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CRYONICS

SUMMER 2006 • VOLUME 27:3

Focus On Membership • Focus On Membership

COVER STORY: PAGE 4

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CRYONICS

SUMMER 2006 • VOLUME 27:3

FOCUS ON MEMBERSHIP



COVER STORY

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FROM THE EDITOR

People are the lifeline of a membership-based company. Those who join it. Those who support it. Those who actively work to improve it. This issue of *Cryonics* focuses on the value a strong membership brings to both the Alcor Foundation and its members.

Bringing people together is often the first step toward creating a stronger community. After several years of approving Alcor memberships, my firsthand experience told me that our members are not all that different from one another. We are a worldwide organization. Getting to know one another is not always easy. The membership profiles included in each issue of *Cryonics* Magazine are an important step in that direction, and I invite you to become acquainted with the three diverse member stories introduced in this issue (pages 4-9). If you read about someone you share common interests with, you are encouraged to contact them. And everyone who is interested in meeting other supporters of cryonics can easily do so online at any time by visiting Alcor United (www.alcorunited.org), a forum started by James Conaway, a longtime member of Alcor.

Recent collaboration on a blueprint for Alcor's future has led to some inspiring ideas in all areas of Alcor's operations. Not the least of our ambitions involves invigorating Alcor's marketing efforts in pursuit of augmented membership growth. The company leaders took a hard look at the organization's goals, not for maintaining the status quo, but for achieving the next level. Read about our many exciting aspirations that may lead us to accelerated membership growth in the years to come (pages 10-12).

Welcoming more and more members will not be without challenges, but meeting challenges head-on is certainly nothing new. In addition to learning what's in store for the organization, readers may be interested in knowing more about the company's past. Joining a cryonics organization is, after all, a life decision requiring a fair amount of trust in the cryonics provider. A cursory glance at the milestones that had the greatest influence on Alcor's membership growth over the years helps bring our past into focus along with our future (pages 13-14).

If you want to personally meet Alcor members, there's no better time or place than at the upcoming Alcor Conference.



Tripper McCarthy



Shannon Vyff



Bruce Klein



Lance Ross

Meet these Alcor members and more in Scottsdale, Arizona, at the 6th Alcor Conference: An Inside Look at the Science and Medicine of Tomorrow.
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EXECUTIVE DIRECTOR'S REPORT

WHY MEMBERSHIP GROWTH?

This issue of *Cryonics Magazine* focuses on membership issues, so I'm taking this opportunity to write a bit about it. I decided to take a slightly different tack than asking the obvious question of how to grow. Instead, I asked myself, "Why does Alcor need to grow at all?" After all, signing up new members is expensive and time consuming, and the increasing number of cryopreservations that would result adds to the strain on the staff and Alcor's resources. Cryonics is a marginal enterprise anyway, so why go out and "sell" something we acknowledge is far from perfected?

I have sometimes heard that new members are important for economies of scale. Like General Motors, if we grow large enough the cost of service per person will drop. However, we would need hundreds of times the members currently on the roster for real economies of scale to show. There is another argument that with more members we get more skilled at doing cryopreservations, but it seems to me that there are far better ways to gain those skills.

The real reason for growth is simple: there is strength in numbers. We probably would not have survived the legislative battle of two years ago without the widespread support of our members. We would not have raised \$200,000 for whole body vitrification research earlier this year. We could not have provided as effective local emergency response without local volunteers and contractors. We could not offer our present level of public education and outreach without an informed and active membership. We simply would not experience the level of support we presently enjoy.

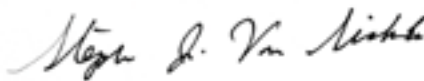
Not to mention that Alcor now has friends who work in many interesting and relevant fields. Countless professionals have worked to benefit Alcor over the years. For instance, in *Cryonics Magazine* Winter 2006, there was an article about the theoretical engineering work on nanomedicine being conducted by Robert A. Freitas Jr., which was supported in part by a grant from Alcor in 2004. I'd like to take this opportunity to announce that the Alcor Board of Directors has voted to make another \$20,000 grant to Dr. Freitas, and we are very happy about this. Dr. Freitas's work is directly related to the problem of repairing and reviving Alcor's most damaged patients. While this is still in the very early stages, Alcor feels a small investment now can make a big difference later. You can

learn more and read a free copy of the first two volumes of Dr. Freitas's multipart book "Nanomedicine" by visiting www.nanomedicine.com.

With all of this in mind, I'd like to make a simple plea: consider participating in or starting a local group. I was pleased to recently learn that a new group has formed in the New England area and plans to meet regularly (see photo below). Local groups are vital and Alcor will help you establish one in your area. Many groups include team members trained in Alcor's emergency response protocols, but local groups are valuable even if they just meet socially. Being able to talk with other Alcor members can be very useful and is a way to introduce others to the community.

Take a look at the Meetings page in the back of this magazine for contacts in various regions or contact Jennifer Chapman for more information (jennifer@alcor.org or 877-462-5267 x 113). Who knows, you might have fun! Or you might really make a difference.

Sincerely



Stephen J. Van Sickle
Executive Director

Contact the author: stevevs@alcor.org ■



Newly formed group in the New England area.

KULAKOVICH FAMILY

BRET, SARAH, MOLLY AND ADA

Members since 2005

By Deborah Johnson



Bret Kulakovich in his office.

Around 9:45 p.m. on a clear summer evening near Cape Cod, Massachusetts, 3-year old Molly takes her dad's hand and walks out into the yard. They stand together, gazing up at the night sky. A few minutes later, a bright dot in the sky is spotted. Molly's dad points to it and, for the first time, Molly sees the International Space Station as it silently glides overhead in its orbit above Earth.

Molly also likes to help her dad work on their 7-foot satellite dish so they can watch NASA channels, Russian channels and even Arabic channels. And, on the night when the rain and temperature conditions are just right, they quietly walk down their country road together, so they can watch the salamanders awaken from their winter rest, cross the road and move off toward their springtime activities.

This is the kind of rich and rewarding life the Kulakovich's are looking forward to for many, many, many more years. That's why all the Kulakovich's—Bret, his wife Sarah, 3-year old Molly, and 1-year old Ada—joined Alcor.

"Cryonics brings more to life than first meets the eye," says Sarah. "I view it as a part of the journey. It makes me feel more connected to history and the whole, long journey of man."

Being connected to history comes naturally to Sarah, who was born in a tiny hamlet in Bourton, Wiltshire, England. Their hamlet had no store or post office and everyone lived off the land. Her grandmother, who will

be 100 years old in January, was a lacemaker. Growing up, history was in every nook and cranny of the home her family has lived in for five generations. Sarah says fondly, "Our home was like a moment in history and it was all around me everyday."

As an artist and graphic designer, she carries that deep sense of mankind's history into her work. "This non-verbal communication keeps me in tune with the human spirit," she says. Bret, who co-founded bonfireproductions.com with Sarah, shares her love of visual arts, and an interest to move toward more scientific, grant-driven work.

With a BFA in Photographic and Electronic Imaging from the University of Massachusetts at Dartmouth, he has applied his multimedia skills to educational projects, such as the National Science Foundation's Simulations for Calculus Learning (SimCalc), and works with faculty at a Boston liberal arts college to realize media projects for education. His website, www.bretorium.com, showcases his many talents. Bret is currently completing his masters in Media Production at Emerson College.

The couple's artistic and insightful dispositions are reflected in their decision to join Alcor. Sarah says thoughtfully, "Our Alcor membership has shifted time for me and added an entirely new dimension. I may be able to extend time to do new things, like take writing courses and go back and get an entirely different college degree."

Bret & Sarah, May 2005



Sarah & Bret,
wedding photo, May 2000.



Bret, her husband of 6 years, shares her enthusiasm for extended life, saying, "I would enjoy seeing some measure of space exploration achieved. And exploration of the bottoms of the ocean." He continues, "I think we are poised to reach a new level of understanding in physics and the brain. It would be good to actually see that."

This idea of more time, plus an optimistic view for the future are part of the reason they chose to include Molly and Ada in their plans for cryopreservation. "We believe this is a gift to them," says Sarah in her peaceful, soft-spoken manner. "And if they want to change their minds later on, that's fine."

Sarah's first exposure to cryonics was through Bret, but, interestingly, she already had a family connection. Her father was a student of Marvin Minsky. Dr. Minsky was one of the pioneers of artificial intelligence and is a scientific advisor to Alcor. When Bret first talked to

her about cryonics, she says, "It was instantly obvious to me that it would work and it had validity." Since then, she has supplemented that first grasp of the concept with more information and study.

Bret's connection to cryonics was much earlier. He read science fiction as a young boy, and then in the early 1990's, he discovered extropy (the theory that cultural and technological development will expand indefinitely and in an orderly, progressive manner throughout the universe).

During his college years at the University of Massachusetts at Dartmouth, where he was studying design and astrophysics, he happened across a magazine with an article about Alcor. "I had heard about cryonics, but this was the first time I realized someone was actually doing it and they (Alcor) had patients at their facility."

"I like people saying things are possible,"

Bret remarks. "Maybe it will work and maybe it won't, but it is possible. And it's more and more probable as time goes on." For those who doubt it could ever work, Bret says that time is on his side. "If there's only a 1 percent chance of cryonics working today, then at some time in the future it will be 2 percent. And so on."

It's one of the concepts Bret introduces when he talks to others about cryonics. "I don't want to be seen as eccentric or extravagant. I don't evangelize," he notes. So, he crafts his thoughts and insights about cryonics to meet the interests and needs of the people with whom he speaks. Sarah, who is passionate but reserved, says, "So many people have only heard about the surface of cryonics and they miss the richness." It is this thoughtful and respectful approach to others that is helping steadily spread the word about cryonics and Alcor.

You can contact Bret and Sarah Kulakovich at: kulakovich_family@bonfireproductions.com.

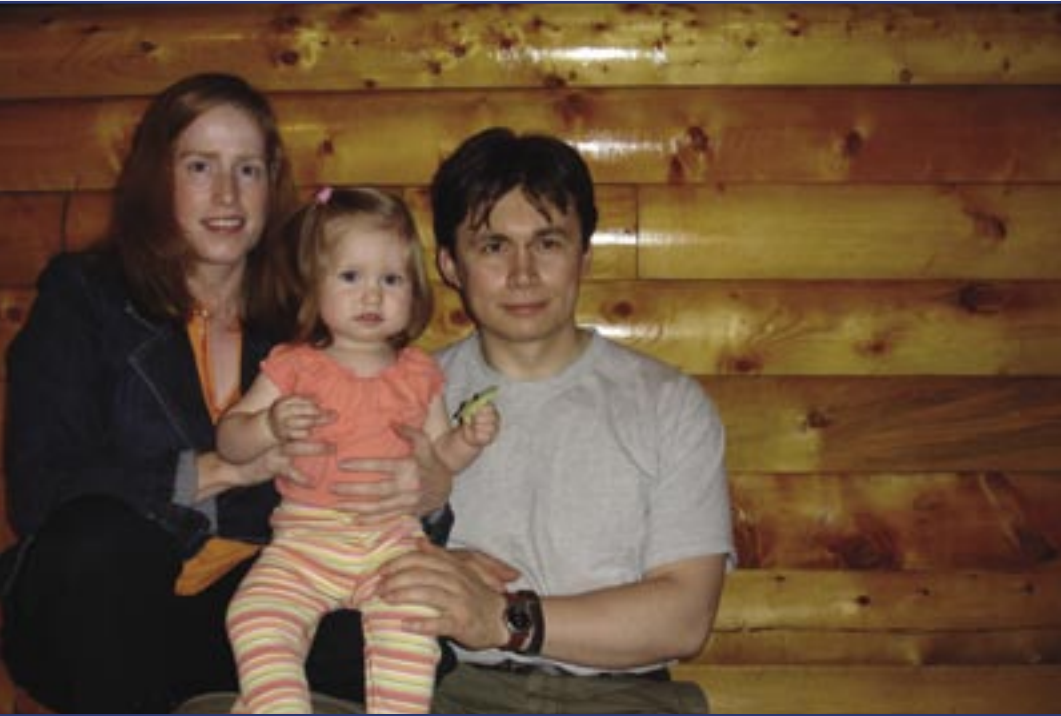


left to right: Bret and daughter Molly; Ada and Molly enjoy a day at home; Sarah and daughter Ada

RAFAL SMIGRODZKI, M.D., PH.D.

Member since 2002

By Deborah Johnson



Karen, Nymeria and Rafal Smigrodzki

From the time he was nine years old, Rafal Smigrodzki was interested in cryonics. As a young boy growing up in southern Poland, his imagination was captured by a Polish science fiction story. Translated as *The Threshold of Immortality*, it tells of a writer who has been “uploaded” into a pseudo biological substrate. Although this particular story ended badly—with superstitious peasants burning down the lab—Rafal knew then that science could have answers to living beyond the expected number of years.

“By the time I first learned what cryonics was and heard the urban legends of Walt Disney being frozen, I was already hooked,” says Rafal.

Raised in the industrial town of Piekary Slaskie (pop. 70,000), he was always interested in science, possibly inheriting it from his father, who was a doctor. “It was an enduring interest of mine,” says Rafal. “For me it is a way of thinking.”

That way of thinking eventually led Rafal to the United States, where he is both a practicing clinician in neurology and the chief clinical officer for a private biotech company.

As a physician he enjoys working directly with patients. “I like having a direct impact on people. They are grateful if you do something good for them.”

Rafal’s real passion, however, is the work he does in the solitude of the lab, focusing on the development of an effective treatment for diseases caused by damage to mitochondrial DNA. Mitochondria are the power plants of the cell and contain a part the body’s genetic material. “When mitochondrial DNA is corrupted, it may produce diseases whose symptoms include epilepsy, diabetes, loss of memory and early death. These are quite horrible diseases and right now are untreatable,” comments Rafal.

His work focuses on developing methods of intracellular delivery of mitochondrial DNA for therapeutic purposes. His voice exudes passion as he talks about the possibilities of the research. “It’s the most exciting thing you can imagine.”

In fact, he is so committed to the outcome that for the first two years he devoted his time to the company with no compensation. Fortunately, a recent grant from the National Insti-

Smigrodzki's Virginia home



tutes of Health will provide a salary along with funds for the research.

It is only natural that Rafal would be involved in leading-edge research. His list of credentials includes: a medical degree in Poland, an M.D.- Ph.D. from Heidelberg University in Germany, a post-doctoral fellowship in the Department of Neurobiology at the University of Medicine and Dentistry of New Jersey, a neurology residency at the University of Pittsburgh Medical Center, and a movement disorders fellowship at the University of Virginia in Charlottesville.

Rafal's keenness for mitochondrial DNA research merges nicely with his long-held interest in extending his life. "If we can treat mitochondrial disease, then we can also address the mitochondrial aspects of aging, of the decaying of cells," he remarks.

His hope is that in 15 years, the research he is involved in will have an impact on the common diseases of aging and be beneficial to many people. He also hopes to "surf the wave of progress," where science and medicine are continually coming up with treatments for aging and therefore extending life spans out in front of him.

But according to Rafal, if the progress is not fast enough, then a cryopreservation through Alcor is his "Plan B." He is realistic in his outlook and says it is smart to "hope for the best and prepare for the worst."

Either way, he sees human life as having no limits. Rafal believes those who would be inclined to reverse a cryopreservation and revive him would be honest and caring people. He assumes that by the time his cryopreservation is reversed, science would have conquered aging and he would have the opportunity to be restored to health and youth.

When asked what he would do, waking up in the future, he is quick to reply, "Imagine waking up, surrounded by nice people, and you're young and healthy and, through a perpetual trust I hope to be able to establish I would have sufficient financial means." With laughter in his voice he adds, "I would find something to do."

Rafal is a pioneer for the future but, for today, he is happy with a pretty normal existence at home. He is married with a new daughter, Nymeria, with whom he hasn't had much time, due to his work. "I don't know too much about being a dad, since I had to be away from home temporarily during the last year doing clinical work. I am really looking



Karen and daughter Nymeria

forward to spending time with my family right now," he says.

In his rare spare time, Rafal enjoys computer games like "World of Warcraft," which is a multiplayer online game with 5 million players. As a counterpoint to intellectual endeavors, he likes working with his hands. Plans for home renovations include new windows, a carport and stone facing on the foundation of their home in Virginia.

Like most Alcor members, Rafal hopes to share his limitless future with his family. He and his wife, Karen, have discussed membership for the entire family. "I think signing up with Alcor is the reasonable thing to do for everyone who values life. It is based on sound scientific principles and it is based on hope," he says. "I'm optimistic; I have faith in the future."

You can contact Rafal Smigrodzki at: rafal@smigrodzki.org. ■



Rafal and dogs Bart and Azor

ANTHONY WALLER

Member since 2003

By Deborah Johnson



Anthony overlooking his home town of Monaco



Anthony in front of the rocket that would carry Dennis Tito into the history books as the first space tourist. April 26th 2001, Baikonur, Kazakhstan

There aren't too many people who would think of Beirut fondly for its golf courses and beaches. But then there aren't too many people who grew up in the Middle East, went to boarding school in England, have received a personal phone call from Steven Spielberg, and call Monaco home.

Anthony Waller is—to say the least—an interesting and unconventional person. “I am definitely British for many generations back,” says Anthony in his proper British accent. “But 80 percent of my life I’ve lived outside of England, including Beirut; Kuwait; Germany; Venice Beach, California; Holland; and South Africa. For the past 17 years I’ve lived in Monaco.”

Anthony considers himself a citizen of the world, rather than just of England. After many years of living abroad, he feels he has a different view of the world than many people. “I feel like the whole world belongs to me, not just one country, and if everybody felt like that, we would all be richer.” Because he understands first-hand what it’s like to be the foreigner, he is extremely tolerant of all races and cultures. “The only thing I can’t tolerate, is intolerance itself”. He adds: “I dislike borders, yet I like differences.”

It is probably this unconventional upbringing, along with an early passion for filmmaking that eventually led him full speed into his career as a writer and director. Among Anthony’s credits are “An American Werewolf in Paris,” starring Tom Everett Scott, and “The Guilty,” starring Bill Pullman and “Mute Witness,” with a guest appearance by Sir Alec Guinness. His current project is in production in Namibia and Hungary, starring Adrian Paul (of the “Highlander” series), Melissa George, and Nick Nolte.

At age 11, Anthony knew he wanted to make movies. His first effort was a 3-minute cartoon that took him 10 months to create. “I was tenacious, even then,” he comments. “Imagine an 11-year old boy working on something for 10 months.” His novice movie making continued in boarding school in England.

His first break came from a classmate’s father, renowned producer David Puttnam. At a school event, Lord Puttnam saw one of Anthony’s films and was captivated by its quality. “He came up to me and told me that he would be proud to have made that film. It wasn’t until later that I learned he was a famous producer, soon to become head of Columbia Pictures.”

Lord Puttnam was also chairman of the National Film School and suggested that Anthony attend—as the youngest student ever.

Anthony shooting in Munich's Arriflex studios, 1987



During his studies there, he was picked by John Schlesinger to receive the Shakespeare Scholarship in 1981 for a further year of study at the Munich Film School in Germany. There he went on to work as a celebrated editor of TV movies and commercials.

But his heart was in directing and he was determined to make it happen. So, he saved up enough money to finance the production of two music videos for two unknown bands (who both subsequently received record contracts). Anthony exploded onto the scene and became one of the most sought-after directors of commercials in Germany.

In 1984, he began realizing his goal of working in feature films by financing, writing, producing and directing "Mute Witness", about a young, mute make-up artist who witnesses the making of a "snuff movie". "I met Sir Alec Guinness one evening in Hamburg, Germany, and somehow talked him into a brief cameo role in this film and he agreed to shoot the scene the

next day before his return flight to the UK," says Anthony remembering that pivotal moment. "I didn't have a crew or even the script, and didn't even live in Hamburg myself, but somehow overnight I pulled it together and we filmed with Sir Alec the next morning."

Although it took eight years before Anthony had saved up enough to resume shooting—subsequently setting the story in Russia—he says it paid off—and Sir Alec related the experience in his memoirs, "Diary of a Retired Actor," after the movie was released. Interest from Hollywood immediately followed. "I didn't believe it at first when I heard 'Steven Spielberg is on the line.' It's what every first-time director in the world yearns to hear."

Two years later, he was directing "An American Werewolf in Paris." And three years after that "The Guilty" with Bill Pullman. Although he was a hot property at that point, Anthony wasn't interested in settling for just anything that came along. "I had all kinds of offers to do slasher and gore films, but frankly I didn't want to get pigeon-holed."

So, the Hollywood roller-coaster ride cooled down. But his youthful tenacity continued to serve him well. The next five years he spent developing movies that are close to his heart, including a dramatization of the space race of the 60's told from the Russian perspective. Anthony describes his current film "Nine Miles Down" as a spine-chilling journey into the psyche of a man struggling to escape his tortured past. He comments, "It pits science versus superstition, where, for a change, the popular yet irrational demonizing of science is shown to have tragic consequences." For a sneak preview on what to expect, one can view the project's website at: www.ninemilesdown.com

It's really not much of a stretch to imagine that someone with Anthony's expanded worldview would find the idea of cryonics instantly appealing. In 2002, an ex-girlfriend who was making a TV documentary on cryonics took him to the Alcor conference in Newport Beach. "Amongst others, I met and listened to Ray Kurzweil and Greg Fahy and was completely fascinated." He started the membership process right away and completed it the following year. In his future movie projects he would like to find ways of incorporating his newfound interests in cryonics and related subjects into his movies in a more positive light than they are currently treated in mainstream cinema.

"I see Alcor and cryonics as a last resort; a 'life-boat' that I hope I will never have to need." Anthony comments, "I want to stay alive and healthy for as long as possible." Like many cryonicists, he's hoping that science and medicine will solve the challenges of aging while he's still vital, making cryopreservation unnecessary.

Right now, he wants to live life to the fullest. "There really is no point in living if you're only going to vegetate in front of the TV," says Anthony. As he looks into the future, he hopes to see the further exploration of outer space as well as the oceans on earth. "There's so much possible in the future. I'd like to experience the interface between the human brain and computer technology," he says. "Imagine if we could link telepathically with something like a bird and actually experience flight from the bird's perspective."

With Anthony's creative drive, this may be his next movie idea and, with a little luck, a part of the future for all of us.

You can contact Anthony Waller at walleranthony@mac.com. ■



Anthony & Sir Alec Guinness

Illuminating Uncharted Waters

The vision for achieving an expanded membership roster

By Tanya Jones and Jennifer Chapman



The history books are full of stories of explorers setting a course for the unknown, armed only with a dream and the commitment to achieve their goal, regardless of the challenges that lie ahead. The same might be said of cryonics and Alcor.

More than 30 years ago, our organization started with only a couple of members and a dream that one day cryonics would offer many a vastly extended life. Exactly how to get there was unknown, but the vision of what was possible was powerful enough to keep us heading into the future.

In the intervening decades, advances in science and medicine have drawn ever nearer to that dream. How far off we are, no one knows.

Alcor has recently evaluated its long-range plan for the organization, making this a good time to pause and share with you where we have been, where we hope to be and how we plan on getting there. For Alcor, no plan for the future would be possible without a concerted focus on our membership because without the commitment, dedication, input

and support of our members we would not be where we are today—on a brave journey through uncharted waters.

The Interplay of Membership Support and Scientific Advances

From the very beginning, membership has been an important source for progress in cryonics. Since the days of Alcor's founding in 1972, cryonics has continued to grow due to the efforts of dedicated individuals who often volunteered their time. Much of the early technical development and social outreach was driven by volunteers. Pioneering any new field is difficult; however, dedicated supporters have enabled Alcor to not only survive, but thrive in the face of substantial challenges, including legal actions, legislative battles, and negative media coverage.

Over the past 34 years, social attitudes have noticeably shifted from confusion and concern to a broader acceptance of the idea. Though not everyone endorses it, the concept is now becoming perceived as a matter of personal choice.

Advances in science and technology also contribute to the expansion of cryonics. It seems that almost weekly there are reports on TV, on the Web or in respected publications about new findings which will one day contribute to reversing cryopreservations. As just one example, who would have believed the powerful promise of stem cell therapy in the 1970s, when cryonics was first popularized? The recent success of stem cells used in the reversal of viral paralysis in mice is just one more example of science fiction becoming science fact.

Careful, methodical, and reproducible research has improved cryopreservations significantly over early methods. It was once astonishing to recover an organ from -3°C ; now those same organs can be recovered in the lab from temperatures as low as -130°C .¹ Hypothermia is regularly used in hospitals around the world, and cold is recognized to have protective benefits for many kinds of hospital patients. It is natural to expect that all these advancements will peripherally benefit the cryonics industry.

Plans for Growth

Even as the idea of cryonics has gained more understanding and scientific advances supporting the potential viability of cryonics continue to make front page news, an equivalent increase in membership has not resulted. For the last five years, Alcor's annual growth rate has remained fairly steady, never dropping below 7.5 percent per year. This growth has occurred with little marketing on our part.

So, in an environment of heightened acceptance and scientific advancements, what would happen if we began a concerted marketing outreach program designed specifically to multiply our membership by a factor of 2, 5 or even 10?

Our vision for membership growth consists of many ideas to be implemented in the years to come. These ideas encourage us to capitalize on our proven assets and test new areas with exciting potential.

Cryonics, understandably, is different from most things available for purchase and promoted via advertisements. With cryonics, repeated personal contact often seems to be the prime motivating factor encouraging newcomers and long-standing bystanders to become actively involved. By reaching out to potential new members through public education, free information, and face-to-face presentations,

we intend to continue to dispel common misconceptions.

Personalizing cryonics for the public is a challenge because many people do not understand the appeal. Outreach allows us the opportunity to show the public what makes a person—much like them—choose to participate in this experiment. We believe outreach is the key to changing attitudes, which will eventually lead to increased acceptance and participation in our membership program.

Perception is reality, as the saying goes. Along these lines, we are proactively positioning Alcor as a serious, scientific research and educational organization with a life-affirming mission. In order to achieve this, Alcor recently became much more selective about the media requests it accommodates. This year, in particular, Alcor has begun to reap the benefits of heightened interest from mainstream, credible journalists and publications. But we have not done it alone. Since 2004, we have fused our plans with the expert advice of WalshCOMM, a team of professional marketing and public relations consultants specializing in positioning, branding and marketing.

Analysis of demographics, surveys and market testing support our efforts, but they only reveal part of the story. Concrete efforts to increase membership require high-quality marketing collateral. Much has already been done in this direction. *Cryonics Magazine* is

now a full-color, glossy magazine with an Editorial Board overseeing themed issues. The Limitless Future, Alcor's high-definition promotional DVD created by an Emmy-award winning producer, is being used in media broadcasts worldwide and is requested by over a thousand individuals each year. Alcor's free monthly electronic newsletter, Alcor News, is now distributed in HTML format allowing inclusion of clickable links and photos. This newsletter was recently expanded into blog format (www.alcornews.org/weblog/). Search engine-based ads continuously run on the internet to direct web surfers to the Alcor website, which now draws approximately 25,000 unique visitors each month.

Growth from Within

One of the newest features on Alcor's website is an "Upcoming Events" page, which we hope will encourage our supporters to network more often with one another. Alcor United (www.alcorunited.org), an online member's forum, created by a long-time member of Alcor, has almost 200 users and provides an excellent opportunity for remote members to connect with each other and strengthen our community from the inside. Creating more opportunities for community networking and expanding outreach are main goals of our current marketing plan.

As a worldwide organization, it is important to establish active chapters in many communities around the globe. Regions populated with members are growing livelier; in fact Alcor helped bring together a group of members in the New

One of the best ways to get involved is to attend an Alcor training session

Training is given in a variety of locations to explain Alcor's cryopreservation stabilization and transport procedures. Those who do not wish to participate are welcome to observe or simply stop by just to meet Alcor representatives.

Some upcoming dates include:

City: Austin, Texas
Date: September 23-24, 2006
Location: Office of Steve Jackson
3735 Promontory Point Dr.
Austin, TX 78744

City: Northern California (Berkeley)
Date: November 11-12, 2006
Location: Café de la Paz
1600 Shattuck Ave.
Berkeley, CA 94709

Training will be held from 9am-4pm both days. Saturday training session are followed by a social dinner for anyone interested in meeting Alcor members, even those who are unable to attend the training session. RSVP is required.

RSVP to either the training or the Saturday evening dinner:
Michelle Fry, Alcor Readiness Coordinator
(480) 905-1906, ext. 104 • michelle@alcor.org

Visit the Upcoming Events section of the website regularly
for training dates around the world.

England area and they are now enthusiastically planning regular meetings. We are watching other regions, as well, to see if they have achieved the population density and interest necessary for training in Alcor's emergency response protocols. A desire among members to strengthen their own community is often the first step in getting neighborhood Alcor members talking.

Alcor's decision to host a conference this year in Scottsdale kicks off this initiative. The conference is as much about the interesting speeches as it is about bringing our members together to meet and reminisce. We hope members will walk away with new friends from near and far.

Our Core Commitment

While we are setting plans in motion to expand our membership base, we never lose sight of our core commitment to perfect the cryopreservation process and ensure the care of our existing patients. This is best achieved by continuing to make slow, steady progress.

As explained in Dr. Perry's article in the Spring 2006 issue of *Cryonics* ("Tracking Caseload Trends"), more members mean greater potential for more cryopreservations. That conclusion seems obvious on the surface. But, careful analysis of membership trends and



Alcor members from around the world will have a rare opportunity to meet at the Alcor Conference.

their potential impact on cryopreservations illuminates the often daunting prospect of sustaining a membership roster in the thousands.

Alcor now has a working blueprint of the technical and administrative changes necessary to allow more vigorous marketing in pursuit of augmenting membership growth. We are working to ensure the organization is prepared to handle the technical requirements that will result from a significantly increased membership.

Everyone chooses cryonics for a slightly different reason. For all of those who choose

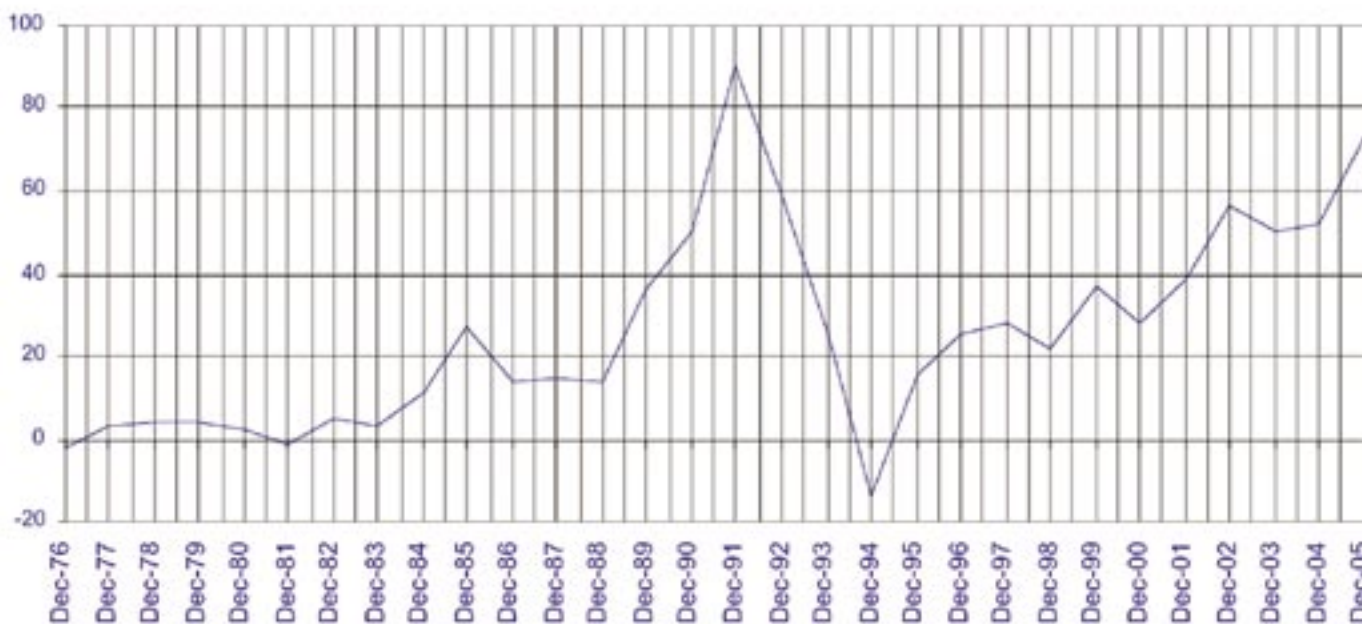
it, though, cryonics offers a comfort that the frailties of the current human condition may one day be surmountable. There are many steps to be taken in the march of progress, and we are all taking them, one day at a time. We are decidedly enthusiastic about our chances for success. ■

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Annual Net Member Increase



Membership growth graph 1976-2005

A Growing Experience

How Alcor's membership growth acts as a sign of the times

Take a brief journey through time to revisit some of the major events that affected Alcor's membership growth over the years, from the early era when membership growth was a slow trickle, to the tumultuous times during the 80's and 90's, and into the steady growth of today. See how Alcor's humble beginnings and many struggles over the years led to an organization that is now 800 members strong...and growing.

EARLY ERA: 1972-1984

1984: 44 MEMBERS

The first decade or so for Alcor brought unique challenges and changes. In the early 1970s, Alcor was founded by Fred Chamberlain III and Linda Chamberlain. The first Alcor conference was held in March 1978 in Los Angeles. Membership growth was very slow during these years and often ranged from a net loss of members to a gain of 5 or fewer. It wasn't until 1984 that membership growth broke into double digits when 11 people joined. During this early era, the organization was run on an entirely volunteer basis.

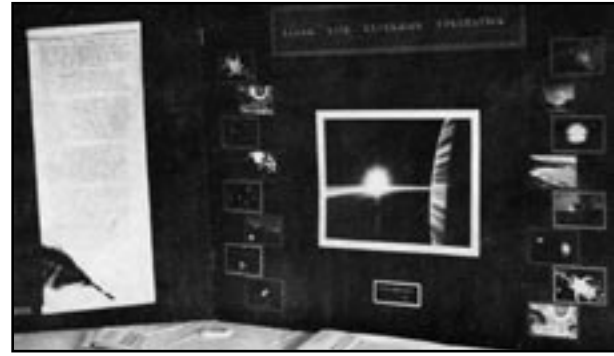
Several events impacted the budding growth of cryonics at that time. In 1979, the demise of the Cryonics Society of California came to public notice by the disclosure that nine of its patients

had been abandoned. Relatives of some of the patients sued and the reputation of cryonics as a whole was tarnished. Alcor, meanwhile, renewed its determination to handle things differently and avoid similar failures.

Cryonics research helped establish confidence in the initial, crucial stages when cryopreservation protocols were being developed at Alcor. Largely due to the efforts of a researcher named Jerry Leaf and his company, Cryovita, Alcor started doing cryonics research; the first experiment was a canine cryopreservation in September 1977. Mike Darwin and Hugh Hixon soon joined the research team and strengthened the effort.



Robert Anton Wilson addresses the 1978 Alcor Conference.



Alcor booth at 1978 Alcor Conference.



Linda & Fred Chamberlain with their perfusion machine circa 1971.



Jerry Leaf conducts Alcor's first canine cryopreservation on September 24, 1977.

THINGS ARE LOOKING UP: 1985-1991

1991: 290 MEMBERS

The double digit growth first seen in 1984 was sustained. In 1988, 14 members were approved; 36 more new members were added in 1989. Steady growth was underway, and it would take just two years to more than double the membership to 290 people by the end of 1991. The largest net gain in a single year occurred in 1991 when 90 members joined.

Alcor had several things going for it during this time which encouraged new signups. *Engines of Creation*, a popular book written by K. Eric Drexler in 1986, offered a believable rationale for the resuscitation of cryopreserved patients through future nanotechnology. In 1988, a new, heightened level of publicity resulted from the Dora Kent case, a public cryopreservation case that was challenged by the Riverside County Coroner. As a result, several Alcor representatives and an Alcor member were invited to appear on the "Phil Donahue Show". Alcor continued to improve its protocols and began offering training sessions to members around the country.

Also in 1988, Dick Jones was cryopreserved and Alcor received much-needed income from his estate. Dick Jones, comedian and Emmy Award-winning writer for the "Carol Burnett Show", had left a substantial amount of his estate to Alcor. However, an alleged deathbed change in his will considerably reduced the bequest in favor of other interested parties, despite Alcor's efforts to contest it in court. Even so, the bequest made a big difference, and it continues to provide revenue to the organization to this day.

The record-setting growth in 1991 is most directly attributable to many interested people joining prior to the initiation of Alcor's first-ever price increase. In 1992, Alcor gained nearly 60 more members and reached a broader audience as the result of an essay-writing contest published in *Omni* magazine. Various pro-cryonics organizations began forming around this time, including the Foresight Institute and the Extropy Institute, helping draw in supporters.



Photos top: Mike Darwin teaches at an Alcor training session, circa 1990. Bottom: Dick Jones.

SETBACKS FROM WITHIN: 1992-1997

1997: 429 MEMBERS

During this period there were a few positive events for Alcor: the Patient Care Trust, which ensures ongoing financial support for Alcor's patients, was initiated; Alcor relocated from California to Arizona in 1994 to escape severe local restrictions to its research program and the risk posed by the possibility of earthquakes; and "Immortality on Ice," the first cryopreservation documentary, aired on the Discovery channel in 1996.

However, the preponderance of events adversely affected Alcor's membership. Unfortunately, Jerry Leaf, who had been actively involved in the organization for over a decade and was a skilled diplomat when faced with internal divisiveness, died unexpectedly in 1991. The Alcor community became divided over what di-

rection to take, and competing organizations were started (Biopreservation in 1992 and CryoCare in 1993). Mike Darwin, who had a reputation as the top remaining researcher in cryonics, left Alcor to work for a competitor.

In 1993, Alcor's growth started to falter as a result of the split. The most damaging year was 1994, when there was a net loss of 14 members. (Prices were also increased that year, an event that had previously spurred an increase in membership.) During 1995, the annual net gain was restored to positive numbers, but the momentum had been lost. It would take more than four years to add the next 100 members.



Above: First phase of move to Arizona gets underway on February 2, 1994
Left: Steve Bridge, former Alcor President who helped Alcor move to Arizona and establish the Patient Care Trust

THE PATH TO RECOVERY: 1998-TODAY

JULY 2006: 800 MEMBERS

A series of ups and downs over the last several years have had primarily favorable results. Alcor began licensing vitrification technology and neurovitrification was well-received, starting in 2000. Several large bequests did much to aid the organization's finances. The media coverage resulting from the cryopreservation of Ted Williams had both negative and positive impacts. While it may have hurt the perception

of Alcor, it also triggered a more serious look at the concept of cryonics by the public, and growth stayed strong.

Alcor had a net gain of 56 members in 2002 (the most in the organization's history to that point, except for 1991-92) and annual growth stayed in the 50s until 2005 when it climbed to 73, prior to an announced price increase. Alcor resumed its research program

under Dr. Sergey Sheleg, after a hiatus following the successes of the 80s, and hired a professional public relations firm, WalshCOMM, and a state lobbyist. In 2006, the company started receiving attention from major media outlets, including *The Wall Street Journal*, "Good Morning America," CNN's "Anderson Cooper 360 Show," and "Barbara Walters." As of July 1, 2006, the Alcor membership stood at 800. ■

Members live in 9 countries around the world



AUSTRALIA



CANADA



GERMANY



MEXICO



MONACO



NETHERLANDS



THAILAND



UNITED KINGDOM



UNITED STATES

- ▲ The oldest member was born in 1917 and is 88 years old
- ▲ The youngest member was born in 2004
- ▲ The 4 youngest members are baby girls, all 4 years old or less
- ▲ 27 members are under 18
- ▲ Members were born in many countries: Australia, Austria, Brazil, Canada, China, Czechoslovakia, Czech Republic, France, Germany, Hungary, India, Iran, Italy, Lebanon, Netherlands, New Zealand, Philippines, Poland, Romania, Russia, Scotland, Switzerland, Taiwan, Ukraine, United Kingdom, and the United States

- ▲ Of Alcor's living members, the person who joined longest ago became a member in 1977
- ▲ Approximately 40% of Alcor's members joined in the last 5 years
- ▲ 46% of members are single or divorced and 46% are married (remainder are widowed, separated, or their marital status is unknown)
- ▲ Today 23% of members are female compared to 16% 15 years ago
- ▲ Alcor reached 800 members on July 1, 2006

- ▲ 86% of members are Caucasian, while less than 4% of members identified their race as African American, mixed, Middle Eastern, Native American or Asian (remainder are unknown)
- ▲ 73% of Alcor's Hispanic members joined in the last 5 years
- ▲ Alcor's most remote members are located in the UK, the Netherlands, Germany, Monaco, Thailand, and Australia
- ▲ On average, it takes 4.5 years for a person to decide to join Alcor after their first contact with the organization. In contrast, once a person applies for membership, they generally join in around 7 months

Advances in Cryopreservation

Understanding Ice Damage

By Gregory M. Fahy, Ph.D. • Chief Scientific Officer, 21st Century Medicine, Inc.



Dr. Fahy received his Ph.D. in 1977 at the Department of Pharmacology at the Medical College of Georgia, specializing in mechanisms of freezing injury in cells and tissues and in the pursuit of alternatives to freezing. He joined the American National Red Cross in 1977, and in 1980 conceived of the idea of vitrifying whole organs as a solution to the problems created by ice formation. He has pursued this concept to the present day and is now the Chief Scientific Officer of 21st Century Medicine, a company dedicated to solving the most difficult problems of applied cryobiology.

As indicated in the last column, substantial advances in the cryopreservation of complex systems have required recognition of the need to avoid the direct mechanical effects of ice crystals in creating freeze-thaw damage in organized tissues. However, the damaging effects of ice are often much more subtle than one might think and were far from clear when the field of organ preservation began in the 1950s. Indeed, many observations seemed to indicate that ice crystallization per se was not a major issue, and much experimentation was necessary to clarify the apparent need for vitrification or something very close to it. To see how scientific understanding of this part of the problem of organ cryopreservation has advanced over the last 50 years or so, and to gain a broader perspective over this issue, a brief look back at some key observations pertaining to ice damage will be instructive.

In 1953, James Lovelock explained the basic mechanism by which cryoprotective agents protect living single cells against freezing damage [1]. The effects of ice formation were perfectly explained through the subtraction of liquid water from the freezing solution according to Lovelock's theory, and they had nothing to do with ice crystals pushing living systems around.

This theory also seemed to be consistent with the freezing of many complex systems in nature. Surely one of the most quintessential examples of this was summarized by the naturalist, John Kanwisher, in his chapter on the freezing of intertidal animals in the classic book, *Cryobiology*, in 1965 [2]. Kanwisher actually chipped the frozen sea ice off of naturally frozen periwinkles (sea snails) during a bitter winter's day in Woods Hole, Massachusetts, and chemically fixed the creatures at the ambient temperature to which they had been frozen to visualize the appearance of ice in the tissues. The shocking results are shown in Figure 1A. The pale spaces are gaps in the tissue caused by the presence of ice, and the tenuous and almost invisible wisps of comparatively dark material between the gaps are the inconceivably compressed strands of living foot muscle tissue forced between the expanding ice crystals. And yet, when these sea snails were thawed, their tissue structure reverted to normal in seconds as shown in Figure 1B, and they were immediately viable and physiologically normal.

Several dramatic examples in which mammalian systems seemed to survive extensive ice formation were also available. A paper of Suda et al. reported that normal EEG readings could be obtained after freezing out at least about two-thirds of the water in cat brains into ice [3]. The classic experiments of Audrey Smith and colleagues showed that hamsters could be revived after freezing out nearly the same amount of ice in their bodies and brains [4]. And rabbit feet immersed in a freezing bath until they reached as low as -9°C in an investigation of frostbite lost only 3% of their length after thawing and recovery despite the presumed freezing out of much more than $2/3^{\text{rds}}$ of their water [5].

And yet, converting such tantalizing partial successes, which were obtained only at relatively high subzero temperatures and after generally short times of exposure, into successes after storage of vascularized tissues in liquid nitrogen proved to be generally impossible [6, 7], the sole exception to date being the intestine [8]. When freezing was visualized in frozen mammalian hearts [9], kidneys [10], and kidney slices [11], it became apparent that these failures were associated with the disruption of critical structures by the physical presence of ice. And when David Pegg experimentally investigated the origin of damage in rabbit kidneys frozen to -20°C after pretreatment with the maximum amount of cryoprotectant that was feasible to use at the time, he was able to show that ice formation per se, and not the indirect consequences of ice formation, explained most of the observed damage [12]. Direct studies on frozen vascular networks further showed that even tiny amounts of ice can make blood vessels leaky, regardless of whether the ice forms inside the vessels or between them [13]. And finally, unpublished results of Suda et al. showed that the “pial oozing” he initially reported in his frozen-thawed cat brains [14] was the result of massive fissures in these brains produced by the formation of large ice crystals that, somehow, still allowed EEGs to be recorded for a time after thawing (personal communication).

In summary, living systems can tolerate a surprising amount of ice formation under

certain circumstances. But just as clearly, ice formation is physically damaging to fine blood vessels and non-living extracellular connective tissues in the presence of cryoprotectants. Given the totality of the evidence, it appears that ice formation must be either totally eliminated or almost totally eliminated if there is to be any reasonable degree of spontaneous recovery of most whole organs after cooling to temperatures low enough for long-term storage.

Eliminating ice formation at temperatures below -120°C in large systems has turned out to be a very difficult thing to do. However, progress in this direction stretching back at least to 1965 has continued to the present time, and today, after over 40 years of effort, we are in the happy position of having several substantial successes to point to. Next time, we will look more carefully at how freezing avoidance can be achieved and at how this approach has already enabled new advances in cryopreservation. ■

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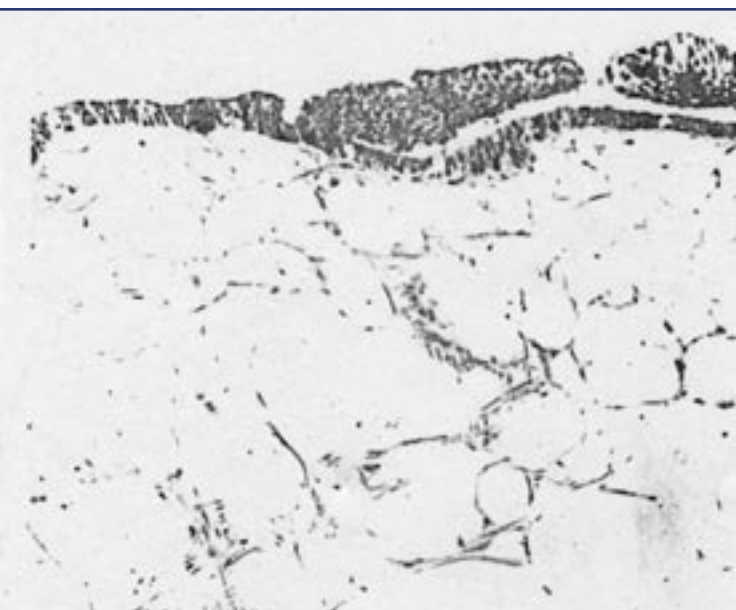


Figure 1A



Figure 1B

YOUNIVERSE: TOWARD A SELF-CENTERED PHILOSOPHY

By Robert C. W. Ettinger • Clinton Township, Mich: Immortalist Society Books, 2005 (limited edition)

Book Review by R. Michael Perry, Ph.D.

Robert Ettinger is well-known as a pioneering, scientific immortalist and the principal founder of the cryonics movement. Born in 1918, as a boy he read science fiction about life extension achieved through cryopreservation, became intrigued, and in 1948 published a science fiction story of his own which outlined the basic cryonics idea. In 1963 he helped Evan Cooper form the Life Extension Society, the first organization to promote the actual practice of cryonics as a possible means to defeat death. Ettinger's book *The Prospect of Immortality*, first published commercially in 1964

"...a longer life in good health, which might be achieved through cryonics, will yield more in the way of personal benefits."

before anyone had been cryopreserved, brought the startup movement into the public spotlight. His 1972 sequel, *Man into Superman*, made a strong further case for the practice of human freezings by emphasizing that the future will be worth seeing. Now, some three decades later, he has produced another sequel which focuses on a personal, immortalist philosophy and considers many far-ranging issues related to future extended life.

Interested readers will likely find much to challenge, provoke, and expand their thinking on topics of major significance including personal identity, survival, and scientific prospects for addressing the deep problems of life. I, for one, found interesting challenges, and sometimes even disagreed sincerely. But it was always worthwhile to see what was being contended and how it was defended. Here is a man who has spent the greater part of a long life (by present-day standards) reaching for eternity. His efforts and conclusions, summarized in this volume, both enlighten and inspire.

As he says in *Youniverse*, his outlook is founded quite bluntly on the twin principles of "me first" and "feel good." To many this may seem offensive—much too selfish and/or hedonistic—but he notes that in fact all rational behavior is based in some way on these very principles. Thus a person who altruistically gives large sums of money to charity derives a special satisfaction (a certain "feel good") which, like all other satisfactions, must be experienced at the personal level ("me first") to be felt at all. So,

in fact, Ettinger's position leaves considerable room and incentive for personal enlightenment, and he notes that the best way to live one's life is far from the lapse into vices and self-absorbed indulgence he may seem to be favoring. A parallel is drawn by Ettinger with the ancient Epicureans, who did not advocate a life of sloth and myopic hedonism as many have thought, but instead urged living the best possible life overall, with the coarser impulses judiciously restrained.

The times we live in, however, are far removed from the days of Epicurus, for whom an earthly existence ended after a few short decades in a world that seemed devoid of significant progress. Death was not seen as a detriment but something to make one's peace with, given that nothing could be done about it physically. Today we are still mortal and our maximum lifespans have not substantially lengthened, but there is something radically new for those who accept it: cryonics.

As the man whose efforts were so instrumental in starting this practice, Ettinger makes the expected case that cryonics fits well with his personal philosophy. The logic is simple enough: a longer life in good health, which might be achieved through cryonics, will yield more in the way of personal benefits. Problems will come up, of course, but this is nothing new.

Cryonics offers a hope of defeating death for those who take it seriously, but there are few cryonics members even after several decades. (Roughly a thousand have now signed up for the procedure, 800 of whom are Alcor members.) People more generally could benefit, yet in Ettinger's book there is an effort not to overstate this controversial, if important, conclusion. The general reader who has a futuristic bent, but does not subscribe to cryonics, should still find much of interest.

So where does this book leave us? I think we have to abandon hope that many will be converted over to cryonics by it, though those



Robert C.W. Ettinger, circa 1970

who are already "fence sitters" might be inspired to go the rest of the distance and complete their cryonics arrangements. Meanwhile the many topics discussed in a somewhat rambling but far-reaching style will be of interest to people who are already involved in life extension. Is this preaching to the choir? Yes, undoubtedly; but in this case the "choir" is really quite varied in outlook and is sometimes contentious. Often there is sharp disagreement on the more interesting and controversial issues that come up in cryonics, many of which are treated in the book. What is said in this book will not settle the arguments, but could at least enrich the discussion.

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Case Summary

Cryopreservation of A-1356

By Tanya Jones

Background

In early January 2006, member A-1356 was in grave condition. She suffered from melanoma, and treatments had failed to stem the spread of cancer to virtually all organs. Alcor encouraged her husband, also an Alcor member, to admit her to hospice care in Arizona.

Within weeks, her condition had worsened. Alcor accelerated its efforts by visiting the member's home. Arrangements were made to transfer her by air ambulance and admit her to an Arizona hospice program. Some of her family was resistant to her leaving, which contributed to the decision to wait a few extra days.

Though her vitals were stable two days prior to her flight, she was having trouble swallowing her medications. To address the possibility of a premature turn for the worse, Alcor deployed a small standby team.

Standby, Stabilization and Transport

The member suffered cardiac arrest at 16:27 PST on February 6, about twelve hours before her flight was scheduled to depart. The Alcor technician began the stabilization protocol and was joined by a member of the southern California emergency response team within an hour.

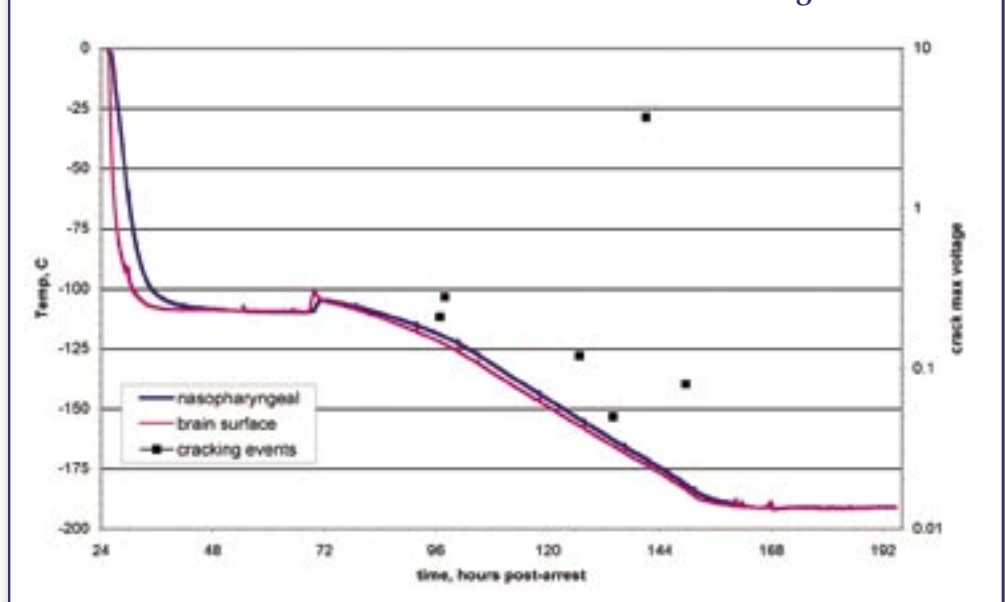
The short-handed team began surface cooling, administration of medications, and cardiopulmonary support. Medication administration did not go well because the intraosseous IV leaked. A peripheral cut-down was attempted to access the circulatory system for medication administration, but it failed to establish an open line. A third team member arrived, and the patient was transported to a nearby research laboratory that agreed to cooperate with Alcor to perform the blood washout.

Upon arrival at the laboratory, stabilization medications were administered in full. The patient's temperature had dropped to 20.6°C. She was placed on bypass and closed circuit cooling was initiated, with the patient's temperature at 6.8°C.

The patient was kept on closed circuit bypass for several hours in an attempt to compensate for the delay in transport. Due to the lateness of the hour, the Office of Vital Statistics was closed. Since a permit is required to transport a



A-1356 Cooldown and Acoustic Monitoring



Graph shows cooldown and fracturing events. The patient was plunged to -110 °C to minimize cryoprotectant toxicity, then cooled slowly to LN₂ temperature.

patient across state lines, the patient and Alcor’s team were forced to remain in California until the transit permit was obtained the following morning. At that time, the patient was transported to Arizona using the southern California emergency transport vehicle.

Cryoprotection

The patient arrived at Alcor at 13:45 MST on February 7, and within minutes was being prepped for surgery. At the onset of surgery, her temperature was 2°C. Clots were observed throughout the entire cryoprotection and some edema (swelling). Mostly, this edema was not observed in the brain, as there was only slight swelling in the left hemisphere and slight retraction in the right. Target concentrations needed to vitrify the brain were achieved and allowed to equilibrate.

Cooling

Cooling proceeded in accordance with the standard protocol. Six low-energy fracture events were recorded with the first occurring at -119.2°C. These events were of roughly the same energy, which is normal for M22 cryoprotectant.



Staff Observations

Although this patient was only hours from being transported to an Arizona hospice, Alcor sent out a small team in advance with a med kit to monitor her. The resulting level of care was much improved. Long transit times were an issue, and Alcor will continue to encourage terminal members to relocate to Arizona hospice care. During stabilization, the inability to administer medications was probably due to cancer having weakened the sternal bones, where the IV is placed. Having an IV or port-a-cath placed prior to pronouncement would have avoided this. The medications were not well-circulated due to

the unexpected nature of the patient’s rapid decline and the washout was probably performed at insufficient pressure to completely clear her circulatory system, causing clots. A higher pressure will be used in the future and a minimum of two technicians will be onsite at all times. Despite setbacks, the patient was cryoprotected swiftly and to target levels. This case was slightly unusual in that the cryopreservation was filmed for a documentary. The media personnel were considerate of the needs of the patient and staff and did not interfere. ■

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Timeline

This timeline of events tracks the amount of time to get the patient to the Alcor Foundation (post arrest), the amount of time to perform the cryopreservation and cooldown following arrival at Alcor (post arrival), and the total time elapsed until the patient is placed into long-term care at the Alcor Foundation. All times are converted to MST.

02/06	17:27	Patient arrests	
02/06	20:02	Arrival at washout facility	(2:35 post arrest)
02/06	22:38	Washout protocol begun	(5:11 post-arrest)
02/07	01:00	Washout protocol completed	(7:33 post-arrest)
02/07	13:45	Arrival at Alcor Foundation	(20:18 post-arrest)
02/07	15:12	Cryoprotective ramp begun	(1:27 post-arrival)
02/07	17:45	Target cryoprotectant concentration achieved	(4:00 post-arrival)
02/07	18:10	Perfusion completed	(4:25 post-arrival)
02/07	19:00	Cooldown begun	(5:15 post-arrival)
02/13	18:35	Cooldown completed, Transfer to long-term care	(7 days, 1:08 post-arrest)

Nanotech Helps Blind Hamsters See Again

Nanotechnology has restored the sight of blind rodents, a new study shows. Scientists mimicked the effect of a traumatic brain injury by severing the optical nerve tract in hamsters, causing the animals to lose vision. After injecting the hamsters with a solution containing nanoparticles, the nerves re-grew and sight returned. Writing in the *Proceedings of the National Academy of Sciences*, the team hopes this technique could be used in future reconstructive brain surgery. Nerve regeneration is set back by a number of factors, including scar tissue and gaps in brain tissue caused by the damage. To find a novel way around these problems, the team based at Massachusetts Institute of Technology (MIT), US, and Hong Kong University looked towards nanotechnology -- a branch of science involving the manipulation of atoms and molecules. The researchers injected the blind hamsters at the site of their injury with a solution containing synthetically made peptides -- minuscule molecules measuring just five nanometres long. Once inside the hamster's brain, the peptides spontaneously arranged into a scaffold-like criss-cross of nanofibres, which bridged the gap between the severed nerves. Brain tissue in the hamsters knitted together across the molecular scaffold, while also preventing scar tissue from forming. More important, the newly formed brain tissue enabled the brain nerves to re-grow, restoring vision in the injured hamsters.

BBC News
3/14/06

<http://news.bbc.co.uk/1/hi/sci/tech/4801728.stm>

Lab-Grown Organs Are Science Fiction No Longer

The once-fanciful dream of regrowing the heart and other failing organs has suddenly edged closer to reality: The first complex human organ, the bladder, has been rebuilt in seven patients from living tissue cultivated in the lab. "It's really science fiction at its best," marvels Tracy McNamara whose daughter got one of the first transplants and is living a more normal life because of it. The breakthrough was reported in the April 4 online edition of *The Lancet* medical journal where doctors explained how they mostly replaced diseased bladders from seven youngsters with tissue grown from the patients' own cells. Though simpler tissues like skin and bone have been regrown and transplanted, this is the first time it has been accomplished with a more complex organ. "It's startling and exciting," declared Dr. Eli A. Friedman, a transplant surgeon at SUNY-Downstate Medical Center in New York who was briefed on the findings. "This suggests that tissue engineering may one day be a solution to the shortage of donor organs in this country for those needing transplants," said Dr. Anthony Atala, the lead researcher. Growing other organs will likely hold unforeseen challenges, however, since organs are so specialized in their functions, scientists stress.

MSNBC/Health
4/3/06

<http://msnbc.msn.com/id/12136506/>

Natural Light "to Reinvent Bulbs"

A light source that could put the traditional light bulb in the shade has been invented by US scientists. The organic light-emitting diode (OLED) emits a brilliant white light when attached to an electricity supply. The material, described in the journal *Nature*, can be printed in wafer thin sheets that could transform walls, ceilings or even furniture into lights. The OLEDs do not heat up like today's light bulbs and so are far more energy efficient and should last longer. They also produce a light that is more akin to natural daylight than traditional bulbs. "We're hoping that this will lead to significantly longer device lifetimes in addition to higher efficiency," said Professor Mark Thompson of the University of Southern California, one of the authors of the paper.

BBC News
4/13/06

<http://news.bbc.co.uk/1/hi/sci/tech/4906188.stm>

Six-Billion-Dollar Human Is Becoming Reality

In the mid-1970s, when scientists in a popular TV series rebuilt a wounded, barely-living test pilot into the world's first bionic man, making him "better, stronger, faster," the field of medical bionics was the stuff of science fiction. No longer. At Experimental Biology 2006, a San Francisco symposium held in April, some of the leading scientists in the rapidly expanding field of bionics explained how much of what was once fiction is today at least partial reality—including electronically-powered legs, arms, and eyes like those given TV's "Six Million Dollar Man" 30-plus years ago. The symposium on "The \$6 Billion (Hu)Man" is part of the scientific program of the American Association of Anatomists. Bionics, a word that merges biology with electronics, means replacing or enhancing anatomical structures or physiological processes with electronic or mechanical components. Unlike prostheses, the bionic implant actually mimics the original function, sometimes surpassing the power of the original organ or other body part.

ScienceDaily
5/6/06

www.sciencedaily.com/releases/2006/05/060506235632.htm



OLEDs produce a light similar to natural daylight.

New Molecule Inhibits Proliferation of Broad Range of Lethal Cancer Cells

Scientists have identified a new molecule that inhibits proliferation of a broad range of lethal malignant glioma cells in vitro and in vivo. The findings, published in the May issue of *Cancer Cell*, shed light on which PI3 kinase family members are most likely to play a role in cancer progression. This study reinforces the concept that successful small molecule kinase inhibitors must display a broad reactivity to effectively attenuate the complex signaling pathways involved in malignant transformation and to thwart the ability of cancer cells to adapt to stress.

ScienceDaily
5/16/06

www.sciencedaily.com/releases/2006/05/060516075929.htm

Free Radical Cell Death Switch Identified

Just as humans undergo daily stress, so do our individual cells. The cellular variety, oxidative stress, is caused by the build-up of free radicals, which over time inflict damage linked to aging and age related diseases such as Alzheimer's. Researchers at Harvard Medical School have now defined a molecular signaling pathway by which oxidative stress triggers cell death, a finding that could pave the way for new drug targets and diagnostic strategies for age-related diseases.

ScienceDaily
6/2/06

www.sciencedaily.com/releases/2006/06/060601220956.htm

Nerve Tissue Interfaced with a Computer Chip

For the first time, scientists at the Max-Planck Institute for Biochemistry in Martinsried near Munich coupled living brain tissue to a chip equivalent to those that run computers. The researchers under Peter Fromherz reported this news in the online edition of the *Journal of Neurophysiology* (May 10, 2006). Their revolutionary, noninvasive technique enables them to record neural communication between thousands of nerve cells in the tissue of a brain slice with high spatial resolution. The technique involves culturing razor-thin slices of the hippocampus region on semiconductor chips. Before informational input perceived by the

mammalian brain is stored in the long-term memory, it is temporarily memorized in the hippocampus. Thin slices of this brain region provide the appropriate material to study the intact neural network of the hippocampus.

ScienceDaily
6/2/06

www.sciencedaily.com/releases/2006/06/060602172512.htm

New Step Toward Treatment for Duchenne Muscular Dystrophy

A team led by Dr. Jacques P. Tremblay, a researcher with the Human Genetics Department at Quebec City's Centre Hospitalier Universitaire de Québec (CHUQ) and professor with Université Laval's Faculty of Medicine, has taken an important step toward a cure for Duchenne muscular dystrophy. After performing the first successful muscle cell transplant in young patients two years ago, professor Tremblay announced that eight out of the nine patients have shown promising results. Duchenne muscular dystrophy is a progressive weakening and degeneration of the muscles, caused by a mutation in a gene coding for a protein called dystrophin. This protein is absent in the muscles of people affected with the disorder. With the healthy muscle cells grafted by the team of researchers, a considerable proportion of patients' muscle fibers are now able to synthesize the missing protein.

ScienceDaily
6/11/06

www.sciencedaily.com/releases/2006/06/060609093431.htm

Anti-Aging Molecule Discovered?

On June 11th, a team of South Korean scientists claimed to have created a "cellular fountain of youth"—a small molecule which enables human cells to avoid aging and dying. The team, headed by Prof. Kim Tae-Kook at the Korea Advanced Institute of Science and Technology, argued the newly-synthesized molecule, named CGK733, can even make cells younger. The findings were featured by the Britain-based *Nature Chemical Biology* online June 12th and were to be printed as a cover story in the journal's offline edition in early July. "All cells face an inevitable death as they age. On this path, cells become lethargic

and in the end stop dividing but we witnessed that CGK733 can block the process," Kim said. "We also found the synthetic compound can reverse aging, by revitalizing already-lethargic cells. Theoretically, this can give youth to the elderly via rejuvenating cells." Kim expected that CGK733-empowered drugs that keep cells youthful far beyond their normal life span would be commercialized in less than 10 years. Other researchers heaped praises on the discovery but were cautious about the practical therapeutic application of the new substance.

Kazinform
6/12/06

www.inform.kz/showarticle.php?lang=eng&id=142614

Latest Research Supports Possibility of Cryopreservation

The latest research on water—still one of the least understood of all liquids despite a century of intensive study—seems to support the possibility that cells, tissues and even the entire human body could be cryopreserved without formation of damaging ice crystals, according to University of Helsinki researcher Anatoli Bogdan, Ph.D. He conducted the study, scheduled for the July 6 issue of the *ACS Journal of Physical Chemistry B*, one of 34 peer-review journals published by the American Chemical Society. In medicine, cryopreservation involves preserving organs and tissues for transplantation or other uses. A major problem hindering wider use is formation of ice crystals, which damage cell structures. Cryopreservation may be most familiar, however, as the controversial idea that humans, stricken with incurable diseases, might be frozen and then revived years or decades later when cures are available. Bogdan's experiments involved a form of water termed "glassy water," or low-density amorphous ice (LDA), which is produced by slowly supercooling diluted aqueous droplets. LDA melts into highly viscous water (HVW). Bogdan reports that HVW is not a new form of water, as some scientists believed.

ScienceDaily
6/20/06

www.sciencedaily.com/releases/2006/06/060620171022.htm

[Note: this seems to be an independent rediscovery of vitrification, an effect that has long been known in cryobiology and is now used in cryonics. So its actual contribution to scientific knowledge may be limited, but it does add to the credibility of cryonics. -MP]

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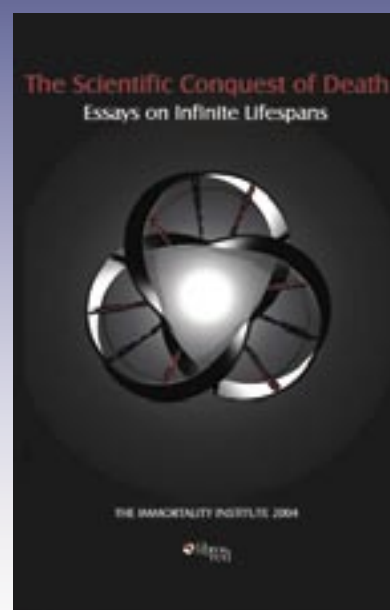
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MEETINGS

About the Alcor Foundation

The Alcor Life Extension Foundation is a nonprofit tax-exempt scientific and educational organization dedicated to advancing the science of cryopreservation and promoting it as a rational option. 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 specially trained technicians and customized equipment in Arizona, northern California, southern California, and south Florida, as well as many additional certified technicians on-call around the United States. Alcor's Arizona facility includes a full-time staff, the Patient Care Bay is personally monitored 24 hours a day.

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 MST. Guests are welcome. For more information, contact Alcor at (480) 905-1906 ext. 101.

Scottsdale/Phoenix:

Alcor Tours

Tours are held at Alcor at 10:00 am and 2:00 pm every Tuesday and Friday. Call Alcor (877) 462-5267 ext. 101 to schedule an appointment or email dbora@alcor.org.

NEVADA

Las Vegas:

There are many Alcor members in the Las Vegas area. If you wish to meet and socialize, contact Katie Kars at (702) 251-1975. This group wants to get to know you!

CALIFORNIA

Los Angeles:

Alcor Southern California Meetings—For information, call Peter Voss at (310) 822-4533 or e-mail him at peter@optimal.org. Although monthly meetings are not held regularly, you can meet Los Angeles Alcor members by contacting Peter.

San Francisco Bay:

Alcor Northern California Meetings are held quarterly in January, April, July, and October. A CryoFeast is held once a year. For information on Northern California meetings, call Marek (Mark) Galecki at (408)245-4928 or email Mark_galeck@pacbell.net.

WASHINGTON

Seattle:

For information on Northwest meetings, call Richard Gillman at (425) 641-5136 or join the 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:

A cryonics discussion group meets the second Sunday of each month. For more information, contact David Greenstein at (508) 879-3234, e-mail: davidsgreenstein@juno.com.

TEXAS

Dallas:

North Texas Cryonauts, please sign up for our announcements list for meetings (<http://groups.yahoo.com/group/cryonauts-announce>) or contact David Wallace Croft at (214) 636-3790 for details of upcoming meetings.

UNITED KINGDOM

There is an Alcor chapter in England. Its members are working diligently to build solid emergency response, transport, and cryopreservation capability. For information about meetings, contact Andrew Clifford at andrew@banknotes.ws. See the web site at www.alcor-uk.org.

NEW ENGLAND

A New England area group meets regularly. For meeting dates and to be included in the group email list please contact either David Greenstein at 508-879-3234 or davegre2000@yahoo.com or Bret Kulakovich at 508-946-4626 (8am-8pm EST) or alcor@bonfireproductions.com.

Host a Meeting in your area.

If you are interested in hosting regular meetings in your area, contact Alcor at 877-462-5267 ext. 113. Meetings are a great way to learn about cryonics, meet others with similar interests, and introduce your friends and family to Alcor members!

WHAT IS CRYONICS?

Cryonics is an attempt to preserve and protect the gift of human life, not reverse death. It is the speculative practice of using extreme cold to preserve the life of a person who can no longer be supported by today's medicine. Will future medicine, including mature nanotechnology, have the ability to heal at the cellular and molecular levels? Can cryonics successfully carry the cryopreserved person forward through time, for however many decades or centuries might be necessary, until the cryopreservation process can be reversed and the person restored to full health? While cryonics may sound like science fiction, there is a basis for it in real science. The complete scientific story of cryonics is seldom told in media reports, leaving cryonics widely misunderstood. We invite you to reach your own conclusions.

HOW DO I FIND OUT MORE?

The Alcor Life Extension Foundation is the world leader in cryonics research and technology. Alcor is a non-profit organization located in Scottsdale, Arizona, founded in 1972. Our website, www.alcor.org is one of the best sources of detailed introductory information about Alcor and cryonic suspension. We also invite you to request our **FREE** information package on the "Free Information" section of our website. It includes:

- A 30-minute DVD documentary "The Limitless Future"
- A fully illustrated color brochure
- A sample of our magazine
- An application for membership and brochure explaining how to join
- And more!

Your free package should arrive in 1-2 weeks.

(The complete package will be sent free in the U.S., Canada, and the United Kingdom.)

HOW DO I ENROLL?

Signing up for a cryopreservation is easy!

Step 1: Fill out an application and submit it with your \$150 application fee.

Step 2: You will then be sent a set of contracts to review and sign.

Step 3: Fund your cryopreservation. While most people use life insurance to fund their cryopreservation, cash prepayment is also accepted. Alcor's Membership Coordinator can provide you with a list of insurance agents familiar with satisfying Alcor's current funding requirements.

Finally: After enrolling, you will wear emergency alert tags or carry a special card in your wallet. This is your confirmation that Alcor will respond immediately to an emergency call on your behalf.

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