

CRYONICS

NOV / DEC 2004 A PUBLICATION OF THE ALCOR LIFE EXTENSION FOUNDATION Volume 25:4

A Bold Future For Cryonics

Charting the Course

page 12

Dancing on the Head of a Pin

page 17

*Alcor's First
Newsletter*

page 8

*Cryopreservation
Case Report:
Patient A-1099*

page 4



ISSN 1054-4305

\$7.50

“What is cryopreservation?”

Cryopreservation (cryonics) is the ultra-low-temperature preservation (biostasis or cryostasis) of patients who cannot be maintained in a normal, living state by present-day medical practice. The goal is to move these patients into the future (with as little further damage as possible), to a time when cell and tissue repair technology far beyond today’s capabilities are readily available, and where a more comprehensive evaluation of these patients’ chances can be made, where restoration to full function and health may be a realistic possibility. In principle, this is no different from bringing a seriously ill person out of the jungle and to a modern hospital. Applied to cryotransport, the concept is that the only way “out of the jungle” is to travel forward in time. The “modern hospitals” we need can be reached only by traveling decades into the future.

As human knowledge and medical technology continue to expand, people who today are considered hopeless will be easily restored to health. Throughout history, this has been the hallmark of medical progress. Rapidly evolving control of biological and molecular structures promises to soon permit the synthesis of medical devices far smaller than living cells. Through molecular repair, these devices should be able to eliminate virtually all of today’s diseases and allow us to intervene in the aging process, ultimately “curing” and eliminating it. These technologies will also allow us to attempt the repair and recovery of patients waiting in cryostasis. The challenge for us today is to devise techniques that will give these patients the best chances for survival.

“How do I find out more?”

The best source of detailed introductory information about cryotransport is *Alcor Life Extension Foundation: An Introduction* (published December 2001). At 100 pages long, *ALEFI* presents an engaging examination of the social, practical, and scientific arguments that support the continuing refinement of today’s cryotransport techniques in pursuit of a perfected “suspended animation” technology.

ALEFI features chapters on the possibilities in nanomedicine; society’s views of dying throughout the ages; the history of cryonics; the mutability of death; the mechanics of rescue operations, cryonic suspension, and vitrification; the science of molecular engineering; religious and ethical issues surrounding cryonic suspension; key psychological issues faced in the decisionmaking process regarding cryosuspension and advice on how to resolve them; frequently asked questions and answers; and how to join Alcor. Price: \$10.00. Visit our web site at www.alcor.org or contact our front office at 480-905-1906, ext. 113, to order.



For those considering Alcor Membership. . .

Cryonics is published four times a year by Alcor Life Extension Foundation. The magazine is an important benefit of membership and is mailed to all members. Read about the latest findings from cryonics experts, keep up with happenings at Alcor Central, and learn about special events and conferences in cryonics and related fields.

Alcor’s toll-free number for membership inquiries or donations is: 1-877-GO-ALCOR. For other services, call 1-480-905-1906. For inquiries and member services, contact Membership Administrator Jennifer Chapman at jennifer@alcor.org.

Don’t miss a single issue of *Cryonics*—BECOME A MEMBER TODAY!

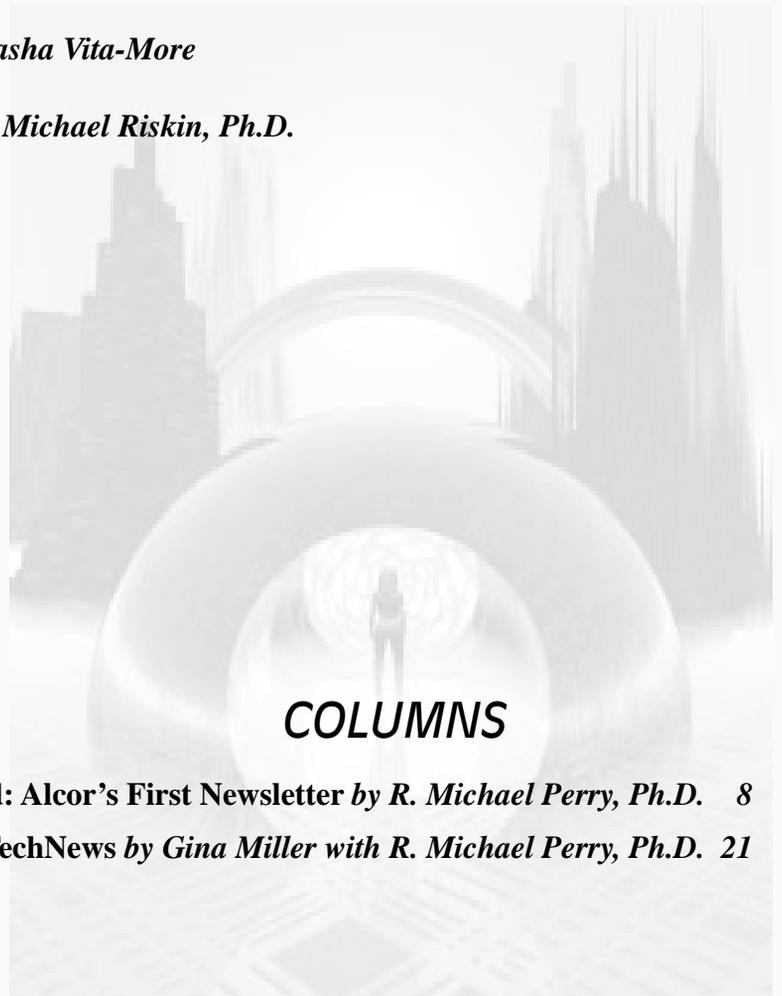


Artist Tim Hubley’s depiction of a person’s desire to face an uncertain future.

Cryonics

Vol. 25:4
November/December 2004

- 4 Cryopreservation Case Report: Patient A-1099** by *Tanya Jones*
- 12 A Bold Future For Cryonics: Charting the Course** by *Deborah Johnson and Cheryl Walsh*
- 17 Dancing On the Head of a Pin** by *Natasha Vita-More*
- 24 Comprehensive Member Standby** by *Michael Riskin, Ph.D.*



For the Record: Alcor's First Newsletter by *R. Michael Perry, Ph.D.* 8
TechNews by *Gina Miller with R. Michael Perry, Ph.D.* 21

ALCOR UPDATES

CEO Report 15
Membership Status 27

Alcor: The Origin of Our Name

In September of 1970 Fred and Linda Chamberlain (the founders of Alcor) were asked to come up with a name for a rescue team for the now-defunct Cryonics Society of California (CSC). In view of our logical destiny (the stars), they searched through star catalogs and books on astronomy, hoping to find a star that could serve as a cryonics acronym. *Alcor*, 80 Ursae Majoris, was just what they had been looking for. It not only had some acronymic "fit" for cryonics but was also symbolic for its historical use as a test for eyesight and was located in a very well known constellation.

Alcor, a companion star of Mizar in the Big Dipper's handle, is approximately 5th magnitude, barely within the threshold of human vision. Additionally, it is quite close to Mizar from an angular standpoint, and dimmer. Only with excellent vision can one tell there are two stars rather than just one. For thousands of years, people in the Middle East have used Alcor as a critical test of visual sensitivity and focus. If you could see Alcor, you had excellent vision indeed. In the early days of cryonics, few people could see the need for a rescue team or even for cryonics itself. Symbolically then, Alcor would be a "test" of vision as regards life extension.

As an acronym, Alcor is a close if not perfect fit with *Allopathic Cryogenic Rescue*. The Chamberlains could have forced a five-word string, but these three seemed sufficient. *Allopathy* (as opposed to *Homeopathy*) is a medical perspective wherein *any treatment that improves the prognosis is valid*. *Cryogenic* preservation is the most powerful method known to halt the rapid, entropic disorganization of people following clinical death. *Rescue* differentiates a cryonics approach from

(yet to be developed) proven suspended animation. The acronymic interpretation of Alcor is therefore *use of a cryogenic procedure, though unproven, to preserve structure and potential viability, since failing to do so allows further disorganization to occur and reduces the probability (prognosis) of reversal and reanimation at any future time*.

Some of these thoughts were presented at a CSC dinner meeting in the autumn of 1970. A number of people who have subsequently become members of the Alcor Life Extension Foundation were present at that gathering. Over the months that followed, it became increasingly evident that the leadership of CSC would not support or even tolerate a rescue team concept. Less than one year after the 1970 dinner meeting, the Chamberlains severed all ties with CSC and incorporated the "Rocky Mountain Cryonics Society" in the State of Washington. The articles and bylaws of this organization specifically provided for "Alcor Members," who were to be the core of rescue team activity. Difficulties in securing nonprofit status in Washington then led to reincorporation in California, this time under the name "Alcor Society for Solid State Hypothermia." In the late 1970s, to further broaden the organization's objectives, the present name (Alcor Life Extension Foundation) was adopted.

Despite many transitions, the symbolism of the name remains. How long will it take for more people to see that "Ashes to ashes and dust to dust" is a meaningless destiny... to see that it is possible to reach for a distant tomorrow and perhaps to attain it... to *see* Alcor for what it really is: a vehicle with which to attempt that fantastic voyage!

—Reprinted from *Cryonics*, August 1984.



Cryonics

is a bi-monthly publication of the
Alcor Life Extension Foundation

Editor
The Alcor Staff

Volume 25:4

Nov/Dec 2004

ISSN 1054-4305

Contents copyright © 2004 by the Alcor Life Extension Foundation, except where otherwise noted. All rights reserved. The opinions expressed herein are not necessarily those of the Alcor Life Extension Foundation, its Board of Directors, or its management.

Submissions may be sent via e-mail (articles@alcor.org) in ASCII, Word, or PageMaker format. Mailed submissions should include a PC diskette with the file in any previously mentioned format (although printed text alone will be considered). All submitted media become property of the Alcor Life Extension Foundation unless accompanied by a self-addressed stamped envelope. The Alcor Life Extension Foundation assumes no responsibility for unsolicited manuscripts, photographs, or art. Send all correspondence and submissions to:

Cryonics
Alcor Life Extension Foundation
7895 E. Acoma Dr., Suite 110
Scottsdale, AZ 85260

Visit us on the Web at www.alcor.org

How to Join Alcor

Your research is finally complete. You browsed our web site (www.alcor.org), presented your questions to our Membership Administrator (jennifer@alcor.org), and toured our facility. Now you are ready to establish your membership with Alcor Foundation. Congratulations and welcome!

Upon receipt of your completed application for membership and application fee, Alcor will send you various membership documents (samples available upon request). After reviewing these documents, you will need to execute them in the presence of two signing witnesses. Perhaps a representative of your local bank can notarize the single document that also requires this official witness. After returning all of your documents to Alcor for approval, you can expect to receive one original copy of each for your personal records.

Most people use life insurance to fund their suspension, although cash prepayment is also acceptable. If you do not already have an insurance policy, Alcor recommends that you apply for

one at your earliest convenience, as the underwriting process can last several weeks. Jennifer Chapman, Alcor Membership Administrator, can provide you with a list of insurance agents who have previously written policies for this purpose. These agents can assist you with satisfying Alcor's various funding requirements, such as naming Alcor as the owner and irrevocable beneficiary of your policy and ensuring that your benefit amount is sufficient.

With your membership documents completed and your funding approved by Alcor, you will be issued emergency identification tags engraved with your personal Suspension Number. This is your confirmation that Alcor will provide you with suspension services, should our emergency technicians ever receive a call on your behalf. Certainly, Alcor hopes that you will not need our services anytime soon, but as a member of Alcor you can feel confident that our organization will care for you and your future. Please call 480-905-1906 ext. 113 today to request your application.

TO ALL ALCOR MEMBERS AND THOSE IN THE SIGN-UP PROCESS

Please! Please! Please!

When you move, or change phone numbers (work number as well), change e-mail addresses, or undergo any medical procedure where general anesthesia is used, please inform us as far ahead of time as you can.

Too many times we have tried to contact our members and found out the contact information we have is no longer valid.

Other times we find out well after the fact that a member has undergone a medical procedure with life threatening potential.

*Help us to serve you better!
Keep in touch!*

CryoPreservation Case Report: *The Cryopreservation of Patient A-1099*

by Tanya Jones

This cryopreservation proves that even when an individual does everything right (according to the Alcor membership requirements), things can still go wrong.

Alcor's 66th patient became a member in 1985 and was one of the first 100 people formalizing cryonics arrangements with Alcor. He signed all the paperwork, had his family execute Relative's Affidavits, and arranged his funding through a personal trust. The trust itself was crafted with several pages devoted to his cryonics arrangements, and all annual membership dues were paid with only one tiny interruption in nearly twenty years. The member drafted a will that contained detailed instructions on the cryopreservation arrangements; and though it was occasionally re-written, it always included those same pages regarding Alcor.

We got a call on the morning of October 11, 2004, from the member's Trust attorney, informing us of the pronouncement of legal death. Death had been pronounced on the morning of October 10th in Florida, and we were given the name of a hospital. No other information was available, despite the member having been deceased for more than 24 hours. We got on the phone right away to track down the location of the patient.

It took about a half hour to locate our patient, after going through the hospital, the nursing station, the morgue and finally, to the actual funeral home to which the patient had been removed. When we got the local funeral director on the phone, we received some bad news. As of earlier that morning, the patient had been embalmed and was scheduled for cremation that day. All of this was done at the request of the patient's daughters, and was in direct contradiction to the patient's Last Will and Testament.

We explained the cryonics arrangements to the Florida funeral director, stating that the daughters had no authority to make final disposition arrangements, because as of the moment of pronouncement, custody of the human remains belonged to Alcor. The funeral director asserted that the daughters knew nothing about the cryonics arrangements, and that he wanted to see the relevant paperwork. The paperwork was immediately faxed to him; and we became more concerned, because there was falsehood or forgetfulness at work. (The daughters had been among family members who had executed Relative's Affidavits agreeing to inform Alcor if the member died suddenly and to not interfere with the cryopreservation.) The funeral director agreed to place a hold on the cremation order and to refrigerate the patient, while we worked out the details.

Once the cremation was stopped, we contacted the patient's

attorney to learn more about the circumstances of death. We discovered the member was admitted to the hospital less than two weeks prior and that he had been diagnosed with esophageal cancer and received a prognosis of 6-8 months. The Trust attorney was dismissive of the idea that the daughters were unaware of the cryonics arrangements, and he assured us that the trust was still in force. When asked directly if he knew of any reason we should not proceed as the paperwork directed, he responded that cryopreservation was still something the member very much wanted. Since the paperwork also required that any remains be recovered and cryopreserved, we were committed to moving forward with the recovery.

With the member's written directives and the assurances of his attorney, who had been representing the member since before the original cryonics arrangements had been set in place, we proceeded to contact our Arizona funeral director, Steve Rude, to have him begin processing the paperwork that would allow the transfer of the patient to Alcor. Steve contacted the Florida funeral home to discuss the transport and learned that they intended to proceed with the cremation over our objections. We immediately called the funeral home to advise them that if they were serious about continuing with the cremation, we would be forced to pursue legal action against them.

Working under the assumption that perhaps the funeral home was unfamiliar with anatomical donations, we informed them that the state anatomical gift laws prevent family members from overturning an anatomical gift, once pronouncement of legal death occurred. The funeral director assured us that they would be contacting their lawyers. We began to immediately search for a Florida attorney.

While the search for an attorney was underway, we also did a little looking into the anatomical gift laws specific to the state of Florida. Alcor Board member Michael Seidl found that the Florida Anatomical Gift Act is title XLIV, chapter 765 of the Florida code, Section 765.512(7) does make clear that once the gift has been made, the rights of the donee are paramount. He was unable to find anything that requires funeral homes to cooperate in the making of a gift. Pertinent to our situation was Section 765.512(2), which states:

"If the decedent has executed an agreement concerning an anatomical gift, by signing an organ and tissue donor card, by expressing his or her wish to donate in a living will or advance directive, or by signifying his or her intent to donate on his or her driver's license or in some other

written form has indicated his or her wish to make an anatomical gift, and in the absence of actual notice of contrary indications by the decedent, the document is evidence of legally sufficient informed consent to donate an anatomical gift and is legally binding.”

A couple hours later, we found and retained Florida attorney Kenneth Hemmerle, thanks largely to the recommendation of Alcor Board member Saul Kent. Joe Waynick and I briefed our new attorney on the situation and its urgency; and he agreed to begin immediately reviewing the Florida anatomical gift statutes and to draft a letter enjoining the funeral home from performing the cremation. The member’s attorney was also strongly interested in seeing the cryopreservation carried out and was drafting a similar letter with clauses from the patient’s will that expressly forbade both embalming and cremation. Anticipating the patient’s release to Alcor personnel, we contacted another Florida funeral home to arrange shipment of the remains to Arizona. Unfortunately, we were told that no funeral home would release remains without either a signature from the next of kin or a court order. This boded poorly for a quick resolution, because it was the patient’s next of kin — specifically his two daughters — who were objecting to the cryonics arrangements. On that less-than-pleasing note, the days efforts were concluded.

Early the next morning, we learned that one of the daughters was claiming the member rescinded his cryopreservation arrangements while on his deathbed. This revocation was reportedly done in front of both daughters and a hospital physician. When we contacted him, the physician confirmed the sentiment of revocation and apparently witnessed the patient signing a new will. The doctor’s details were sketchy, and he placed the date of these actions as October 1, 2004.

We were skeptical about this sudden revocation. The member’s intention to continue with his arrangements — despite (or more certainly because of) his recent diagnosis of esophageal cancer — were reaffirmed just prior to his death. We opened our mail that very Monday, and we found a check for the member’s 2005 Membership Dues in the pile. With a date of October 4, 2004, and bearing the member’s signature, this check was written after he was diagnosed with cancer and during the early part of his hospital stay, indicating that he still wished to maintain his arrangements. It has been our experience that none of our members have ever changed their minds while on their deathbeds. Lying in the hospital in an agonal condition has proven to be a time where cryonics arrangements typically provide a great source of comfort to a dying individual.

Nearly 20 years ago, this gentleman decided to have his human remains cryopreserved by Alcor. He documented his wishes extensively through the execution of an anatomical donation designation, a contract, and the provision of a will that clearly dictated his wishes. He maintained his involvement with our organization throughout the decades, promptly paying his annual membership dues and never once indicating reluctance or wavering of any kind. Supporting our belief that the patient still intended to

be cryopreserved, there were additional witnesses who were willing to come forward and swear they had heard our patient say, “I’m going to be frozen,” during this same hospital stay. But with this assertion of revocation and the emergence of a new will (which no one had yet seen), we were now committed to a court battle.

While the lawyers were circling, the patient was being held at the local funeral home. Alcor personnel were not allowed access to the patient, but in the interest of avoiding future legal entanglements, our Florida transport team members were allowed to periodically deliver dry ice. We had decided to hold the patient on dry ice, despite his having been embalmed, because it was the more conservative course for care. We were concerned about the quality of the embalming because the funeral director who performed the procedure informed us that the patient had been quite edematous during the procedure. Placing the patient on dry ice was done by the afternoon of October 13th. It was also an unfortunate acknowledgement of the amount of time it would certainly take to resolve the matter of disposition.

To Court

During our pre-hearing brainstorming, our Florida attorney suggested a new strategy; one that had never before been tested on a cryonics case. After extensive discussion with other Alcor attorneys, his recommendation was that we obtain a *writ of replevin* to ensure the release of the patient to Alcor. A *writ of replevin* is a prejudgment process ordering the seizure or attachment of alleged illegally taken or wrongfully withheld property, under order and supervision of the court, until the court determines otherwise. This type of writ is commonly used to take property from an individual wrongfully in possession of it and return it to its rightful owner.

Historically, this strategy had never been used in a cryonics case because human remains were not considered property in the conventional sense. However, Mr. Hemmerle found precedents had been set in this matter that could be used to support our case. Some of those include:

Stahl v. Necker, Inc., 184 A.D. 85 90; Matter of Forrissi, 170 Misc. 649; Apostle v. Pappas, 154 Misc. 497

These cases established that a surviving spouse or next of kin has the right to the possession of the body of a deceased person for the purpose of burial, sepulture or other lawful disposition, in the absence of testamentary disposition to the contrary.

Lubin v. Sydenham Hospital, 181 Misc. 870 (1943)

This complaint alleged two causes of action. The first was for damages for mental anguish revolving around the disposition of a deceased child and the hospital’s interference with the plaintiff’s right to burial. The second cause of action was a replevin for the possession of the child, which was withheld by the defendant (the hospital). Initially, this replevin was dismissed, but the dismissal was overturned on appeal.

Brotherton v. Cleveland, 923 F.2d 477 (6th Cir. 1991)

This case involved a 1983 action involving a potential property interest in a deceased individual's remains. The court in Brotherton noted that, "*a majority of the courts confronted with the issue of whether a property interest can exist in a dead body have found that a property right of some kind does exist and often refer to it as a quasi-property right.*" This quasi-property right acknowledges the right of the next of kin to possess a body for burial and allow for claims against those who disturb human remains.

Four years after *Brotherton*, the Sixth Circuit Court reached the same conclusion in a case arising under Michigan law. See **Whaley v. County of Tuscola, 58 F.3d 111 (6th Cir. 1995)**. In finding a legitimate claim of entitlement in this case, the Sixth Circuit relied on case law surrounding possession of a deceased body for disposition of the remains and also touched on Michigan's Anatomical Gift Act.

Additional case law existed to support the lawful disposition of the member's remains, and one of the strengths of the various Anatomical Gift Acts is that a donation may not be overturned after death. A donation may be revoked prior to death, but only by firmly established means.

With strong supporting case law, we submitted our complaint. Part one of our offense was an action for a *writ of replevin* to recover possession of Alcor's property (the human remains of the deceased member); part two was an action for injunctive relief requiring the funeral home to immediately release the patient to Alcor pending final determination of who was entitled to the body; and part three was an action for declaratory relief. The court issued an order to each defendant (the daughters and the Florida funeral home) to show cause why the body should not be released to Alcor.

The counterclaim of the daughters was that the anatomical gift had been revoked and that Alcor was not an authorized recipient of anatomical gifts in the state of Florida. They also filed for declaratory relief, which is a judge's determination of the parties' rights under a contract or a statute often requested (or prayed for) in a lawsuit over a contract. The theory is that an early resolution of legal rights will resolve some or all of the other issues in the matter. In this case, it would establish whether or not the Alcor contract with the member would remain valid.

Joe Waynick and I flew out to Florida for the evidentiary hearing, arriving early at the door to courtroom #540 on October 28, 2004. When we arrived, the corridor outside the courtroom was full. Many people were there on other business, but when we filed in, we found that the seats on our side of the courtroom were nearly filled. Sitting on the daughters' side of the courtroom were the two daughters, their legal counsel and the legal counsel for the funeral home (who apologized for being stuck in the middle of this dispute). In addition, the physician who had sworn he had heard the anatomical gift revoked was in attendance.

Opening arguments were made, and the witnesses (me

included) were asked to leave the room. Witnesses are not allowed to hear the testimony of other witnesses, so as not to prejudice the proceedings, but the excused witnesses received occasional reports from the courtroom.

The first order of business was examination of the affidavits on the revocation of the anatomical gift. Two witnesses are required by law, one of whom may not be a family member, and those witnesses were both present. The younger daughter filed her affidavit; an affidavit that was ultimately dismissed by the judge because she stood to gain financially in the event the gift did not take place. Florida statutes address this matter of gain in Title VII, Chapter 90 § 90.602, which states:

"(1) No person interested in an action or proceeding against the personal representative, heir at law, assignee, legatee, devisee, or survivor of a deceased person, or against the assignee, committee, or guardian of a mentally incompetent person, shall be examined as a witness regarding any oral communication between the interested person and the person who is deceased or mentally incompetent at the time of the examination."

A second affidavit of revocation was submitted by a doctor of osteopathy, whom we learned was romantically involved with the elder daughter. Though it appeared they had done their homework on how a gift may be legally revoked, the dismissal of one of the affidavits meant that the requirements for revocation were not met.

During the hearing, the new will referenced earlier was produced. This will made no mention of Alcor or cryonics, and distributed the member's estate among several individuals, including the daughters and one person already deceased. The will was drafted by an acquaintance of the daughters and was allegedly signed on the day of the patient's death. Procurement of this new will made it certain that more legal wrangling would be required, as both versions would be argued in probate court.

Later testimony included graphic depictions of embalming procedures by the funeral home personnel. This was presented in an attempt to argue that cryopreservation should not continue because there was no point in completing the procedure. While it is true that the embalming precluded any cryoprotection, the actual cryopreservation could still continue as long as there were remains to submerge in liquid nitrogen as directed by the member. An independent expert testified on our behalf that the embalming did not necessarily preclude future revival.

Alcor CEO Joe Waynick testified on Alcor's behalf. The opposing counsel challenged the scientific validity of cryonics, asserting that the embalming prevented preservation. Joe responded that under these particular circumstances, the embalming almost certainly helped the patient. Because of the length of time it was taking to resolve the custody dispute, the patient would have certainly suffered more physical damage had the embalming not taken place.

Opposing counsel also implied that our retrieval capability

was designed to rescue the patients from members of their own families. Joe pointed out that our stabilization and transport protocols are in fact designed around conventional emergency medical response procedures.

Finally, opposing counsel questioned Alcor's legitimacy as an organ procurement agency authorized to accept human remains in the state of Florida. This issue was rapidly resolved by citing Alcor's previous California legal cases and by reading the Florida Anatomical Gift Act provisions for reciprocity into the record.

Further testimony was dispensed with by the judge, because by this time it was quite late; and the judge determined that he had heard enough to deliver a ruling. The judge then ruled that the patient's anatomical gift was to be upheld and that Alcor would be allowed to take possession of the remains after providing a bond sufficient to cover any damages the daughters might win upon appeal. Although the case was decided in our favor, there is the possibility that it may yet be overturned when the probate proceedings are concluded. However, in a parting statement, the judge commented that upon the daughters' expected appeal, Alcor has a "high probability of success." This order was entered on November 1, 2004.

The daughters have also filed a counterclaim for rescission of contract and declaratory relief essentially arguing that the member revoked the anatomical gift and as such the contract with Alcor was rescinded and that the Court should declare that the contract with Alcor was terminated during the members lifetime. Alcor has filed a Motion to Dismiss the Counterclaim arguing that the daughters have failed to state a cause of action against Alcor. The details are set forth in the motion to dismiss. The daughters' motion to dismiss the claim and Alcor's motion to dismiss the counterclaim will be set for hearing in early 2005. Alcor will also file a claim in the Probate Court as a creditor to recover the debt owed to it as well as the costs and attorney's fees it has incurred in this matter.

Patient Care Aspects

This report has yet to seriously address the quality of patient care provided in this case, because the majority of our standard protocol was not applied. We have little data. Deviation from the typical case started immediately, with a lack of notification of death. The cryopreservation was further compromised by the family instigating an embalming of the body, which impeded our ability to stabilize, transport and cryoprotect this patient. We were fortunate to be able to prevent the cremation, but the sequence of events ensured simple cooling to liquid nitrogen temperatures and long-term care would be all we could provide.

With the date of pronouncement being October 10, 2004, we did not gain custody of the remains until 23 days had passed -- the patient was flown into Phoenix during the late evening on November 2nd. He had been placed on dry ice as of October 13th, but we have no way to verify that the dry ice was well-

maintained or properly positioned. Because of the legal entanglements, Alcor personnel were not allowed access to the patient prior to the court-ordered release of the remains. We do know that when the patient arrived at the Scottsdale facility, his temperature had warmed to -4 degrees C. Our temperature data picks up shortly after his arrival. The patient was cooled to -79 degrees C in 68 hours.

Cooling beyond dry ice temperatures was delayed somewhat, due to anatomical peculiarities. The gentleman was the first patient we've had that was too large to be accommodated by our whole-body pods. During his mortuary preparation, his left hand was placed in a position that proved to interfere with the closing of the conventional pod. We had been warned about his generally large size by members of the Florida transport team, and as a result, were able to design a pair of new pods for larger patients. Because we needed precise measurements to see which design would best suit this case, we had to wait until the patient was in Scottsdale before manufacturing the new pods. We will be having another over-sized pod made, so that patient care is not hampered for the same reason in the future.

Final stage cooling was begun on November 30th, after the patient was transferred into his new pod and into the vapor cooling dewar. (This pod is large enough to consume nearly two whole-body slots in the conventional Bigfoot dewar.) Cooling to liquid nitrogen temperatures took place over 122 hours.

Why This Happened

For all outward appearances, this member did just about everything right. His paperwork was properly executed and in place. He made certain every new version of his Last Will and Testament contained language reaffirming his cryopreservation arrangements. He faithfully paid his Membership Dues for nearly twenty years, and he informed his family of his intentions. Where did he go wrong? The mistake was in providing a financial interest in his trust document for heirs to prevent his cryopreservation. How could this entanglement have been avoided?

Because this member made financial arrangements through a private trust and because that trust contained provisions for the assets to be transferred to the daughters or other heirs if the cryonic suspension was not performed, the next-of-kin stood to gain a great deal from the cremation of this member. All the scientific testimony presented by opposing counsel in this case was to establish that a cryopreservation was impossible after embalming. Perhaps other funding arrangements should be considered by our members and potential members, with such trusts acting as a secondary line of financial defense.

This entire affair makes an even stronger argument for using a separate life insurance policy as a method for funding cryonics and not leaving any of the proceeds to heirs should the cryopreservation not take place. Life insurance proceeds only require a death certificate to be processed, and they cannot be

(continued on page 23)

financially challenged was later abandoned, though I'm not sure when, or whether there ever were any actual contingency members, or what their dues would have been. Dues were \$35 per month (\$420/year) for full members, and \$25/year for associate members who did not have coverage but received the newsletter and could attend the monthly meetings for free (otherwise there was a \$2 charge for refreshments).

August 1976 (#4). Fred Chamberlain Jr. is cryopreserved on July 16, is Alcor's first case and the world's first neuropreservation. The patient, born in 1897, had an interesting career. Serving in the U.S. military in World War I, he was at various times in the 1920s a cowboy, a gold prospector, and an operator of heavy equipment for a dam construction project. In 1928 he rejoined the army, eventually reaching the rank of Colonel. In World War II he was the Third Army's General Staff Artillery Officer under General George S. Patton, Jr.² Retiring from the military a final time in 1946, he practiced farming for a number of years, then "devoted a lot of his time to architecture and art." By 1967 he had suffered a permanently crippling stroke, though remaining alert; the following year his wife Betty died. By 1970 he was focused on the cryonics movement his son Fred III and soon-to-be daughter-in-law Linda were now helping pioneer. When Alcor was started in 1972, Fred Jr. became its first member. A sister,



Col. Fred Chamberlain Jr., first Alcor member and patient.

for-profit organization, Manrise, had been started the previous year to carry out cryopreservations for the fledgling, non-profit Alcor and arrange for long-term storage under Alcor's control.³ Fred Jr.'s financial support was crucial to obtain equipment so Manrise could perform his own cryopreservation and see that he was safely stored, in this case, at the facilities of Trans Time in Berkeley, California. (There he would remain for

several years until Alcor had its own storage capability.)

September 1976 (#5). Allen McDaniels, M.D. becomes Alcor's president, replacing Linda Chamberlain. (Linda had been Alcor's first president, then the post was shifted to Fred so Linda could be more involved with Manrise; it then reverted back to Linda as Fred again became more active with Manrise.) The talented McDaniels, already Alcor's Director of Research and author or coauthor of two books relating to human health, would be Alcor's leader for the next year but then leave due to other commitments, and within a few years drop out of cryonics entirely.

This issue also inaugurated an experimentation program to be headed by Dr. McDaniels in his continuing role as Alcor's Director of Research. "The initial efforts, which will

concentrate on control and variation of cryoprotective procedures, will later be expanded to encompass a number of standard viability assay techniques." The hope was that other laboratories besides Alcor's would then get involved, and eventually the public would become aware and appreciate the work for what it was worth.



Fred Chamberlain III (left) with intercom headgear and Dr. Allen McDaniels at Fred Jr.'s cryopreservation, July 1976.

Attention was also paid, in this issue, to the problem of recruiting people into cryonics (and membership in Alcor); some initial guidelines were laid out. It was suggested that "prospecting" be limited only to those who feel that there is no afterlife and "death is the end" unless a procedure such as cryopreservation can be applied. (It is worth noting here that, while such a stance is understandable, some strong advocates of cryonics feel differently about the issue and think there are other possible, if less desirable, ways of "coming back.")

October 1976 (#6). Continuing with the recruitment effort, an explanatory outline is offered to assist in developing a life extension "sales" interview. Among its other points is that eventually aging will be cured, but don't expect it soon. The alternative of cryonics is essential if you want to still be here when the cure is available. Why should anyone be interested in "sticking around" for an eventual return to consciousness? The reasons offered are (1) curiosity about the future and (2) enjoyment of life.

November 1976 (#7). An article expands on the outline of the previous issue, offering further suggestions and rationales for a life extension recruitment interview. "Hundreds of years from now this building (house) will be like a straw hut, compared to the way people will be living. The average person who lived in 1776 could not begin to envision color television, 747 jetliners, kidney transplants, or men walking on the moon. Our future will be as fantastic, as stimulating as theirs could have been, could they have lived to experience it."

December 1976-January 1977 (#8). Alcor's very first annual Turkey Roast is held Dec. 12, inaugurating a tradition that continues today. "The hickory smoked turkey barely held its own against such unique attractions as the 'space colony pumpkin pie' (Laurence Gale), or the 'Great Red Spot cranberries' (Allen McDaniels), or the 'fiber feast vegetables' (a number of these were bought). In addition to the usual introductory talk on life extension, there were presentations on trace minerals and health by Laurence Gale and iridology and detection of disease by Lionel Silver. Allen McDaniels gave a description of the nutrition seminar series he has recently initiated."

February-March 1977 (#9).⁴ “Alcor is sponsoring a weekend conference on life extension on March 11 and 12, 1978 at the Hyatt House near Los Angeles International Airport.” The conference would “cover all aspects of life extension research and practice, as well as the implications of extending the human lifespan.” In addition to cryonics there would be speakers covering more conventional life extension research as well as treatments of various kinds intended to improve health and (thus) to some degree extend life. (Nobody dies healthy!) The conference would “also feature immortalist art and music.” Attendees were urged to register early and “convince our friends to do so as well.”

April 1977 (#10). The important problem of funding is treated in this issue. (Just how important a problem this is would be grimly underscored within a few years with the disclosures about the patients lost at Chatsworth and elsewhere.) One major question was just how much money should be set aside for one’s cryopreservation, which must continue to some unknown point in the future. Another was how this money would be provided. A third was how to provide for costs of reanimation, given that successful procedures, if and when developed, might be very expensive.

Many people then (as now) were using life insurance to fund their arrangements; the perils of the different life insurance options are discussed. Term insurance has low rates early in life, for instance, but may become prohibitively expensive as one ages. Whole life insurance has “level” premiums which remain the same throughout the life of the insured, but may be unaffordable right from the start.

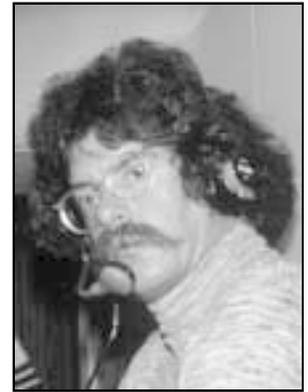
As a possible remedy for both problems an “investment club” is proposed, to be organized under guidelines of the National Association of Investment Clubs. Members would pool their funds which would be invested at interest, with the object of eventually providing enough capital to fund their cryonics arrangements. Investors would thus become self-insured, and the investment club fund would show overall, average growth even when funds were deducted for cryopreservation expenses. “Develop your investments now,” the reader is urged, rather than simply “providing a lump sum of insurance proceeds for Alcor to manage after your death.” (The investment club was indeed organized, held regular meetings for at least a year or two, but encountered management difficulties and eventually was disbanded. Life insurance is the common method of funding cryonics arrangements for the non-wealthy today, and there are level-premium options that many find affordable. Term insurance is very affordable for young people in good health, and may be used as a stepping-stone to more secure funding later on.)

June 1977 (#12). Laurence Gale becomes president of Alcor June 12, replacing Allen McDaniels, who “had resigned ... due to pressures from his work load.”

September 1977 (#15). Alcor’s first research experiment is carried out September 24. “The Alcor rescue team, as part of our research effort, suspended a dog using our standard procedures and perfusate.” The twofold purpose of the freezing experiment was

(1) a training exercise for the transport team (then known as the “rescue team,” actually staffed by Trans Time, under the direction of Jerry Leaf) and (2) to assess the quality of the cryopreservation protocol then in use by Alcor. (Additional details will be found under November 1977.)

Some early history of Alcor’s research initiative is also recounted. The first donation for research, \$50 from Mrs. Helen Silver of Santa Barbara, was made in mid-1972 when the infant Alcor was but a few months old. Nothing much happened for several years; the money sat unused in a bank until after Fred Jr. was preserved. By the time of the dog experiment some \$750 had been collected. Laurence Gale is given credit for the important additional step of bringing a research program into reality with the experiment.



Laurence Gale at Fred Jr’s cryopreservation.

Another important development in this issue is the merger of Manrise with Trans Time, effective October 1 (other than some minor details which were worked out the following summer). “Alcor feels this merger is a step toward our own greater safety as a reflection of Trans Time’s improved ability to meet the demands of the future.” The merger, however, would make a significant difference in the cost of membership, apparently because, with the closer ties to Trans Time, there was pressure to conform to standards of the Bay Area Cryonics Society, the other organization Trans Time serviced. Up to then there had been no initiation fee for starting signups at Alcor, but \$1,000 would be charged starting November 1.

November 1977 (#17). Alcor’s name is changed. Formerly the Alcor Society for Solid State Hypothermia,” henceforth it would be Alcor Life Extension Foundation. The name Alcor was retained “because of the identity ties and because of its positive connotation.” Astronomically, Alcor is a faint star in the handle of the Big Dipper that serves as a test for clear vision, just as “those who can see and accept the goals of life extension are truly persons of vision.” Otherwise the change was made because the old name, with its tie-in to cryonics (“solid state hypothermia”) was too limited. Alcor members “are interested in all aspects of life extension.” (Yes, though ironically the main focus by far remains cryonics, as it has always been. But the name change did shift the emphasis appropriately, to the purpose behind cryonics rather than just the thermal details!)

Some further details of the September freezing experiment are also given. The procedure followed as closely as possible that used for Fred Chamberlain Jr. in 1976, minus the final cooldown from dry ice to liquid nitrogen temperature.⁵ “The perfusate was 15% DMSO in a glycerophosphate base solution, with PVP as the colloid.” The frozen tissue had by now been examined histologically, and the results seemed basically very encouraging.

“Brain cells on the whole were not destroyed. Cell membranes were intact; nuclei and nucleoli were present; arteries and capillaries were free of blood. There were some indications of damaged [m]itochondria in the cytoplasm, but the overall impression was one of preservation which was more complete than expected.” (Far better preservation than this is now attempted through Alcor’s vitrification protocol, yet even this early achievement raises hopes that advanced future technology can eventually reverse the damage and fully restore the patient, Fred Jr.)

December 1977 (#18). Alcor’s second Annual Turkey roast (December 11) drew a large audience, with entertainment worth watching. “Shortly after the ‘standing room only’ point was reached, [Alcor Vice President] Larry Jakl gave us a fantastic magic show. Surrounded by people at close range on three sides he did such things as identifying “invisible” cards known only to the audience, joined three sections of rope into a single rope, and made a pitcher-full of milk vanish into thin air!”

April 1978 (#20). The Alcor Life Extension Conference, March 11-12 in Los Angeles, was by report a great success, “[w]ith well over 200 attendees and a crowded schedule of very highly qualified speakers.” Saul Kent as Director of the conference is given special credit, along with Marce Johnson and Peter Zebot “for their giant and untiring effort.”



Robert Anton Wilson addresses the group at Alcor’s 1978 conference.

Today (2004) we have rumors from time to time of a human baby being cloned but this issue notes the claim of David Rorvick that the feat had been accomplished back then “by a very wealthy individual.” (Rorvick’s claim is now long discounted, but human cloning seems increasingly feasible, and has become a focus of heated controversy. Cloning could be important to cryonics, indirectly at least, since it is related to technologies that could carry out the replacement of missing or damaged tissue or body parts for cryonic resuscitations, or be useful in maintaining health afterwards.)

July 1978 (#23). “Between now and October, 1978 a series of training sessions have been scheduled for the nine members of Trans Time’s cryonic suspension team. Jerry Leaf’s Cryo Vita Laboratories, under agreement with Trans Time, is providing

training, facilities, and equipment. Team members successfully completing the training program will receive Trans Time stock as compensation for their efforts.”

August 1978 (#24). On July 15 Trans Time carries out a cryopreservation of an unnamed patient (from other sources, Samuel Berkowitz).⁶ “The donor was flown from New York to Los Angeles, where the Trans Time team ... under the direction of Cryovita Laboratories, carried out the operation.” Though the donor was not an Alcor member, six Alcor members are named as being on the Trans Time team.

Laurence Gale announces that this will be the last issue of Alcor News unless there is someone who “would like to work on it.” (No such person came forward, by all indications, so this marks the end of the series.)

Final remarks. According to Hugh Hixon, Linda Chamberlain probably deserves most of the credit for this newsletter, and appears to be the principal author of the mostly unattributed articles (which are rather well written). More generally, I have the impression of a strong and vigorous cryonics community which is emerging during these years while other, less favorable events were taking place, which in turn culminated in the loss of earlier patients as noted. Unfortunately, success at the organizational level does not always translate to good effects at the personal level. We’ve seen our share of important contributors who, though still healthy, became inactive and sometimes left cryonics altogether as the years rolled by and stresses took their toll. A lesson in this is that, while we must reach the minds and hearts of the public at large to improve participation in our cause, we have to do the same thing for the people already committed, for some of whom the involvement goes back decades. It’s sometimes a tough nut to crack for various reasons—but we have to keep trying.

References and Notes:

1. Particularly those from Cryonics 23(4) 41-42 (4th Quarter 2002), and 24:1 29-32, 34 (1st Quarter 2003), which have been used as sources for this article.
2. Additional material on the Third U.S. Army, with mention of Col. Frederick R. Chamberlain, will be found at <http://www.arcent.army.mil/history/staff.asp>
3. Alcor and Manrise as non-profit and for-profit: <http://www.cryonet.org/cgi-bin/dsp.cgi?msg=1154>.
4. Actually the issue is undated; dates inferred by context.
5. This and other details, including illustrations, will be found in Laurence Gale, “Alcor Experiment: New Evidence for Cell Survival After Extreme Cold,” Long Life Magazine 58-60 (July-August 1978).
6. See, for example, Art Quaife, “Cryonic Suspension of Sam Berkowitz: Overview,” Long Life Magazine 29-30 (March-April 1979).

Credits: all illustrations are from Alcor archives except (5) which is from Long Life Magazine July/August 1978, 66.

A BOLD FUTURE FOR CRYONICS

CHARTING THE COURSE

by Deborah Johnson and Cheryl Walsh

Editor's Note: This article was written by our newly-hired public relations and strategic marketing firm to introduce a new way of thinking about the cryonics message. In it, they envision a time when the science of cryonics will be viewed as mainstream science which makes contributions well beyond Alcor's specific mission.

When President Kennedy envisioned putting a man on the moon by the end of the 1960's, neither he nor the scientists working at NASA knew how far-reaching their scientific efforts would be. They didn't set out to invent ear thermometers, joystick controllers for Nintendo, bar coding for grocery stores, smoke detectors, cordless drills or shock absorbing football helmets. But these, and many more items we take for granted today, were by-products of the US space program.

In the 16th century Leonardo da Vinci envisioned contact lenses. But it wasn't until the middle of the 20th century that plastics allowed the widespread consumer use of contacts. An ancient Greek geometer and engineer, Heron, invented the first steam engine – as a toy. But it took a British inventor, in 1698, to build the first working steam engine. Why are we talking about ancient engineers, inventors and the US space program? Because there are some interesting parallels between them and Alcor.

Like the space program, Alcor has a mission. Our mission is to preserve the physical basis of the human mind for an unlimited span. In order to achieve this goal, we are engaged in the advancement of scientific research in those fields that support our mission of preserving the human mind (and potentially the human body) for later revitalization: cryonics, vitrification and nanotechnology. Like da Vinci, our vision of what "could be" exceeds our current scientific knowledge to create it. Like Heron and the US space program, we may be creating something that has usefulness well beyond its original intent.

LEARNING FROM HISTORY

With this in mind, it might be in our best interest to take a step back and view our current position and our scientific findings through the wise eyes of history. What can history teach us that will positively impact Alcor's mission? Well, if we take a look at the examples of Heron, da Vinci and the space program, we can generate several observations and quite a few questions.

First, look at the difference between the outcomes when there is a single scientist versus a group of scientists. The profusion of inventions and advancements from the US space program is amazing; despite the fact that any single scientist may not have

been the equal to da Vinci.

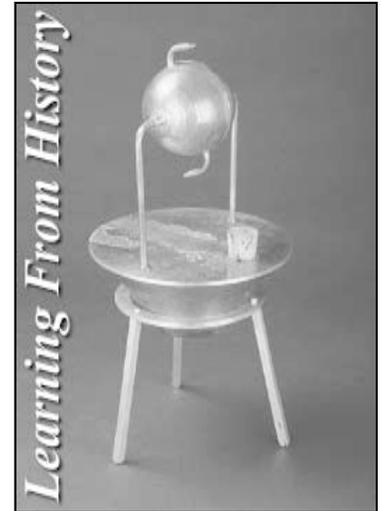
Imagine the entire course of humankind if Heron or one of his peers had seen the usefulness of the steam engine beyond his initial intent as a toy. What if Heron and da Vinci had had a scientific community with which to collaborate? How much better could people's lives have been? What else could da Vinci's brilliance have fostered if he had worked in collaboration, instead of in isolation?

What other discoveries could have been made on the heels of da Vinci's genius?

Second, initial discoveries can lead to myriad alternative uses not even imagined by the researchers or developers: as in the case of the steam engine. In this fast-paced world in which we live, every minuscule advancement in every field is welcomed and utilized. For example, what began as an electronic field imaging experiment conducted at M.I.T. to enhance the musical performance of cellist Yo-Yo Ma, evolved into an electric-field imaging chip now produced by Motorola that is making airbags safer, allowing appliances to turn on and off at the touch of a hand, and will turn off the stove if a pot boils over.

Third, we know that the consumer demand for "more and better" often propels uses beyond the originally intended one; as in the case of the technologies developed for the space program. For example, General Dynamics was instrumental in developing Software Defined Radio for the military. Its uses are now being explored commercially. And the next generation – Cognitive Radio or "CR" – is hungrily anticipated in the marketplace even though there is no working model yet. Knowing the worldwide impact of CR, General Dynamic's engineers are now collaborating globally to help shape both protocols and policies for the development of CR.

This perspective then begs the question: what benefits of cryonics, vitrification and nanotechnology are waiting to be discovered? Bringing it closer to home, can our knowledge and research enhance life for the living right now? Can this science be used to enhance or save lives in the near future?



THE POWER OF VISION

Our members are visionaries. We have the ability to see beyond the immediate future into the realm of all possibilities. We see there are potentials for extending human life beyond society's currently-held limitations. *We are also leaders in the field of cryopreservation.*

What if we combined our expertise and visionary abilities to engage in scientific exploration of the potentials of cryonics, vitrification and nanotechnology? How could it be in our best interest to collaborate with the greater scientific community in this exploration? Could this collaboration yield results that will quicken the realization of our own mission?

Altruistically, we have the opportunity to make meaningful contributions to the world. Vitrification research could yield knowledge that allows mothers and fathers to store needed bone marrow or organs to save the lives of yet unborn grandchildren and great-grandchildren. It could pave the way for anonymous organ donors to "bank" organs and save millions of lives well into the future. It will be fundamental to assisted reproductive medicine.

Imagine a world where a nanofactory sits on every desk around the world.



Imagine a time when cellular reconstruction is a reality for those currently cryopreserved. If this is our mission, then do we have an obligation to actively support nanotechnology

development – to partner with those on the leading edge? Or do we allow the nay-sayers of the world to dictate research?

ONE MORE QUESTION

If we are truly going to take a step back in order to help see our future more clearly, then there is one more question worth our consideration: how do we want and/or need to be perceived?

Not long ago, stem cells were completely unknown to the public. Before we could even begin to understand the contributions their discovery might provide to our quality of life, the naysayers began a public outcry to forbid the use of fetal stem cells. Consequently, President Bush placed strict limits on their use.

Now, supported by the impassioned pleas of President Reagan's grieving widow, the public is shifting its opinion. Society appears willing to accept what it once refused. Why? Because the public now believes that devastating diseases like autism, Parkinson's, Alzheimer's and diabetes could be diminished or eradicated by the use of stem cells. What was once science "fiction"

appears more likely science "fact" and the public appreciates that the benefits of stem cell research may very well outweigh the risks for them, their children and grandchildren. In fact, they are rallying behind efforts – via web sites, editorials and advocacy campaigns – to have President Bush lift his ban on research.

So, would it be in our best interest to have more public acceptance and support for cryonics? If we look to the near future, will there come a time when public acceptance could help us better reach our goals? Would we like to be the recipients of a coast-to-coast public campaign to encourage the government to increase research of cryonics and related fields? Could such cooperative efforts assist us in taking a quantum leap forward in our mission?

OPENING THE DOOR

There are numerous questions before us. But they separate nicely into two avenues: 1) would it be to our advantage to expand our scientific framework? And, 2) would it be to our advantage to create more acceptance and support from the general public?

If we think there are advantages, then we have to take a serious look at where we are now in order to chart a course to get to where we want to be. In terms of science, should we be looking at creating strategic partnerships in the scientific community, including educational, medical and scientific institutions?

In terms of the public, should we open the door to a greater understanding of cryonics? Are we willing to stand by smugly and hope that one day we can say "we told you so," or will we all be better served by helping to clarify our mission to the general public, or at least a broader audience than now exists?

Armed with a better understanding of the scientific basis for cryonics and the possible positive impact our research and collaborative efforts might make upon their current lives, would Alcor and the cryonics industry be perceived more positively? Would people who wouldn't necessarily choose cryopreservation for themselves find a reason to support cryonic, vitrification and nanotechnology research?

The best way to engender public support is with information. In this election season, we can take a page from the campaign gurus. Start where the public is and invite them – one step at a time – to join you where you are.

If the public believes we are all about "frozen heads," we have to be willing to take a deep breath, acknowledge that the perception exists, and then invite the public to take one step forward toward a deeper understanding of the truth. By creating strategic alliances with already accepted and respected institutions we will be better positioned to invite the public to take that initial step.

That's where WalshCOMM can help. We are pleased to represent Alcor as we jointly work to create greater understanding and acceptance of the cryonics vision. Our Alcor team consists of **Cheryl Walsh**, formerly a CPA and attorney, who has been in the media and strategic communications field for 16 years with extensive experience in supporting lobbying efforts; **Deborah Johnson**, an Emmy award-winning producer of investigative news and documentaries with 25 years of experience; **Derrick**

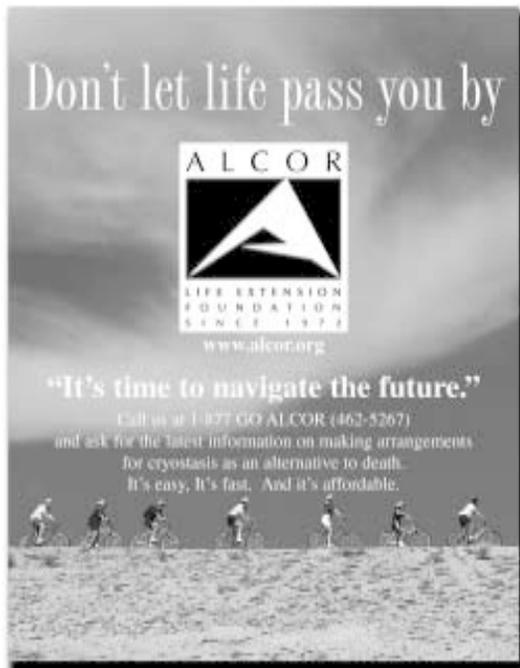
Schnebelt, a 20-year veteran of who has led public relations efforts for many non-profits, including the Arizona Science Center; **Melissa Skogan**, a market research specialist who is currently conducting telephone research with our members, former members and advisors; **Dorothy Wolden**, an accomplished graphic artist and **Chris Long**, a marketing specialist who assists the team in every way. Together, we represent over 100 years of marketing, public relations and strategic communications experience. We are very excited to be able to use that experience to assist Alcor in reaching the public to create greater understanding of the mission of cryonics and what Alcor's work can mean for those living today and in the future.

The work we are undertaking is not easy. It takes time, perseverance and focus. It requires that all of us be willing to look beyond the obvious and singular mission of Alcor with the goal of creating a more collaborative and mutually beneficial relationship with other scientific, educational and medical organizations. In addition, it requires that we at WalshCOMM listen to you to better understand what makes Alcor important and you look to us as experts in our fields who can bring a new perspective to Alcor.



Unlike DaVinci and Heron whose creative visions took centuries to actually truly impact the way in which we live, we have the opportunity to bring Alcor's mission to the public for the greater good right now. If we are willing to seize the opportunity to learn from history we can help shape a future in which all of our dreams will come true.

But we are, after all, visionaries!



Editor's Notes

You may have noticed the date on the front of this magazine. It reads NOV/DEC and completely skips JUL/AUG and SEP/OCT. The reason is because we were only able to produce four issues for 2004. While that is twice the number of issues produced in 2003, it is still two issues short of what we planned for the year.

Once again we intend to produce six issues of *Cryonics* magazine for 2005. The reasons for our shortfall this year are many - most of which will not repeat next year. We will not bore you with the mundane details, but you can be assured that we are not entirely happy with the 2004 schedule.

On the positive side you have seen dramatic upgrades to the look of the magazine. We have greatly improved the cover designs to make them more interesting and relevant to the content. We are also making greater use of supporting artwork in each article to help readers visualize the message being conveyed.

Additionally, we are broadening the content base to appeal to a wider audience. We still believe that the magazine will be an excellent ambassador for Alcor to the general public. We will do much better in 2005.

Editorial Content

Are you aware of any newsworthy events you would like to see covered by *Cryonics* magazine? Is there someone in the cryonics industry you would like to see write an article for the magazine? Send us their name and we will see about contacting him or her and doing our very best to persuade them to write for us. If you think about it, there are endless possibilities for making this a more interesting publication. Send all of your ideas and suggestions to articles@alcor.org and we will get back to you.

Can You Write?

We are pleased with the response we have received thus far from members and non-members alike who have submitted articles for publication. Nevertheless, we can always use more. If you have an article you want published, by all means send it to us for consideration. Your continued support for the editorial content of the magazine is greatly appreciated. Send all of your ideas and suggestions to articles@alcor.org and make your contribution today.

Employment Opportunities

Have you ever thought about joining the team here at Alcor central? We have immediate needs for licensed paramedics and emergency medical technicians to join our nationwide Transport Teams. Your participation would be on a contract basis. You will be given cryonics training that will enable you to participate in our rescue and patient transport cases. Licensed professionals do not have to be members to work with us. We welcome your expertise and interest.

A

Update

CEO Report

by Joseph A. Waynick

L

Looking forward is something all cryonicists are comfortable doing. We look forward to the possibilities of a wonderful and exciting future. We look forward to the next technological innovation that will bring us closer to our scientific goals. We also look forward to meeting the challenges that impede our progress. On a more microcosmic scale, I am personally looking forward to 2005.

C

The truth be told, I can hardly wait. The year 2005 will see major advances in the field of cryonics and for Alcor in particular. Many of the exciting advancements to our capability that have been discussed for years will be realized over the coming months. Advancements such as the completion of our new Transport Vehicle in the first quarter, the new Patient Care Bay (PCB) and new Operating Room by the end of the second quarter, as well as progress with Intermediate Temperature Storage, progress towards whole-body vitrification, and the implementation of Comprehensive Member Standby (CMS) for North America to name a few. Lets take a quick look at each one of these exciting developments.

O

Transport Vehicle

We are making excellent progress with our new transport vehicle. Almost all of the equipment has been ordered and/or received and is ready for installation. A vendor has been contracted to build customized storage cabinets for the surgical suite. A 4000 watt generator will power onboard equipment; however, redundant batteries will also be installed to augment the single vehicle battery. It will carry its own water supply to feed an ice machine for surface cooling of the patient. A mounted refrigerator will house temperature sensitive medications. A built-in sink and faucet will be available for hand washing and instrument cleaning. Docking clamps will lock the Mobile Rescue Cart (MRC) in place to double as a surgical table.

R

The practical benefits of this new and improved transport vehicle over the old ambulance are many. The new transport vehicle ". . . allows for maximum flexibility in the application of transport procedures, reduces the need for specialized training and external logistics planning, and condenses all transport requirements to a single space."¹ We will be able to maintain better control over external and internal cooling of the patient, thereby significantly reducing the rate of ischemic injury.

We will also include new equipment previously unavailable to transport teams such as a field centrifuge for enhanced data collection of our blood washout displacement, a HEPA filtration unit, and external water and power hookups.

Patient Care Bay

Presently, our PCB has approximately 325 square feet of space housing eight (8) Big Foot Dewars. Those Dewars currently house our 67 patients. Our new PCB will expand to approximately 1,750 square feet and house at least 30 Big Foot Dewars. Depending upon the patient population we will be able to maintain from 270 to 900 patients in the new bay.

Servicing the dewars in their new location will become easier and safer. A newer bulk fill tank built to industry specifications with uniform access valves will be installed as the first step towards a fully automated LN2 replenishing system with an emergency manual backup capability. The new bay will contain completely redesigned power, data, and communications outlets and ports to add

much needed functional versatility to the space. A spiral stairway will give personnel access to the roof-mounted crane for patient transfer activities.

A built-in 4' x 6' viewing window will negate the need to allow physical access to the PCB by the touring public. We will even have a special display of Dr. Bedford's original dewar as a show piece.

The planned PCB upgrades will add many years of capacity to our facility. In addition, further planned enhancements such as the automated replenishment system will be simple to incorporate since the basic infrastructure to support the upgrades will already be in place.

Whole-Body Vitrification

One of the first steps to implementing whole-body vitrification is the design and construction of a new perfusion enclosure to be fitted over the operating table. The purpose of the enclosure is to maintain optimum perfusion temperature levels that ensure vitrification is achieved when cooling down to LN2 levels. In 2005 members will see the introduction of Alcor's first whole-body perfusion enclosure.

Hugh Hixon designed, prototyped and tested the perfusion enclosure. As with most equipment designed for use in cryonics, a number of components had to be custom built. Construction of the prototype brought to light several design modification opportunities that will improve the finished version once it is built.

The prototype testing went well. Using liquid nitrogen as the refrigerant, the perfusion enclosure can reach a uniform temperature of -20C within 10 minutes. The enclosure actually has the ability to plunge to dry ice temperatures of -79 celsius were it necessary, although it is unlikely we would ever need to go that low.

A major problem with perfusion at temperatures below ambient is that perfusion cooling of the patient is compromised by heat gain from the outside, due to the low perfusion rates encountered at the perfusion temperature and the large temperature difference. The perfusion "enclosure set" counters this by keeping the patient and the extracorporeal perfusion apparatus at the perfusion temperature while allowing access for surgery and monitoring during the perfusion process.

Operating Room Expansion

Another significant step in expanding Alcor's capability in 2005 will be the completion of a new operating room. The new operating room will have nearly twice the floor space of our existing one. We will be able to perform two simultaneous cryoprotection procedures once it is fully equipped.

Two double swinging doors with viewing ports similar to those found in hospitals will be installed. The new room will support voice and data ports, two closed circuit video monitors, and brand new chillers. Eventually, we will also acquire new digital heart pumps supported by LabView software for computer controlled perfusion. Data collection will be automated and thus far more reliable.

Just like in the new Patient Care Bay, the operating room

will have a built-in 4' x 6' viewing window to negate the need to allow physical access to the room by the touring public. This will help maintain the environment at all times and eliminate the risk of accidental damage to any of the equipment.

Comprehensive Member Standby

One of the most exciting changes to be implemented in 2005 is the kick-off of the new Comprehensive Member Standby (CMS) program. Now every Alcor member, US-based and Canadian, will be entitled to receive a full Standby and Transport for a mere \$10 monthly CMS charge in addition to their monthly dues. That means for only \$120 per year members receive standby benefits valued from \$25,000 to \$40,000 per case. Full details of the new CMS policy can be found on page 23 of this issue.

Membership Growth

Our membership growth target is set for an aggressive 10 percent over the next year. WalshCOMM has done an excellent job of getting positive coverage for Alcor by quality nationwide media outlets. They handled the entire production of a new Alcor documentary that is professionally filmed in HDTV. We suspect that we will have no difficulty reaching our target of 72 net new members in 2005, thus bringing our membership close to 800 by year end.

Aspiring to larger membership totals is not just about increased revenues (although that is not a bad incentive). A larger membership base brings us closer to a tipping point in the organization, which I believe is about 1,200 members. A point where suspension cases will come with predicable regularity, internally generated revenues will fully fund daily operations as well as an expanded research program. These things cannot happen without members and as with any organization, we need to identify that magic number and aspire to reach critical mass as quickly as possible.

The Road Ahead

What happened to 2004? If someone said to me a year ago that I would be able to look back on the last 12 months and wonder where all that time went, I would have chuckled. After all, a year is a long time, isn't it? Apparently not when you are involved with cryonics. Time whisks along at light speed and before you know it, twelve months and a million problems have come and gone.

I am looking forward to another year of adventure, fun, and accomplishments. I look forward to our new conference room (forced upon us due to the expansion of the Patient Care Bay). Sprucing up the facility, completing our flooring and cove base, and upgrading our electrical diagram to eliminate all of the dangling cables and wires you see everywhere. The list goes on.

There is a lot to pack into 2005; far more than what I have space to mention here. Alcor will see tremendous forward momentum in the coming year. I just have to keep telling myself I had better not blink, or I just might miss it.

¹Jones, Tanya, "Transport Vehicle Project Proposal" (Alcor Life Extension Foundation, 2004), p. 4

Dancing



on the

Head of a

Pin



by Natasha Vita-More

Social change comes about by communicating ideas and taking actions that alter the well being of society. The nature of change is shaped by any number of events that can be estimated or guesstimated in advance, can be self-directed, or can come from an unknown, far left field of uncertainty. Not all the events that facilitate change are categorized precisely under explicit theory criteria, as they often intermingle or pull apart, and even evolve to contradict themselves. Social change has multiple causes and several theories need be used in combination to provide a full understanding of change—that society changes in its language and literature; in its style and mannerisms; in its sense of autonomy, individuality and family; in its technology and business practices; in its use of politics and power; and in its interpretation of philosophical and spiritual meaning.

One element that is paradoxical is whether or not human values really do change over time, or if it is the physical means of transmitting ideas that changes while values stay the same. The evolving meaning of “values” is continually altering and broadening society’s perspective of the world and trickles down into other basic values—honesty, doing the right thing, love, and non-violence. Because the very idea of truth affects people differently and runs right to the heart of people’s morality, a cross-disciplinary understanding of social change, from the elements of progress, power, technology, and chaos, come together at some point and dance. The dance, whether a tango or modern ballet, has its steps and moves, but is free from predetermination of whom will take the lead. For it is through fluid movement and rough perturbations that social change does happen.

*She struck the match across the torn edge of the box to
rekindle the diminishing flicker and turned the page of her
soiled book to read,*

*“It is a systematic analysis of the content rather than the
structure of a communication, including the study of
thematic and symbolic elements, that determines the
meaning of the communication.”*

(a) The specific form of a social change always has multiple causes and therefore requires several theories of social change to be applied in combination to produce an adequate explanation.

(b) Social change comes about through communication. Communications convey a message by means of a medium. The medium changes and develops over time and can easily alter the communication. However, the basic message (i.e., the content) at the level of fundamental values, has changed far less. The primary exception is the modern value of critical thinking.

“Head of the pin” = the social change to be explained
“Angels” = theories of social change

MEDIUM.

Communication - Keep it Simple and Real

“...one should not increase, beyond what is necessary, the number of entities required to explain anything...” [Ockham]

The first documented communications technology was blood that was used to deliver messages onto stone. Unless there was a discrepancy about a simple gesture or what a bison, or arrow looked like, it would have been very difficult to misinterpret its meaning. The manner in which words are displayed and the means for which they are distributed is very dependent on communications technology. A faulty dial on a telephone can deliver the dialer to an unidentified receiver, just as a misplaced tag in an email address can take a poster across the globe in a matter of seconds to an unknown recipient. Even one-on-one communications, from mouth to ear, can alter the meaning of relayed words. The medieval traveling orator could alter his silver-tongued storytelling by adding to or subtract from his “news” simply by be having a weak memory. He could also create a little havoc by rescripting his story, giving more spice to the oratory tale.

Like most technologically, undocumented expression (not documented by celluloid or electronic means which capture the image or words precisely), the phrase “How many angles can dance on the head of a pin?” is actually incorrect. The accurate expression is “How many angels can dance on the point of a

needle?” [Aquinas 1714] This very phrase, in its simplicity and query, has caused many debates among theologians and scientists, as well as humorous snipes among cultural critics. The reworking of the phrase reveals that even angels can be misrepresented.

The fact is, words and ideas can be misplaced, rearranged and sometimes altered to accommodate either the person communicating the idea or the technology through which the idea is being communicated. Human values play a very important part of delivering and receiving information in its true or symbolic meaning. People, more often than not, adjust meaning to meet their morals. Few people apply objective analysis to words or images, but tag on their own experiences and emotions. It could very well be that it is the misinformation—the variation in meaning—that has caused our values to change. Circular perhaps? Yes, but within this Ferris wheel of change the unexpected does occur.

What if it All is a Big Fat Lie?

“... journalists and historians, not to mention the occasional lay reader, have a tendency to assume that if something makes it into publication it is somehow de facto true or justifiable. This is never necessarily the case.” [Taubes 2003]

Is technology infallible? Indeed not. Even a photograph or video camera can alter and misconstrue works and images. I have often played back a video in sheer amazement that what appeared on the screen was not the same image or words that I recall occurring. Was it a glitch in the hardware or my impaired memory? Potentially unreliable communications technology such as uninvited cell phone static, computer viruses that distort email messages and infiltrate your address book, and answering machines that skip an anticipated call are some very basic examples of how communication technology is unreliable. Further, inflated news stories, the impatient attention span of society, and our own faulty memories add more reasons why responsible transmitting of reliable information is essential. Likewise, relying on the news or word of mouth is beneficial only if one can analyze the information with perspective—looking at more than one side of an issue to fully comprehend the meaning and consequences of the information.

Take the most expedient method of words and image today, television, and how it parcels out information through two entirely different communications programs “American Idol” and “The Charlie Rose Show.” In “American Idol,” honesty—accurate information relating—is depreciated in favor of the histrionics of flattery and applause. Even the communications technology for voting and election of contestants is wary because voters have a certain amount of time to submit their votes and they can and do press the “wrong button.” Alternatively, The “Charlie Rose Show” is seated firmly in reliability and known for its authenticity. However, it is the voice of the potentially faulty communications technology that gets the highest ratings and the longest attention span of society, regardless of how short and weak that attention span actually is.

In his theory of symbolic interactionism, Herbert Blumer professes that people get words, images and meaning from someone else. “Society is comprised of many social actors all involved in the process of interaction and how each person is ‘reflexive’ in their own ‘definition of the situation’ . Blumer states that symbolic interactionism rests on three simple premises. First, that human beings act towards things on the basis of the meanings the things have for them. Meanings and objects become of central relevance when viewed from Blumer’s perspective rather than taken for granted or pushed aside as is the case with conventional sociology and psychology. Second, meanings of such things occur through social interaction, that is we only recognize a chair for example as a place to sit because we are taught this through interaction with others. Third, meanings are handled and modified through an interpretative process by the person who is interacting with any given object. This means that social life is an ongoing process of activity whereby the social actor interprets the situation which confronts him and acts accordingly” [karl5619 2001]

However, if everyone obtains ideas about the future from someone else, it is totally plausible that the very meaning of the words and images can and do change in a countless ways. Each individual, no matter how young or old, tends to add, subtract, or flavor information with his or her own subjective viewpoint or symbolic interaction, the story, as originally created by one person could not possibly be the same story that the other person repeated down the line.

MESSAGE:

Values—Fluid and Changeable

“As the twenty-first century begins, five and a half billion people are crossing a cultural bridge: from social institutions appropriate for an earth where human groups could interact only very slowly, if at all, to one where all social institutions interact instantaneously and simultaneously.” [Fraser 1999]

J.T. Fraser, author of *Time, Conflict and Human Values*, believed that over the course of history human values have “served primarily not as conservative influences that promote permanence, continuity, and balance - as commonly believed - but as revolutionary forces that, in the long run, promote change by generating and sustaining certain unresolvable conflicts.” [Fraser 1999]

According to Fraser, values do change. But let’s step back a moment and consider the core values of humanity, as crystallized by Aristotle as the “father” of the systematic study of logic.

“For Aristotle, our energy is just our being “at work,” fully engaged in the activities that define us. And energy so conceived is catching, like a flame: our sense of being valued is a crucial part of what keeps us devoted to being valuable. Our humanness and relationships, contacts, political associations or whatever else you may call “interaction” with fellow human beings will always exist and pose situations in how to ‘act right’. When one has consideration of others one will desire to think and act in a way

of securing the happiness of self and others.” [O’Connor 1998]

For Aristotle, truth, beauty, goodness, and unity each stand for respectively, the intellectual, aesthetic, moral, and spiritual necessities for achieving true happiness.

Giving Values a Facelift

Many philosophers contend that there are four basic human values that are universally recognized and respected throughout society—truth, beauty, happiness and knowledge. “[Values] are the key to self-confidence, self-reliance, dependability, peace and happiness. Not only do they benefit the individual but, when practiced by the society, they create a peaceful, harmonious and purposeful society and nation.” [Wallis 2002]

Joseph Coates’ modern approach to human values, and their changeability, is expressed in “Updating the Ten Commandments.” [Coates 2003] He presents a “secular facelift” for one of the most widely accepted golden rules for ethics. This updated, more contemporary list reflects humanity’s values with a twist of self-responsibility, cause one to actually use a different value, that of **critical thinking**.

1. Realize that our own actions or failures to act will determine our future.
2. Honor future generations’ rights, obligations, and needs.
3. Recognize our societal and genetic histories and work to mend their flaws.
4. Do not destroy; only improve.
5. Expand our knowledge and develop our understanding of all things.
6. Covet only what we have earned as a reward for use of our mental and/or physical abilities.
7. Honor all routes to the truth, but never specious beliefs in infallibility.
8. Be moderate in all things.
9. Recognize our limitations as individuals and as societies.
10. Do not treat organizations and institutions as entities with intrinsic rights.

How do these values relate to communications technology and to social change? First, most commandments have not changed that much—except for the newer value of critical thinking. Second, they bring home the idea that subscribing to any one of these ten “commandments” would help us to relate information objectively while, at the same time, taking responsibility for the dissemination of information.

Communications technology has changed the face of both technology and science, making both more accessible, more user-friendly. Regardless, we still must be careful and even vigilant to pay attention to the words and images in the world around us. We must do our best to understand the consequences of transformed, mutated, and adulterated information affecting our lives, no matter how study the walls, how strong the house, or how dangerous the fire.

An apropos story is told by Carl Sagan, whose concern was not the communication technology, but the waning value of what society pays attention to.

According to Sagan, the attention deficit of society trickles down from reading and mathematics to comprehension and appreciation of new mediums of art to understanding science. Sagan’s moving style in addressing society’s blind spot to science is shown in the chapter “House On Fire” of *The Demon-Haunted World*. [Sagan 1997] He begins by quoting a Buddhist story about a burning house where only the father escapes while his children play inside, oblivious to the circumstances around them. Sagan then brings to light an article he wrote for *Parade* magazine about society and education’s attention deficit toward science. Has this changed today?

Marshal McLuhan said that the “medium is the message.” At the time, it was a prescient phrase. But the times have changed and now, more than ever, it is the careful analysis of the message that overrides the medium or even the content of the message itself. Just as the child’s “telephone” game can distort information, the fluid environment with which information is parlayed to society’s ears, no one really knows for sure how the information was distorted, rearranged or hyped before it arrives to your own ears.

Complexity

If it were true that change occurs from variation, then the medieval oratorical “news,” the unforeseen breakdown in communications technology, the faulty memory of man, the journalist who misquotes, would actually be useful threads in the fabric of the future. Francis Heylighen, evolutionary-cybernetic theorist, claims that “variation” is a specific and qualified aspect of process and change that designs configurations that are very different from the designs that they evolve from. Without this variation, there can be no change. The variation Heylighen refers to are sequential or parallel, yet different variations diversify into new configurations.

When words and images are communicated, the manner in which they are referenced can determine their meaning. Even the method of communication, such as tone of voice, emotion, or complacency can cause variation in its meaning. When images are juxtaposed alongside one another, they too can cause variation in meaning. If, for example, the photograph of a cave painting only showed an arrow and not the man or the bison, it would be unknown if the arrow reached its target or if it was even related to winning a battle. In other words, the arrow could represent a sexual organ rather than symbolizing a pending battle.

Heylighen further asserts, “Variation on its own, without further constraints, produces entropy or disorder, by diffusion of existing constraints or dependencies.” How true! A mindless gossip can take information and spew it all over the place like a “verbal-drift.” So then, critical thinking is important in selecting out the evolutionary variations.

To complement Heylighen and the theory of complexity, the critical thinking gives just the right amount of backbone to the

theory of complexity of social change to create a semblance of extropy to an otherwise highly chaotic, entropic future. One such example of how different theories can be brought together and dance on the head of a pin is through the synergistic theory or science of “systems thinking.” The systems theory focuses on a synergy between chaos theory, complexity theory, system dynamics, system thinking, strategic planning, critical thinking, and problem solving.

No one can claim what will happen in the future, but it seems apparent that with the influx of technology and communications speeding up faster than a bullet, that another separate element would be entirely welcome to help sort out the meaning of the message from the context. This element I see as a learned or acquired skill that, once learned, can be not only one of the best safety-nets available to society for directing the flow of communications and knowledge, but also a lot of fun. All sorts of games could be designed to help people develop the techniques and terms for such a critical thinking skill.

In the end, what is dancing on the head of a pin?

“...The reader desirous of being merry with Aquinas’s angels may find them in Martinus Scriblerus, in Ch.VII (a satirical work by Pope, Arbuthnot & Swift, sometime before 1714 - but which does not in fact contain any such jest), who inquires if angels pass from one extreme to another without going through the middle? And if angels know things more clearly in the morning? How many angels can dance on the point of a very fine needle, without jostling one another?...” [D’Israeli 1791]

However debated and amended over time, the answer is that angels are bodiless spirits and it could be one or one million—one if angels have material substance or an infinite number if they do not.

And what about theories of social change? The theories of social change that have influenced my thinking are inclusive of each and every theory I have read about in Social Change course at the University of Houston. Each one has left an indelible impression on my mind. The specific form of a social change always has multiple causes and therefore requires several theories of social change to be applied in combination to produce an adequate explanation. Social change comes about through communication. Communications convey a message by means of a medium. The medium changes and develops over time and can easily alter the communication. However, the basic message (i.e., the content) at the level of fundamental values, has changed far less. The primary exception is the modern value of critical thinking. My analogy, or metaphor for this paper has been the “head of the pin” which represents any social change to be explained, and the “angels” reflect the specific theories of social change that interact, intertwine, coalesce or stand apart. There is no right or wrong answer to how many angels dance on the head of a pin, just appropriate ones.

In summation, I have an affinity with ideation theorist Fred Polak who claims that one of the important ideas we get from

others is our image of the future, a vision that easily outweighs material conditions as the guiding force of history. According to Polak, “the human capacity to create mental images of the ‘totally other’—that which has never been experienced or recorded - is the key dynamic of history.”

With this in mind, consider Gary Snyder’s essay in his book *A Place In Space: Ethics, Aesthetics, and Watersheds: New and Selected Prose*. That essay is titled “The Porous World.” “When asked, ‘What is finally over the top of all the information chains?’ one might reply that it must be the artists and writers, because they are among the most ruthless and efficient information predators. They are light and mobile, and can swoop across the tops of all the disciplines to make off with what they take to be the best parts, and convert them into novels, mythologies, dense and esoteric essays, visuals or other arts, or poems. And who eats the artists and writers? The answer must be that they are ultimately recycled into the beginners, the students. That’s where the artists and writers go, to be cheerfully nibbled and passed about.” [Snyder 1995]

Bibliography

Center for Strategic Management. 2004. Available: <http://csmintl.premierdomain.com/aboutus.htm>

Coates, Joseph. “Updating the Ten Commandments,” 2003. Available: <http://josephcoates.com/commentary7.html>

D’Israeli, Isaac. “Curiosities of Literature,” 1791.

Fraser, J.T. *Time, Conflict, and Human Values*, University of Illinois Press, 1999.

Heylighen, Francis. “Occam’s Razor,” *Principia Cybernetica*, 1997. Available: <http://pespmc1.vub.ac.be/OCCAMRAZ.html>

Heylighen, Francis. “The Growth of Structural and Functional Complexity during Evolution,” *The Evolution of Complexity*, Kluwer Academic Publishers 1996.

karl5619. “An essential book for sociologists/social scientists,” Amazon, 2001. Available: http://www.amazon.com/exec/obidos/tg/detail/-/0520056760/ref=sib_rdr_dp/002-6763667-2399231?%5Fencoding=UTF8&no=283155&me=ATVPDKIKX0DER&st=books

O’Connor, David. “Professionalism and Happiness: Some Lessons from Aristotle,” *Weekly Wisdom*, 1998. Available: http://morrisinstitute.com/weekly/mihv_pc_oconn_01.html

Sagan, Carl. *Demon Haunted World: Science as a Candle in the Dark*, Ballantine Books, 1997.

Snyder, Gary. *A Place in Space: Ethics, Aesthetics, and Watersheds: New and Selected Prose*, Counterpoint Press 1995.

Taubes, Gary. “What if it is All a Big Fat Lie?” *Reason*, 2003. Available: <http://reason.com/0303/taubes.shtml>

Wallis, Richard. “Education in Human Values,” 2004. Available: <http://www.sathyasai.org.nz/Education.htm>

Researchers Demonstrate Nanoscale Self-Assembly. A new processing technique developed by Cornell University researchers promises to usher in lithographic-like self-assembly into single and multidimensional nanoscale structures. The technique enabled 10-nm precision lithography. One-, two- and three-dimensional nanoscale structures self-assembled by combining a block copolymer with a “cascade molecule” called a dendrimer in which atoms are arrayed along a carbon backbone, the researchers said. (EETimes 09/09/04) <http://www.eetimes.com/at/news/showArticle.jhtml?articleId=47101871> [NGN 10/07/04].

DVDs Could Hold “100 Times More.” Future DVDs could hold 100 times more information than current discs. Imperial College London researchers in the UK are developing a new way of storing data that could lead to discs capable of holding 1,000 gigabytes. (BBC News 09/28/04). <http://news.bbc.co.uk/1/hi/technology/3696306.stm> [MP]

Nano AIDS Shield Given a Boost. What could be the world’s first nanotechnology-based protection against HIV has just been given a huge boost. The Australian biotechnology company Starpharma announced today it had been granted US\$5.4 million (A\$7.5 million) from the US National Institutes of Health (NIH) for its research on an anti-microbial gel which prevents HIV infection of cells. (ABCnet 09/30/04) <http://abc.net.au/science/news/stories/s1210693.htm> [NGN 10/07/04].

Gene-Size Devices Detect, Fight Illnesses. To the incredibly tiny gold particles doctors send to search a blood sample for signs of illness, human cells would seem as big as mountains. But the particles’ mission is to hunt down something more their size: prostate specific antigen, or PSA, a signal that prostate cancer may be on its way to returning - long before it actually does. Welcome to the new frontier of nanotechnology, where scientists are learning how to make super-small devices - as small as genes and proteins - to diagnose diseases that remain unseen with present equipment and to provide treatments tailored to affect individual cells. “The particles go into a blood sample, and if there are as few as 10 molecules of PSA present they will find them,” said Chad Mirkin, director of Northwestern University’s Institute for Nanotechnology. “The current test would need 10 million molecules of PSA to record a positive reading.” (*Monterey Herald* 10/1/04) <http://www.montereyherald.com/mld/montereyherald/news/nation/9809270.htm> [NGN 10/07/04].

Nanomaterials Break Out of Laboratory into Marketplace.

Miniature medical machines that can bring sight to the blind and computers that work at the speed of light are no longer the stuff of futuristic novels. Argonne National Laboratory researchers are creating nanomaterials and nanotechnology to make these and other innovations possible, and collaborating with industry to bring new technologies to the marketplace. (nanotechwire 10/04/04) <http://nanotechwire.com/news.asp?nid=1166> [NGN 10/07/04].

High-Tech Tweezers Enable Nano-Assembly Lines. “This technique makes possible nano-assembly lines,” said Chicago entrepreneur Lewis Gruber. “You can use it to put things together, twist them, rotate them, fix things in locations at the microscopic or atomic level. It makes possible, for the first time, a factory floor under the microscope capable of manufacturing components and assembling them into products at high throughput, just as is done in the industrial world.” (*Chicago Sun Times* 10/05/04) http://www.suntimes.com/special_sections/innovate/cst-fin-cia05arryx.html [NGN 10/07/04].

Kurzweil’s Quest For Eternal Youth. Inventor Ray Kurzweil takes 250 nutritional supplements a day in his quest to live long enough to reap the benefits he expects from biotechnology. He says he’s trying to reprogram his body, as he would his computer...And health is a theme Kurzweil returned to repeatedly; it is the subject of his latest book, “Fantastic Voyage: Live Long Enough to Live Forever,” co-authored with medical doctor Terry Grossman. But it was his broader vision of how biology, nanotechnology and information science are merging that set the backdrop for the conference, which brought together nearly 1,000 scientists and executives from various disciplines to peer into the future. (*Washington Post* 10/07/04) <http://www.washingtonpost.com/wp-dyn/articles/A11564-2004Oct6.html> [NGN 10/07/04]

Draft of Cow “Life Code” Released. Scientists have released a first draft of the bovine genome—a run-through of the genetic code that describes a cow. (BBC News 10/08/04) <http://news.bbc.co.uk/1/hi/sci/tech/3726514.stm> [MP].

Nanodevices Target Viruses. Physicists are used to detecting inanimate objects like photons and particles but two teams of researchers in the US have now turned their attention to very different targets — viruses. Harold Craighead and colleagues at Cornell University used a nanoelectromechanical device to detect an insect baculovirus, while Charles Lieber and co-workers at Harvard University employed a nanowire field-effect

transistor to detect single influenza viruses. The new methods could be scaled up for applications in medicine or the detection of biological weapons. (*Physicsweb* 10/08/04) <http://physicsweb.org/articles/news/8/10/6/1> [NGN 10/31/04].

HIV in Monkeys “Blocked by Drug.” Scientists believe they are a step closer to understanding how to block HIV transmission between men and women. A US and Swiss team used an experimental drug to protect monkeys from their equivalent of the virus. It appeared to stop transmission across the vagina by binding with a cell surface molecule called CCR5 to prevent the virus infecting other cells. The authors told journal *Science* their work was in its early stages and no such drug was yet available for humans. (BBC News 10/14/04) <http://news.bbc.co.uk/1/hi/health/3737734.stm> [MP].

CRN Announces the Wise-Nano Project. The Center for Responsible Nanotechnology (CRN) has initiated the Wise-Nano project, a collaborative online effort to study the facts and implications of advanced nanotechnology. Wise-Nano.org is a website for researchers worldwide to work together, helping to build an understanding of the technologies, their effects, and what to do about them. (PRWEB 10/16/04) <http://www.prweb.com/releases/2004/10/prwebxml168143.php> [NGN 10/31/04].

Nanowire with a Surprise. Scientists at the U.S. Department of Energy’s Brookhaven National Laboratory and their collaborators have discovered that a short, organic chain molecule with dimensions on the order of a nanometer (a billionth of a meter) conducts electrons in a surprising way: It regulates the electrons’ speed erratically, without a predictable dependence on the length of the wire. This information may help scientists learn how to use nanowires to create components for a new class of tiny electronic circuits. (Brookhaven 10/18/04) http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=04-92 [NGN 10/31/04].

Reconstructing Neural Circuits in 3D, Nanometer by Nanometer. The authors’ custom-designed microtome holds the tissue block in a way that ensures image alignment and maintains focus; all the while the specimen surface is positioned close enough to the objective lens to allow high-resolution imaging. Denk and Horstmann expect that with this method they might ultimately be able to cut sections thinner than the 50 nanometers that their current setup manages. This would allow them to cut sections even thinner than what is routinely possible in conventional transmission electron microscopy. Their method accelerates 3D electron microscopic data collection “by several orders of magnitude” by obviating the need for the labor-intensive adjustments to correct alignment and distortion required by other methods, an advance that is crucial for large-volume neuroanatomy, and might, in addition, open up many hitherto inaccessible problems to ultra-structural investigations. *Reconstructing Neural Circuits in 3D, Nanometer by Nanometer*. PLoS Biol 2(11): e388. (Plos

Biology 10/19/04) <http://www.plosbiology.org/plosone/request=get-document&doi=10.1371/journal.pbio.0020388> [NGN 10/31/04].

Stem Cells Could Restore Vision. Stem cells taken from the back of the eye could eventually be used to restore normal vision in people with sight problems, researchers have said. Human retinal stem cells regenerated when they were transplanted into the eyes of mice and chicks, scientists at the University of Toronto found. They now plan to see if the same happens in diseased eyes in the hope of eventually treating humans. The findings appear in *Proceedings of the National Academy of Sciences*. (BBC News 10/25/04) <http://news.bbc.co.uk/1/hi/health/3950827.stm> [MP].

Nanoscale Welding via Ordinary Camera Flash. UCLA chemists report the discovery of a remarkable new nanoscale phenomenon: An ordinary camera flash causes the instantaneous welding together of nanofibers made of polyaniline, a unique synthetic polymer that can be made in either a conducting or an insulating form. The discovery, which the chemists call “flash welding,” is published in the November issue of the journal *Nature Materials*... “I was very surprised,” Kaner said. “My graduate student, Jiaying Huang, decided to take some pictures of his polyaniline nanofibers one evening when he heard a distinct popping sound and smelled burning plastic. Jiaying recalled a paper that we had discussed during a group meeting reporting that carbon nanotubes burned up in response to a camera flash. By adjusting the distance of the camera flash to his material, he was able to produce smooth films with no burning, making this new discovery potentially useful.” (UCLA 10/28/04) <http://www.newsroom.ucla.edu/page.asp?RelNum=5602> [NGN 10/31/04].

Eye-Opening Glimpse into an Immediate Future. Is it possible man might recreate himself without flaws? Medicine, Science, technology and religion are all racing towards the prize in mankind’s quest to attain perfection. The novel *Inner Limits* by Frank John Ingersoll explores the possibilities that realistically, now appear to be within our grasp. Nanotechnology is creating nanomachines that are so small that 2 billion of them can fit on the point of a needle. Can they be programmed to rid a body of cancer, rebuild cartilage in a knee, help you lose weight or improve your sex life? Can nanotechnology also be programmed to get rid of all evil or create evil? Can it overcome Satan’s power over so many? Can man program over God’s plan for you? (*Christian Magazine Online* 10/29/04) <http://www.saworship.com/article-page.php?ID=1557&Page=couples.php> [NGN 10/31/04].

Revolutionary Gene Sequencing with AFM. A radical new method of DNA sequencing is currently being explored by Stuart Lindsay, Director of the Center for Single Molecule Biophysics in the Biodesign Institute at Arizona State University and Professor of Physics at ASU. It could make the long-dreamt-of era

of true genetic medicine possible with extremely rapid, accurate and low cost sequencing of single DNA molecules. Lindsay's new sequencing technology involves using Atomic Force Microscopy (AFM), which is customarily used to analyze the surface structure of materials at molecular resolution with the ultra-small tip of a sensitive probe, in combination with naturally occurring ring-shaped sugar molecules called cyclodextrins. Lindsay believes that the ring molecules, when paired with the AFM probe tip, can effectively be used as sensors to "read" the sequence of amino acid code (DNA "bases") in the human genome that comprises many millions of bases. (ASU 10/29/04) http://www.asu.edu/asunews/research/lindsay_sequencing_102904.htm [NGN 10/31/04].

It's Time for An Alternative Fuel. The era of human development with oil and gas as energy source is nearing its end and in the next 30-40 years, there will be a 'clean break' to produce energy from renewable, non-fossil fuels, mostly from hydrogen. The rise in global temperature due to emission of green house gases will force man to seek alternatives so that life is viable on earth, M S Srinivasan, additional secretary, Indian Union Ministry of Petroleum and Natural Gas, said Oct. 30. 'By combining nanotechnology manipulating subatomic particles for new products and hydrogen for alternative fuel, a way can be found on how to store hydrogen and discharge into the usage system,' he added. (*Regionalfare* 10/30/04) <http://newstodaynet.com/30oct/rf14.htm> [NGN 10/31/04].

Tumbleweeds in the Bloodstream. Molecule-size sensors inside astronauts' cells could warn of health impacts from space radiation. Wouldn't it be nice if the cells in your body would simply tell you when you're starting to get sick, long before symptoms appear? Or alert you when a tumor is growing, while it's still microscopic and harmless? The ability to detect changes inside of individual cells while those cells are still inside your body would be a boon to medicine. NASA-supported scientists are developing a technology right now that could, if it works, do exactly that. (Yubanet 10/30/04) http://www.yubanet.com/artman/publish/article_14835.shtml [NGN 10/31/04].

Supercomputer Breakthrough. The US is poised to push Japan off the top of the supercomputing chart with IBM's prototype Blue Gene/L machine, now being assembled for the Lawrence Livermore National Laboratories, a US Department of Energy (DOE) lab. DOE test results show that Blue Gene/L has managed speeds of 70.72 teraflops. (1 teraflop = 1 trillion or 1,000,000,000,000 "floating point" arithmetic operations—additions, subtractions, multiplications, and/or divisions—per second.) The current top machine, Japan's NEC Earth Simulator, clocks up 35.86. The IBM Blue Gene/L is only a prototype and is one tenth the speed of the full version, due to be completed for the Livermore labs in 2005. IBM's senior vice president of technology and manufacturing, Nick Donofrio, believes that by 2006, Blue Gene will be capable of petaflop computing—1,000 tril-

lion operations per second. The final machine will help scientists work out the safety, security and reliability requirements for the US's nuclear weapons stockpile, without the need for underground nuclear testing. There are many other possible uses of ultrafast computing, however, including health-related applications. Understanding protein folding, for example, could make it possible to tailor-make drugs to fight diseases more effectively. (BBC News 11/5/04) <http://news.bbc.co.uk/1/hi/technology/3983131.stm> [MP].

Molecular Markers of Aging Identified. Researchers at the University of North Carolina at Chapel Hill, Lineberger Comprehensive Center, may have made a crucial discovery in the understanding of cellular aging. In a study published in the Nov. 1 issue of *Journal of Clinical Investigation*, the researchers report that as cells and tissues age, the expression of two proteins called p16INK4a and ARF dramatically increases. This increase in expression, more than a hundredfold in some tissues, suggests a strong link between cellular aging and the upregulation, or increased production, of p16INK4a and ARF. Both p16INK4a and ARF are known potent tumor suppressors, or proteins that halt tumor cell growth. The study suggests that the important anti-cancer function of these proteins to limit cellular growth might in turn cause aging. In addition to identifying molecular targets that may slow aging in the future, the study may also suggest immediate clinical applications. Knowing the molecular age of a tissue may also enable physicians to select the "youngest," most viable tissues and organs for transplantation, to predict how well a patient will heal after surgery, and, by being able to characterize the regenerative ability of a patient's bone marrow, predict future toxicity of chemotherapy in a cancer patient. (*Science Daily* 11/11/04) <http://www.sciencedaily.com/releases/2004/11/041108024941.htm> [MP]

| | |

(continued from page 7)

attached by an estate during probate proceedings, as long as Alcor is the owner of the policy. Removing the financial incentive to interfere with a members cryopreservation also strengthens the likelihood of a smoother transport.

This case also makes it clear that members who are open about their arrangements stand a better chance of being cryopreserved when faced with relatives contesting the disposition. The judge was strongly influenced by the fact that there were so many witnesses stepping forward to affirm the member's intent and few witnesses to his alleged revocation of his anatomical gift.

Cryonics is still a young industry, and when a person who has been involved since nearly the beginning almost fails to be cryopreserved, it gives us all reason to pause. The lessons of this case are: 1) Be open about your arrangements, and 2) Make sure that no one who might legally stop your cryopreservation benefits if your remains are destroyed.

COMPREHENSIVE MEMBER STANDBY

By Michael Riskin, Ph.D.
Chairman, Alcor Board of Directors

Hello to both current and prospective Alcor members from your Chairman of the Board and his family, the Alcor management, staff, volunteers, and Board of Directors.

Alcor is pleased to announce a major policy and operational initiative as part of its quest to continue providing the most effective cryonics procedures to its membership. It is called “Comprehensive Member Standby” (CMS). This plan was originally developed during the tenure of Dr. Jerry Lemler, MD (former Alcor CEO and current Board member), when Dr. Lemler and I fleshed out the details of the plan.

During the past 10 months it has undergone many revisions but none that affect the original concept, which is to provide comprehensive standby coverage to US and Canadian based Alcor members (standby response to Canada may be delayed by customs and immigration delays). During the summer of 2003, when it seemed certain that CMS would become a reality, Alcor began setting aside seed funding for comprehensive standby. With more than \$100,000.00 already in the Standby Fund Pool, CMS will be immediately available to the membership upon launch. CMS monies are maintained in a separate fund.

CMS has a launch date of January 1, 2005. It is well positioned financially to immediately start fulfilling its purpose: To greatly enhance the stabilization process, which is one of the most critical steps in the cryopreservation procedure.

To introduce this topic, let me briefly review what Alcor does while providing cryonics procedures to its members. Five equally critical steps must be successfully executed to complete a satisfactory cryopreservation:

1) Standby, Stabilization and Transport. Alcor must be ready to deliver the fastest and most effective postmortem procedure currently available under variable circumstances, to members who have been pronounced legally dead. These procedures are designed to prevent further biological deterioration and to provide rapid transport to an Alcor operating room facility. In short, to “prep” the patient as best as is possible for an optimum cryopreservation.

2) Cryoprotection. Subsequent to step one, the next procedure takes place in Alcor’s operating room. An Alcor patient is further prepared for cool down through the introduction of cryoprotectants for long-term maintenance at low temperatures. This is accomplished through the use of specialized surgical procedures and proprietary cryoprotectant perfusates.

3) Cool down. This is the stage in which the patient’s temperature is gradually reduced to liquid nitrogen temperatures (-196°C) so as to be able to successfully maintain long-term, low temperature biostasis.

4) Long-term Maintenance. This is the stage of long-term immersion in liquid nitrogen in which the patient awaits a future time when revival may be possible.

5) Revival. No one yet knows when or if this will be possible.

At this time, the actual procedures for execution of steps 1-4 are in place, in terms of personnel, equipment, processes, facilities, supplies, and outside resources. Alcor continually strives to improve these procedures. Appropriate and reliable funding mechanisms for steps 2-4 are also in place. No one knows at this time how long it will be or what it will take to complete step 5, the ultimate goal. The costs associated with recovery are unknown, but Alcor is building up a substantial “war chest” in that regard with its Patient Care Trust.

All Alcor members are treated equally and have access to the same quality procedures by virtue of their pre-funded cryonics arrangements for steps 2-4. The perennial problem, from both a financial and delivery perspective, has been step one, better known as bedside preparation, stabilization, and transport (the “Standby”). These are the procedures that ideally occur immediately after pronouncement of legal death. Often they are also the most problematic. It is this concern that the CMS policy addresses.

Current Standby Policy

Via their minimum-funding contract, each member currently has \$3,000 available for expenses related to their Standby and Transport procedure. This has been the case virtually since the inception of the pre-funding policy (which replaced the unworkable policy of pay as you go that led to the catastrophic failure of other cryonics organizations). When this \$3,000 rescue funding policy was first created in the early 1980s, it was a sufficient sum to do the job, given the available technical and personnel resources and given the respective costs at that time. Deploying a standby today costs in excess of \$15,000 and has been known to cost as much as \$40,000.

Some Alcor members may believe that all expenses related to Standby are still covered in their cryonics funding arrangements; but, this is not true. While some members have had virtually no rescue expenses due to unfortunate circumstances (for example, their remains being found after many days following an accident or unattended death), other members have had to cover as much as \$35,000 or more when a bedside rescue was initiated and lasted more than a week. These expenses include round-the-clock, at the ready, teams of highly trained personnel, plus the costs associated with shipping, procurement, and use of the equipment and

disposables necessary for a successful rescue effort. In addition, the expenses associated with such outside vendor costs such as mortuary support and document procurement and preparation must be covered.

Very few members anticipate the need to relocate or to deploy a team, and fewer still anticipate that need by pre-funding their Standby and Transport. But to fund these expenses at the last minute requires an immediate and significant infusion of cash. Some members have accomplished this at the last possible minute by funding with cash or by supplying sufficient credit card authorizations to cover the expense.

For most members, last minute Standby and Transport funding can be very difficult if not impossible at a time of great emotional stress and other financial need. It can also place a tremendous burden of responsibility on the family and friends of the member at the time when the member is most vulnerable, and perhaps no longer capable of personally making standby arrangements. A risk exists that this last minute expense cannot be met, resulting in a less than satisfactory overall cryopreservation procedure.

New Standby Policy

The answer to these impediments has been found in Comprehensive Member Standby. In summary here is how it works:

When the time of need is at hand, every US and Canadian based member will receive our full and complete, best available complement of Standby and Transport capability (standby services in Canada may be subject to delays due to customs and immigration requirements). This includes an around-the-clock standby team to prepare for the case, to provide for patient stabilization upon pronouncement and to transport the patient to the Alcor facility (via ground or commercial air). *Under this plan, the member will not have to provide additional funding for Standby and Transport in advance or at time of need* (with the possible exception of obtaining a privately chartered jet aircraft if the member has not opted to obtain that specific expense coverage in advance as well.)

The cost to each member to implement the CMS policy is a modest \$10.00 per month added to each Member's current billing cycle. I say "modest" because this \$10.00 per month gives the member standby coverage worth \$35,000 or more that would otherwise have to be paid during a time of need or through pre-funding. For minors (18 and under) and full-time students (under 25), the monthly charge is waived. CMS will become effective as of January 1, 2005, and the new charges will appear on your normal billing statement. Unfortunately, we cannot yet apply this new standby system to foreign members. As a result, only US and Canadian based members are required to pay the additional charge at this time. Members outside the continental United States and Canada must still provide independent standby funding exactly as before under the old standby policy.

A provision has been made for those wishing to avoid transit delays inherent in the use of commercial carriers. A member may choose to reserve a privately-chartered aircraft for an additional

annual charge of \$500.00. There have been circumstances under which use of chartered aircraft would not have enhanced the quality of transport; and the member may reasonably choose not to elect this option. Even if chartered service is selected and paid for, there have been cases where it was not appropriate to use because ground transportation or commercial aircraft was faster, given the number of fuel stops a smaller craft has to make. However, it is a worthwhile "insurance policy" to have, if it is ever needed.

It is the opinion of many experienced cryonics experts including Alcor management and outside consultants, that a successful execution of Standby and Transport sets the stage for a successful overall cryopreservation. The argument is simple and seems obvious. The quicker a pronounced member is cooled, treated with cell-protecting medications, afforded an effective blood washout for additional metabolic stabilization, and transported to the operating room for cryoprotection, the more effective each cryopreservation will be. In fact, this is considered so critical that it is understood that the very best treatment a pronounced member can obtain starts with a fully staffed bedside rescue at a location close to the Alcor facility. Under the new CMS policy, a terminal member who elects to relocate to a care facility near Alcor, such as a hospice or a temporary home, is entitled to relocation assistance of up to \$5,000.00.

Should any existing member believe that they will suffer such an extreme hardship as the result of these additional charges that it would result in his or her inability to continue as an Alcor member, such circumstances may be submitted in writing to Alcor (info@alcor.org) for consideration of alternative arrangements.

In addition to the CMS charge of \$10.00 monthly, we are announcing an increase in the minimum funding requirements for all applicants entering the sign-up process after December 31, 2004. Current applicants must have completed the sign-up process by December 31, 2004 to qualify for grandfathered rates. New applicants (those who applied between October 1st, 2004 and December 31, 2004) will then have until April 30, 2005, to complete the membership application process, or the new minimums will be applied. You will find the details of those changes in the accompanying document that describes the exact nature of CMS and how it will be funded.

Alcor believes that this significant policy change greatly enhances its ability to provide every single member the best possible cryopreservation available. Henceforth, no member needs to worry about whether they can afford a fully-funded Standby and Transport. It is now part of their membership package. We await your comments, support, and full participation.



Michael Riskin
Chairman of the Board
Alcor Life Extension Foundation

COMPREHENSIVE MEMBER STANDBY POLICY

Consistent with the Alcor mission statement and belief that delivering the best available care includes a quality standby and transport, it has been decided by the Alcor Board of Directors that:

1) Alcor will offer CMS to all members starting January 1, 2005, subject to the terms and conditions described herein. Standby and Transport is defined to include all rescue activities up through the time the legally pronounced member is delivered to the Alcor operating room for cryoprotection. This will be officially known as CMS.

2) A separate general ledger fund account has been established for CMS distributions. This fund account is credited with all CMS revenues as described herein and from which all CMS expenses shall be paid. All disbursements from this fund will require the approval and signature of two authorized persons from a group that includes the CEO, the Vice President, the COO, and the Chairman of the Board. This fund will not be used for any purpose other than for CMS. If this fund is ever reasonably determined by the Board of Directors to be in excess of what is prudently required for future anticipated Standby and Transport expenses, additional CMS revenue will be divided equally between the Patient Care Trust and the General Fund.

3) Effective January 1, 2005, new applicants will require higher funding minimums of \$80,000 for a neuro procedure and \$150,000 for a whole-body procedure. Existing member funding minimums will be grandfathered at their current rates. Current applicants must have completed the sign-up process by December 31, 2004 to qualify for grandfathered rates. New applicants (those who applied between October 1st, 2004 and December 31, 2004) will then have until April 30, 2005 to complete the membership application process, or the new minimums will be applied.

4) New cryopreservation funding distribution payments will be implemented to support CMS. Distributions to the CMS fund pool, Patient Care Trust, and set asides for cryoprotection, cool down, and long-term transfer expenses will be grandfathered to all members as follows:

- **\$35,000**
\$3,000 to the CMS fund pool
\$10,000 to the Patient Care Trust
\$22,000 to cryoprotection, cool down, and long-term transfer expenses
- **\$41,000**
\$5,000 to the CMS fund pool
\$10,000 to the Patient Care Trust
\$26,000 to cryoprotection, cool down, and long-term transfer expenses

- **\$50,000**
\$5,000 to the CMS fund pool
\$15,000 to the Patient Care Trust
\$30,000 to cryoprotection, cool down, and long-term transfer expenses
- **\$80,000 – New funding minimum for neuro procedure**
\$15,000 to the CMS fund pool
\$25,000 to the Patient Care Trust
\$40,000 to cryoprotection, cool down, and long-term transfer expenses
- **\$100,000**
\$10,000 to the CMS fund pool
\$40,000 to the Patient Care Trust
\$50,000 to cryoprotection, cool down, and long-term transfer expenses
- **\$120,000**
\$10,000 to the CMS fund pool
\$60,000 to the Patient Care Trust
\$50,000 to cryoprotection, cool down, and long-term transfer expenses
- **\$150,000 – New funding minimum for whole-body procedure**
\$15,000 to the CMS fund pool
\$65,000 to the Patient Care Trust
\$70,000 to cryoprotection, cool down, and long-term transfer expenses

5) Effective January 1, 2005, there will be a monthly CMS pool charge per member of \$10.00 per month in addition to the normal membership dues. This separate fee also applies to everyone who has paid for or been granted life membership as no one, regardless of status, is exempt from standby expenses. This CMS pool increase will be placed directly into the CMS fund pool. The charge shall be waived for full time students under 25, and minors (18 and younger). This charge may be waived in part or in whole, with approval from two of the following Alcor officials: CEO, Vice President, COO, and Chairman of the Board.

6) Members are encouraged to make additional optional funding provisions for standby expenses and to make directed donations to the CMS pool.

7) Any member not already residing in the greater Phoenix, Arizona area, and who is diagnosed as being terminally ill with a prognosis of 90 days or less, and who relocates to a residence or terminal care facility in the greater Phoenix, Arizona area, will be entitled to a one time \$5,000 expense relocation reimbursement, from the CMS fund pool, payable to the member or the member's legal representative. A different geographical location may be chosen by the Board at any time for the purposes of this relocation reimbursement.

8) Charter aircraft outside the continental United States is not covered under CMS under any circumstances and must be pre-funded independently by individual members. Expenses for a chartered aircraft within the continental United States, even where it may be deemed medically advisable, is not included under the new CMS policy unless:

A. The Member has enrolled in the Charter Aircraft Program and elects to pay an additional \$500.00 annual fee (or \$50 monthly). Initial payment must be made during the 30-day open enrollment period starting January 1, 2005. Members are subject to a 180-day waiting period from the time of initial enrollment in the charter aircraft program. All such payments will go directly into the CMS fund pool.

—or—

B. The Member provides written and signed authorization for Alcor to use any funding in excess of his or her minimum level, if sufficient over-funding exists, or by otherwise providing a refundable deposit of \$20,000 at the time of need.

Should annual payments to the Charter Aircraft Program cease or deposits refunded, charter aircraft service will not be provided.

“Alcor must be ready to deliver the fastest and most effective postmortem procedure currently available...”

9) All new members are subject to a waiting period of 180 days for charter aircraft service and CMS starting from the date signup arrangements are completed. New members are encouraged to make temporary Standby and Transport financial arrangements of at least \$40,000 (plus \$20,000 if so desired for the expense of a chartered airplane) during this 180-day waiting period.

10) If a member is declared terminal within the 7-day standby period or dies during an elective standby, it will automatically be converted to a standard standby.

11) The annual fees, minimum funding structure and allocations to finance CMS are subject to change by the Board at any time. It is understood that it is the Board’s intention to maintain the grandfathered rates as long as possible.

12) CMS terms and conditions apply only to members residing in the continental United States and Canada (standby services in Canada may be subject to delays due to customs and immigration requirements).

13) This CMS description incorporates the accompanying terms and conditions of initiating and executing standby protocols as described under “Types of Standby”.

14) Two persons from among the CEO, Vice President, COO, and Chairman of the Board are required to initiate a standby under CMS, and are regarded as the final authority therein.

TYPES OF STANDBY

Level One

Full Standard Standby: It is determined that the member is at high risk of legal death in an immediate or short term time frame (within seven days). A fully equipped team, according to the standards of care existing at the time, will be deployed to the member’s location at the full expense of the CMS fund pool.

Level Two

Intermediate Level Standby: It is determined that the member is at medium risk of legal death in an immediate or short-term time frame (within seven days) and will benefit from a reduced degree of on-site or remote monitoring, consultation, and preparation. This CMS expense will be paid out of the CMS fund pool. Should the member so desire, he or she may upgrade the standby level by pre-funding deployment up to Level One.

Level Three

Elective Standby: The member does not qualify for Level One or Two Standby and Transport coverage and wishes to have a self-funded standby. The member will pay for this standby, as it is prudently available, at a price to be quoted depending on the level of support requested. Members who choose Elective Standby must do so prior to being admitted to a hospital for elective or low-risk surgery.

| | |

Alcor Membership Status

Alcor has 712 Suspension Members (including 110 Life Members) and 67 patients in suspension. These numbers are broken down by country below.

Country	Members	Applicants	Subscribers	Country	Members	Applicants	Subscribers
Argentina	0	0	1	Netherlands	1	3	1
Australia	8	2	3	Russia	0	0	2
Canada	20	10	12	South Africa	0	0	1
France	0	0	1	Spain	0	5	0
Germany	3	2	2	Sri Lanka	0	0	1
Ireland	1	0	0	Sweden	0	0	1
Italy	1	4	2	Switzerland	0	0	2
Japan	0	1	2	Taiwan	0	0	1
Lebanon	0	0	1	U.K.	16	12	8
Mexico	1	1	1	U.S.A.	659	125	243
Monaco	2	0	0	TOTALS	712	165	285

Letters to the Editor

Letters to the editors are most welcome on all topics, including counterpoint on previously published materials and suggestions as to future content. We especially invite questions about cryopreservation (cryonics) that are original and far-reaching. If you are seeking information about Alcor, please consult our web site, at www.alcor.org. If you have questions about developmental programs within Alcor, you may stir us into talking about them even sooner than we might have otherwise. If your letter is lengthy and involved, we may use it as a separate article and may ask you to expand it. We need your ideas, your personal visions. This is the place to start.

Please send letters and/or articles to: articles@alcor.org.

Update your wardrobe today!

Alcor has merchandise available featuring the new Alcor logo!

Please visit the Alcor Gifts section of our web site at www.alcor.org or contact the Marketing Resource Center at 480.905.1906, ext. 113 to order.



Baseball caps \$12

Khaki with black embroidery
Black with white embroidery

T-shirts (short sleeve) \$10

Small, medium, large, X-large, XX-large
White, black, or blue

T-shirts (long sleeve) \$15

Small, medium, large, X-large, XX-large
White, black, or blue

Immortality on Ice (the video)

By the Discovery Channel.
About 60 minutes run time.
Popular introductory tape.
\$25.00 plus S&H.



4th Qtr. 97



1st Qtr. 98



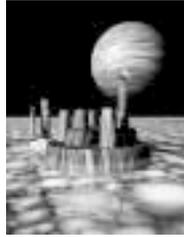
2nd Qtr. 98



3rd Qtr. 98



4th Qtr. 98



1st Qtr. 99

Cover Art by Tim Hubley!

Over the last several years, Tim Hubley has provided this magazine with some of the most beautiful and creative CGI art we've ever seen. Now Tim is selling a *limited run* (only 20 copies each!) of matted 8.5" x 11" color ink-jet prints of these images (without all the messy text added in layout) for only \$15.00, plus shipping and handling.

To order your prints, contact Tim Hubley through e-mail at:

102647.446@compuserve.com.

MOVING?

Let us know about it!

Call
1-480-905-1906
and ask for
Jennifer Chapman.

Don't miss even
one issue of
Cryonics

About the Alcor Foundation

The Alcor Life Extension Foundation is a nonprofit tax-exempt scientific and educational organization dedicated to advancing the science of cryotransport and promoting it as a rational option. Alcor currently cares for 58 patients in cryostasis, and has more than 600 signed-up Members. Being an Alcor Member means knowing that—should the worst happen—Alcor's Emergency Response Team is ready to respond for you, 24 hours a day, 365 days a year.

Alcor's Emergency Response capability includes equipment and trained technicians in Arizona, northern California, southern California, and south Florida, as well as many additional cryotransport technicians on-call around the United States. Alcor's Arizona facility includes a full-time staff with employees present 24 hours a day.

MEETINGS

ARIZONA

Scottsdale:

Alcor Board of Directors Meetings

Alcor business meetings are generally held on the first Saturday of every month starting at 11:00 am. Guests are welcome. For more information, contact Alcor at (480) 905-1906.

Scottsdale/Phoenix:

Alcor Social Meetings

Frequent meetings are held in members' homes and at Alcor Central. Call Alcor (480) 905-1906 for up-to-date details about Arizona events, or e-mail diane@alcor.org.

Las Vegas:

To all Las Vegas members: Are you feeling alone and isolated from other cryonics members? There are many Alcor members in the Las Vegas area. If you wish to form a loose group to meet and socialize, contact Katie Kars at (702) 251-1975. Katie has given several interviews on the subject of cryonics to the Las Vegas media. She is a wonderful person and wishes to get to know as many local Alcor members as possible. Let's get together!



CALIFORNIA

Los Angeles Area:

Alcor Southern California Meetings

For information on *Southern California* meetings, call Peter Voss at (310) 822-4533 or e-mail him at peter@optimal.org.

Although monthly meetings are not regularly held, there are no shortages of Los Angeles Alcor Members you can contact via Peter.

San Francisco Bay Area:

Alcor Northern California Meetings

The next Alcor Northern California meeting will be held on April 3, 2005 at Lee Corbin's house:

1029 Las Palmas Dr.
Santa Clara, CA 95051

If you get lost, call Lee at (408) 261-1584. Note the changed schedule: we will have a question-and-answer session about cryonics for new people at 4:00 pm, the usual business meeting at 5:00 pm, and a potluck dinner and socializing immediately afterward, probably around 6:00 pm.

WASHINGTON

Seattle Area:

For information on Northwest meetings, call Richard Gillman at (425) 641-5136 or join our e-mail group CryonicsNW at <http://groups.yahoo.com/group/CryonicsNW>

DISTRICT OF COLUMBIA

Life Extension Society, Inc. is a cryonics and life extension group with members from Washington, D.C., Virginia, and Maryland. Meetings are held monthly. Contact Secretary Keith Lynch at kfl@keithlynch.net. For information on LES, see our web site at www.keithlynch.net/les.

MASSACHUSETTS

Boston Area:

A cryonics discussion group meets the second Sunday of each month. For more information, contact Tony Reno by phone at (978)433-5574, or e-mail: tonyreno@concentric.net. Information can also be obtained from David Greenstein at (508) 879-3234, e-mail: davidsgreenstein@juno.com.

UNITED KINGDOM

There is an Alcor chapter in England. Its members are working hard to build solid emergency response, transport, and suspension capability. For information about meetings, contact Andrew Clifford at andrew@banknotes.ws or sue.hopkins1@virgin.net. See our web site at www.alcor-uk.org.



Achieve Immortality Tomorrow Maintain Optimal Health Today

Your best chance of staying alive in the future is to protect your precious health now so you can benefit from future medical discoveries. Staying informed about the latest advances can mean the difference between life and premature death...but, how?

Welcome to the **Life Extension Foundation**, your passport to the future. As the largest anti-aging organization in the world, we are dedicated to finding scientific ways to prevent disease, slow aging and eventually stop death.

For more than two decades, Life Extension has been at the forefront of the movement to support revolutionary anti-aging research that is taking us closer to our goal of extending the healthy human life span indefinitely. We inform our members about path-breaking therapies to help keep them healthy and alive.

As a Foundation member, you'll receive these life-saving benefits:

- A subscription to *Life Extension* magazine (\$59.40 yearly newsstand value)...Over 100 full-color pages every month are filled with medical research findings, scientific reports, and practical guidance about using diet, nutrients, hormones, and drugs to prevent disease and slow aging.



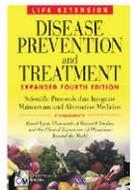
- Access to a toll-free phone line to speak with **knowledgeable health advisors, medical doctors and oncology experts** about your individual health concerns. You can also receive help in developing your own personal life extension program.



- **Discounts on prescription drugs, blood tests, and pharmaceutical-quality supplements** that will greatly exceed your membership dues. You'll receive a directory listing the latest vitamins and supplements, backed by scientific research and available through a unique buyers club.



- ***Disease Prevention and Treatment*** book (\$49.95 cover price)...this hardbound fourth edition provides novel information on complementary therapies for 129 diseases and illnesses—from Alzheimer's disease to cancer, from arthritis to heart disease—that is based on thousands of scientific studies.



Life Extension Foundation funds advanced vitrication and gene-chip research. Your \$75.00 membership fee helps support scientific projects that could literally save your life.

Don't take a chance with your health. Prepare for the future.

Join today. Call toll-free 1-866-864-3026. Or visit www.lef.org