had told Mary it was O.K. for her to let go now, that we were there to catch her, and that we would not give up, that we could continue to care for her. I asked everyone to give their very best, because she trusted us, and because she was and **is** a very special person.

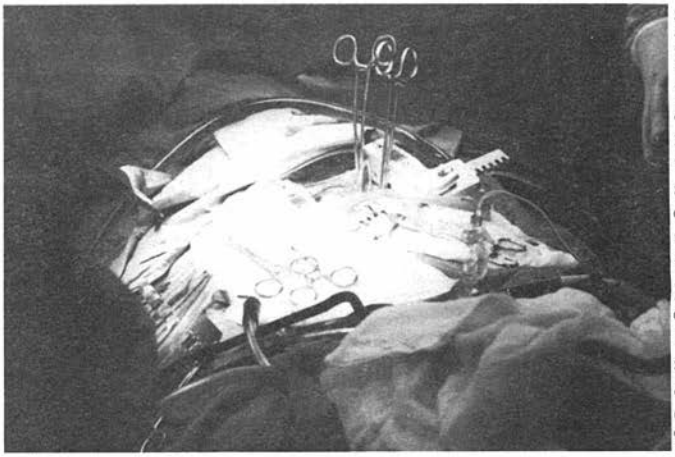
Paul had flown out with us from Madison, and once he saw that things were underway and flowing smoothly at the lab, he checked into a motel a mile or so away for some much needed, long overdue rest.

The California end of the operation was an anticlimax. I'm accustomed to perfusions being affairs of incredible tension and tremendous disorganization. Mary's perfusion was the complete opposite of this. Things went **smoothly**. The effects of the numerous dog experiments were in evidence everywhere. Note taking was high quality and uniform, personnel didn't fumble with syringes needles or other "unfamiliar" equipment and everyone felt reasonably self confident. After days of high tension in Madison, Cryovita was almost a let down. Not that I would have it any other way! Oh, for a lifetime of similar "letdowns." Nevertheless, I was surprized at how calmly and smoothly everything went. For the first time, even though there hadn't been a suspension in four years, a cryonic suspension was **routine**, or at least as routine as they ever

get.

Mary and Paul had both decided on neuropreservation as the most sensible course to follow. They could have afforded whole-body, but neither felt it a sensible thing. As Paul commented, "I'd thought about preserving just the brain years ago, but didn't dare open my mouth because I felt there would be such protests against it." Mary and Paul were quite open about going with the neuro option to the staff at the hospital, and we were all quite surprized to find that while there were many questions related to going "head only" there was little hostility and more than a few comments that it made more sense than taking along a broken-down body. One nurse commented to me that it helped her to better understand what we were after. She said that it forced her to realize that we weren't just counting on a cure for cancer, but that we expected complete control over life and that we obviously intended to settle for nothing less than a brand-new, healthy body.

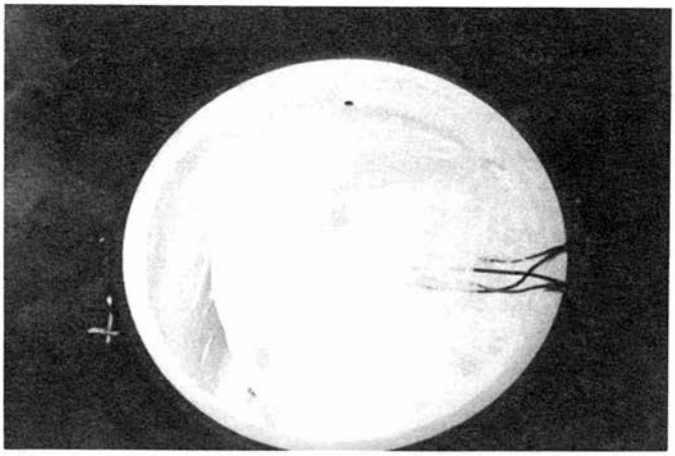
This was the first time that we were able to apply a new technique of perfusion which we had heretofore evaluated in animals and found to be superior to perfusion of the head via the carotids. Jerry went in though the chest as would be done for a whole body perfusion, but then tied off all the vessels except the carotids and the vertebrals. This allowed us **four** points of perfusion for the brain, instead of the two available with just the carotids, and it also allowed us to stop the troublesome problem of "run-off" of perfusate down the vertebrals into the body. This shunting of perfusate away from the brain down a path of less resistance (the open vertebral arteries connect with the carotids via the Circle of Willis at the base of the brain) has been a serious barrier to good perfusion of the brain in the past. The use of the median sternotomy with aortic root perfusion eliminated this problem. We were able to achieve strikingly good circulatory isolation of the head using this approach. At the conclusion of glycerol perfusion, the line of demarcation between perfused and nonperfused tissue was incredibly sharp and began a few millimeters above the clavicle. The contrast was so sharp it was as if someone had drawn a line between the perfused and nonperfused zones with a felt-tipped pen.



Circulatory isolation of the patient's head was achieved by tying off vessels in the chest and perfusing via the aortic root. This approach allows the brain to be perfused through all four arteries which supply it.

Glycerolization proceeded very smoothly, with a more or less linear ramp to a terminal concentration which we believe was

in the zone of 2.8 M, or about 26%. Precise tissue glycerol values can only be obtained by direct analysis of the tissue, something we clearly cannot do in the case of the brain, so we can only infer terminal glycerol concentration from evaluation of the effluent samples.



The patient, cooled to dry ice temperature and immersed in silicone cooling fluid, awaits transfer to the TA-60 for further slow cooling to liquid nitrogen temperature.

Fred and Linda Chamberlain made the long drive down from Lake Tahoe to help out during the perfusion. They came primarily to act as "go-for's," but as it turned out, Fred, working with Bill Jameson and Hugh Hixon played a key role in calibrating the glycerol ramp pump and calculating the rate of glycerol concentrate addition. Calculation of addition rate is a task which must be done once the circuit is set up and its volume measured and the mass of the patient's body or head has been estimated. Fred greatly expedited this process and once again demonstrated his invaluable skills as a team member.

Linda brought in groceries (which the Chamberlains contributed) and then took over monitoring cool-down of the patient in dry ice after everyone else had drifted off to sleep. The following day, Fred and Linda helped Paul prepare for his return flight to Florida, and accompanied me over to the cemetery where Mary's "mortal" remains would be cremated.

At 8:10 PM on February 14th, Mary was transferred from the silicone cooling fluid where her temperature had been dropped to -77°C to a standard aluminum neuro container which in turn had been nested inside a polyethylene tank. The space between the container and the tank was filled with dry ice. This whole assembly was then transferred into an MVE TA-60 wide-mouthed cryogenic dewar. The TA-60 was closed and lowered via a chain hoist into a dual-patient (whole-body) cryogenic dewar which had a foot or so of liquid nitrogen in the bottom. Over the next 12 days, Mary was very slowly cooled to liquid nitrogen temperature by gradually lowering the TA-60 into the dual-patient dewar and periodically adding liquid nitrogen. At 2:45 AM on the morning of February 26th, Mary was transferred to long term liquid nitrogen storage in our MVE A-2542 multipatient dewar.

Mary will remain with us, fiercely protected and lovingly cared for until the world catches up with her and our needs. Right now she is as safe as our technology and current resources can make her. It's up to us to carry on and

see to it that her trust in us and in the future we'll help to create, was not misplaced.

ALCOR LIFE EXTENSION FOUNDATION
4030 NORTH PALM #304
FULLERTON, CALIFORNIA 92635
(714) 738-5569

ADDRESS CORRECTION AND
FORWARDING REQUESTED