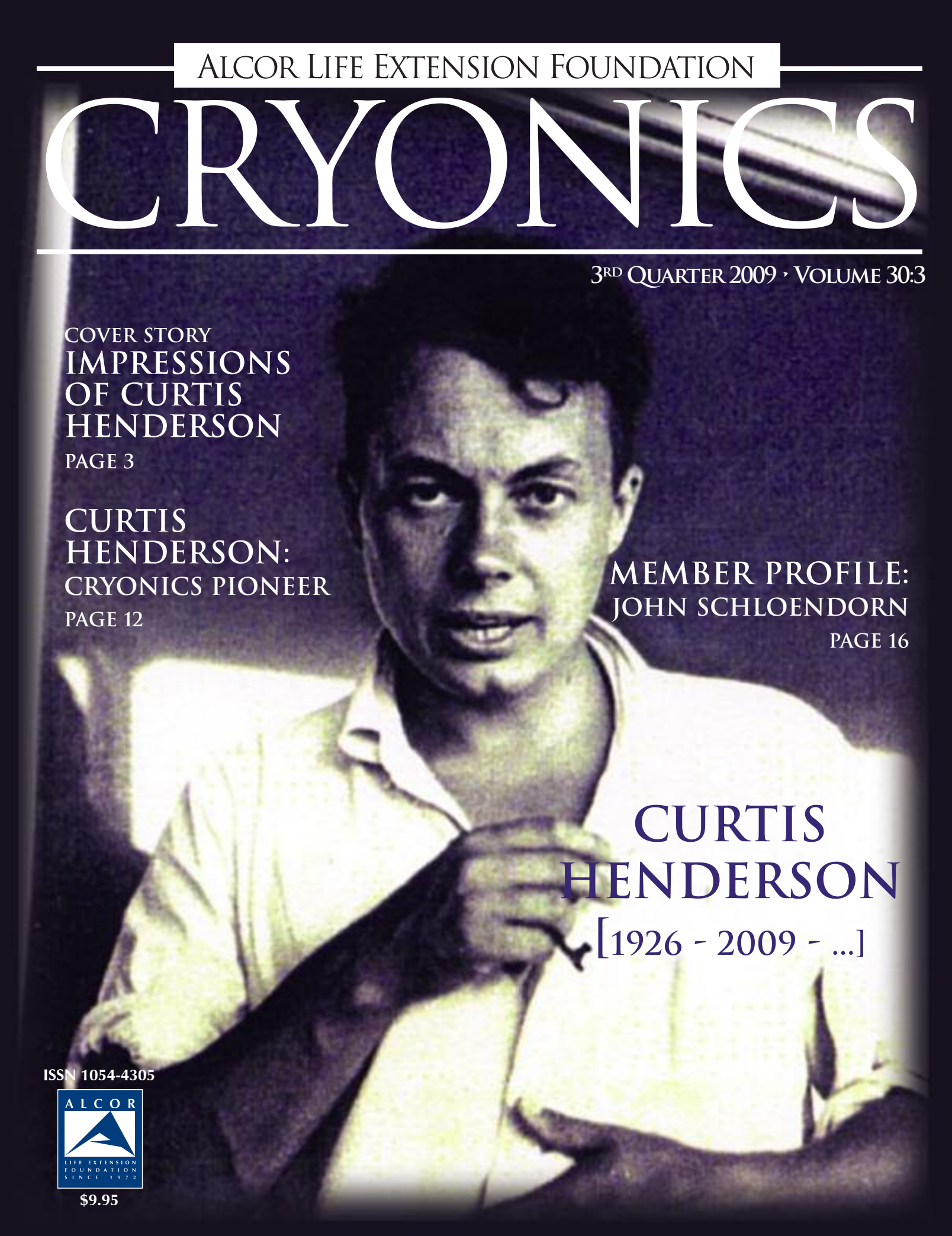
ALCOR LIFE EXTENSION FOUNDATION

CRYONICS

3RD QUARTER 2009 · VOLUME 30:3



COVER STORY
IMPRESSIONS OF CURTIS HENDERSON
PAGE 3

CURTIS HENDERSON: CRYONICS PIONEER
PAGE 12

MEMBER PROFILE: JOHN SCHLOENDORN
PAGE 16

CURTIS HENDERSON
[1926 - 2009 - ...]

ISSN 1054-4305

ALCOR LIFE EXTENSION FOUNDATION SINCE 1972

$9.95

Improve Your Odds of a Good Cryopreservation

You have your cryonics funding and contracts in place but have you considered other steps you can take to prevent problems down the road?

- ☑ Do you keep Alcor up-to-date about personal and medical changes?
- ☑ Does your Alcor paperwork still reflect your current wishes?
- ☑ Have you executed a cryonics-friendly Living Will and Durable Power of Attorney for Health Care?
- ☑ Do you wear your bracelet and talk to your friends and family about your desire to be cryopreserved?
- ☑ Do you have hostile relatives or supportive relatives that are willing to sign a Relative's Affidavit?
- ☑ Do you attend local cryonics meetings or are you interested in starting a local group yourself?
- ☑ Are you interested in contributing to Alcor?

Contact Alcor at 1-877-462-5267
and let us know how we can assist you.

Take a look at the ALCOR BLOG

www.alcornews.org/weblog

Your source for news about:

Cryonics technology

Cryopreservation cases

Television programs about cryonics

Speaking events and meetings

Employment opportunities

ALCOR
LIFE EXTENSION FOUNDATION
SINCE 1972

ALCOR LIFE EXTENSION FOUNDATION

CRYONICS

3RD QUARTER 2009 • VOLUME 30:3

COVER STORY: PAGE 3

Alcor staff member and cryonics historian Mike Perry remembers Curtis Henderson and his important role in the shaping of the early and modern cryonics movement. Mike Perry's account is followed by a rare 1987 interview with Curtis and some fascinating historical photos and documents.

CONTENTS

ALCOR LIFE EXTENSION FOUNDATION
CRYONICS

Editor
Aschwin de Wolf

Art Director
Jill Grasse

Contributing Writers
R. Michael Perry, Ph.D.
Charles Platt
Aschwin de Wolf
Chana de Wolf

Cryonics Magazine is published quarterly.

To subscribe: call 480.905.1906 x101

Address correspondence to:
Cryonics Magazine
7895 East Acoma Drive, Suite 110
Scottsdale, Arizona 85260
Phone: 480.905.1906
Toll free: 877.462.5267
Fax: 480.922.9027

Letters to the Editor welcome:
aschwin@alcor.org

Advertising inquiries:
480.905.1906 x113
advertise@alcor.org

ISSN: 1054-4305

Visit us on the web at www.alcor.org

Alcor News Blog
www.alcornews.org/weblog

FROM THE EDITOR

Thursday morning, June 25 2009, 04:14 am. Cryonics Pioneer Curtis Henderson goes into cardiac arrest. The Florida-based cryonics company Suspended Animation promptly starts cardiopulmonary support, surface cooling and administration of neuroprotective medications and anti-coagulants. After stabilization procedures are completed Curtis is transported by van from New York to the Cryonics Institute in Michigan for cryoprotective perfusion, cooldown to cryogenic temperatures, and long term care in liquid nitrogen.

This issue of Cryonics Magazine is a tribute to Curtis Henderson. Curtis (b.1926) was one of the founders and President of the Cryonics Society of New York (CSNY) and remained a vocal and colorful advocate of cryonics until his cryopreservation. As a particularly outspoken opponent of "third party funding" Curtis contributed to one of Alcor's fundamental building blocks; members should be fully funded prior to the start of cryonics procedures and long term care should not be dependent on the ongoing goodwill of relatives and friends.

Mike Perry starts off this tribute with his personal recollections of the man. This piece is followed by an interview from 1987 and some unique historical cryonics materials. Charles Platt also dug into his archives and transcribed some taped recordings in which Curtis recalls some events from the early days of cryonics. In his important afterword, Charles Platt offers some pungent, brief comments on the perils of third party cases.

My own little contribution is titled *"There is no such thing as feel-good cryonics,"* a slogan of Curtis' that has become the motto of those who are painfully aware of the challenges, limitations, and failure-modes that characterize contemporary cryonics.

There are few things that could please Curtis more than a new generation of enthusiastic cryonics activists. This issue features a profile of Alcor member John Schloendorn. John is a committed researcher who is devoting his life to overcoming aging. John has not only engaged in meaningful experimental work for Aubrey de Grey's SENS project, he has also launched his own organization to support other anti-aging researchers to accomplish their goals.

In 2010 Alcor will be raising its membership dues. We are aware that the financial meltdown and its aftermath have created difficult times for many, including our members. Alcor is making great efforts to complement the increase in membership dues with sensible cost savings in our organization to limit the burden. More information about the membership dues increase can be found on page 19 of this issue and the Alcor blog.

Impressions OF CURTIS HENDERSON

Curtis Henderson at an early cryonics conference: April 1969, Ann Arbor, Michigan. (Reference: Cryonics Reports 4(4) 10, Apr.-May 1969).

By Mike Perry

I'm not sure when I first heard of Curtis Henderson but back issues of *Cryonics* that I read in the early 1980s were an important source, particularly the interview with Mike Darwin (July 1981, pages 23-29). In the preface Mike says, "Curtis Henderson has taught me much of what I know about cryonics and has saved me an incredible amount of grief with good advice and stern admonitions. He has also taught me that sometimes you have to stand up like a man and say what you think regardless of what the timid tell you." What follows is my best recollection where written sources are lacking; quotations may be approximate.

I first met Curtis in 1987, in connection with an Alcor "Facility Dedication and Open House" held over the Memorial Day weekend, May 22-25. Alcor had recently occupied premises on Doherty Street in Riverside, California, and I had recently arrived as a full-time volunteer, with support from a generous benefactor. (Two years later I would become a paid employee, which I still am today.) This first encounter would be followed by others over the years, both in Riverside and in Scottsdale, Arizona, after Alcor's move there in 1994. (As background: in the 1980s Curtis was an Alcor member, then changed to CryoCare in the 1990s, and finally joined the Cryonics Institute, where he was cryopreserved last summer.)

I remember Curtis as a short, stout, feisty bulldog of a man with a matching voice but wise and kind-hearted underneath. He had numerous entertaining tales to tell about the early days of cryonics and much earlier than that. One incident in his boyhood concerned a toy submarine he had his heart set on, one that had some mechanical apparatus so it could dive and travel underwater all by itself and simulate the real thing. But his dad wouldn't buy it for him because it was "made in Germany." This was about 1936 when Curtis was nine or ten years old. (His parents, Donald and Eleanor [Curtis] Henderson, were labor organizers and members of the Communist Party.)

On to another topic, there was an amusing incident connected with an interview I taped on May 24, 1987 (elsewhere in this issue). Afterward I was transcribing the so-so-quality cassette and there was some expression Curtis used I couldn't quite make sense of. It sounded for all the world like "French Hall's Ball"—some sort of proper name evidently—so I left it at that. (I should have called him up; somehow I didn't.) Anyway, when the article came out in the Venturist newsletter I edited he called me up and com-

Curtis Henderson at Alcor's facility, Oct. 5, 2008.

plimented, only noting an error in that one place, where his New York accent, it appeared, had caused confusion. No, it was *Frank Charles Bar,* the place in Jamaica, Queens, NYC, where he or his buddy Karl Werner in 1965 dreamed up the term "cryonics" for the new organization they were forming. (The correction was duly noted in the next issue of the newsletter and is silently made here.)

Curtis had a severe stroke a few years ago, as well as other health issues. Anyway, he struggled back from that precipice and resumed a part-time nomadic lifestyle, traveling cross-country and even piloting his motorcycle as he'd long been doing. (I understand he also had once been an airplane pilot, starting in the military, but I don't think he resumed that hobby.) Curtis had two marriages that ran their course and several children. "Don't have kids," he once admonished—again with irony and humor, but no doubt some seriousness. Mixing married life and cryonics was tough for him, and not just because of the kids; in the end he stuck it out with cryonics.

Cryonics has always been a challenge, and it was especially so in the early days when, as a rule, arrangements were not made in advance and relatives attempted to arrange a freezing after the prospective donor had died. These relatives themselves were often either disinterested in cryonics or for other reasons had no arrangements themselves. Their willingness to continue payments to keep someone frozen was correspondingly limited, but if things didn't go to their liking, as often happened, they might take legal action. An early cryonics newsletter (of Evan Cooper of the Life Extension Society in Washington, D.C.) had the title *Freeze-Wait-Reanimate.* Curtis said a more appropriate expression, in view of the legal troubles, would be *Freeze-Wait-Litigate.* In fact, though, no lawsuits were ever brought against Curtis's own organization, Cryonics Society of New York, Inc.; Curtis used his attorney skills to good advantage as well as trying to be fair in all his dealings with prospective donors and their relatives. (The organization nevertheless had to close down in the 1970s due to lack of funding. A rival organization, Cryonics Society of California, Inc., under Robert Nelson, also failed but legal recriminations followed and a mortician

Snowball, Curtis Henderson's dog.

who assisted Nelson paid a large fine through insurance. Since that time the practice has become nearly universal in cryonics of demanding a full up-front payment at the time of preservation. Interest income from this principal then covers costs of maintenance so that further monetary input is unnecessary.)

I last saw Curtis in 2008, when he stopped at Alcor's facility accompanied by his white, blue-eyed dog Snowball (some called her Snowflake). Peppery and high-spirited as ever, if still a little inconvenienced by effects of the stroke, he attended the monthly transhumanist meeting at the facility on Oct. 5, then came back the next day. I scanned some historic cryonics photos he'd brought along then went with him and showed the way to a Wal-Mart where he bought groceries. He paid at the checkout counter and discarded the sales receipt, which I promptly retrieved, sensing somehow it wasn't just an ordinary thing. Watching, he seemed a little nonplussed. "You save everything!"

I will mention that he sometimes showed acts of special kindness such as (around 1988) gifting me a subscription to *Newsweek* at a time when my own finances were meager. He wanted to write a book and wanted me to help, which I was willing to do but something always intervened.

Fun-loving, feisty, and focused on a limitless future, Curtis helped start the cryonics movement and did what he could to further that cause for the rest of the time—some four decades—that nature allotted him. Not content to leave it at that, he rests in liquid nitrogen where someday, if all goes well, he will emerge to take up where he left off, and we can enjoy his company once more (and maybe get that book finished!). ■

Sales receipt from Wal-Mart, Oct. 6, 2008.

I thank Robert Henderson for supplying early documents pertaining to CSNY—MP. (see next pages)

STATE OF NEW YORK)
SS.:
COUNTY OF NEW YORK)

On this 13TH day of JULY 1965, before me personally came Jim Sutton, Harold Costello, Karl Weiner, Saul Kent, Curtis Henderson,

to me known and known to me to be the same described in and who executed the foregoing certificate of corporation, and they thereupon severally duly acknowledged to me that they executed the same.

John F Fyer
Notary Public

STATE OF NEW YORK)
SS.:
COUNTY OF New York

CURTIS HENDERSON, being duly sworn, deposes and say that he is attorney for the subscribers to the annexed certificate of incorporation, and that no previous application for the approval of the certificate by any Justice of the Supreme Court has ever been made. And that he knows of his own knowledge that the above named subscribers and directors are of full age and are citizens of the United States and residents of the State of New York

Curtis Henderson

Sworn to before me this 13
day of July 19 65

John F. Fyer
Notary Public

I, James A Roe Jr, a Justice of the Supreme Court of the 11 District, hereby approve the foregoing certificate of incorporation. of the Cryonics Society of New York Inc

6 5
Justice of the Supreme Court

- 3 -

Cryonics Society of New York, Inc., signature page from Certificate of Incorporation

Article Two.

Purposes.

The following are the purposes for which this organization has been organized

The Cryonics Society of New York is an incorporated, non-profit service oriented organization, dedicated to the scientific extension of human life through cryogenic means. We have organized under the hypothesis that if a person is scientifically frozen immediately after clinical death, and stored in a cryogenic environment in order to prevent decomposition--that person may be reanimated, repaired, and even rejuvenated in the distant future.

Our primary concern is to provide, for our members, a specific program, so that in case of death, they may be frozen under the best possible conditions. This program will include: detailed information about all aspects of the freezing movement; expert instruction in specialized techniques; and full access to the finest freezing and storage facilities available.

We are also engaged in the promotion of the freezing movement, through scientific, political, and social persuasion, in an intelligent and responsible manner.

3-M

CSNY Purpose, from Bylaws.

Interview with
Curtis Henderson
May 24, 1987

By Mike Perry

In July 1965 Curtis Henderson, together with Saul Kent, Karl Werner, James Sutton, and Harold Costello, founded the Cryonics Society of New York (CSNY). It was one of the first organizations devoted to the "freezing idea," and was the first to use the newly-coined term "cryonics" which eventually became generic in the field. Though CSNY was eventually disbanded due to financial problems Curtis remained active in cryonics until last summer when, aged 82, he was cryopreserved at the Cryonics Institute, Clinton Township, MI. The following interview, lightly edited, is from *Venturist Voice* #6 (Fall, 1987) 15-20. By way of further background, Robert Ettinger in 1964 had published *The Prospect of Immortality,* which introduced the idea of freezing the newly deceased to a large public. Ev Cooper meanwhile had organized the Life Extension Society (LES) in Washington, DC, and started a newsletter. Though Cooper was interested in setting up a cryonics facility, this important goal eluded him and the task was left to others.

MP: Tell me about your early background, where, how long ago, and so on.

CH: I always maintain that I'm 39. It gets harder. I was born in New York City, as far as I know (I don't really remember). I went to several elementary schools—my parents moved around a lot. I went to different high schools too. I was in my third year in high school—during the Second world War—and desperate. If you joined the Air Cadets when you were 17 you got your high school diploma without even going to school for the last year, which I did. After the war I took advantage of the GI bill. I went to college, though to be perfectly frank I think college was an extension of a playboy-type existence. My grandmother sort of semi-financed it, augmenting the government allowances. I managed to get a convertible and a motorcycle. Then I went to law school, graduated and passed the Bar, but I guess I was a dilettante in many ways. By the '60s I was working for an insurance company and was making enough money to lead a very comfortable existence.

MP: How did you get involved in cryonics?

CH: I read constantly. In the *New York Times* I saw a review of Ettinger's book, *The Prospect of Immortality,* and the idea just intrigued me. I think maybe everybody, but certainly the kind of people that end up in cryonics, have an idea in the back of their minds that somehow they're going to cheat this death thing. Maybe everybody has that idea. When you're young and healthy certainly you have a very hard time thinking of yourself as growing old and dying, and if you do think about it you push it out of your mind. But you see old people and you joke about it, and it gets harder and harder to hide from.

MP: How would you describe your lifestyle at this time?

CH: I had a boat and a very pretty young wife and a kid. (The second kid, when he came along, was actually named Robert, after Ettinger.)

MP: So now tell me more about cryonics.

CH: I read the book *[Prospect],* and I did something I almost never do. I wrote to the author. He sent me the name of a man in Jamaica in Queens, New York City. I think like everybody else I expected to find somebody, a semiscientist, a well-educated individual, an intellectual, a college professor, somebody, almost, in a white coat. I found exactly the opposite, but this man introduced me to Saul Kent and Karl Werner. The three of us were almost like three parts of a puzzle coming together. At the time I didn't think about it, but when I think back I'm really struck by how remarkable it was, considering all the infighting, splitting and fractionation that went on with this whole movement since then, how easily we worked together. Saul was

great with writing and organizing things, and the three of us just fit together.

MP: What action did you take?

CH: We started the Cryonics Society of New York because nobody was happy with the Life Extension Society for a whole bunch of reasons. Beforehand Saul and me had taken a trip across the country and visited all of the people who had been interested in life extension—with Ev Cooper, with all the people who claimed they had facilities to freeze people. With the exception of Ed Hope in Arizona they all turned out to be total fabrications, nothing. The end of that trip was coming back through Michigan and having a hearing with Ettinger, whose group had become the Cryonics Society of Michigan [as it eventually was called].

MP: Tell me more about forming your own group, the Cryonics Society of New York.

CH: After we got back from the trip, we had to file papers in Albany to get a non-profit corporate certificate, and status, and start working on a tax-free status, so we had to come up with a name. Karl Werner and I were in the Frank Charles Bar one night and made the name "cryonics" up out of the blue. I don't know whether he suggested it or I suggested it but it just clicked. Saul wanted to get this newsletter out and he needed a name too. I remember meeting at the Frank Charles Bar mostly because I had a job in the city, I lived out in Sayville and I used the Long Island Railroad once a week to go back and forth once a week. I had to change trains in Jamaica, and the Frank Charles Bar is only about two blocks from the railroad station. So we formed the Cryonics Society of New York, but we never dreamed we'd have anything to do with physically freezing bodies. Our idea was for more or less a discussion club. It was totally in the realm of speculation. Our first real act was Saul putting out the newsletter.

MP: What problems did you encounter when you decided to go beyond mere speculation and really do cryonics?

CH: We found out that no big company was going to make storage tanks, and no medical people were really interested in the idea. We seemed to be the only ones interested, in fact. We had no idea of the complications or the cost. I think Ettinger's first figures were in the neighborhood of $5,000 to freeze and store somebody indefinitely. Ettinger was always talking about freezing the first man. When they froze the first man all sorts of magical things were going to happen. The world would see that you were right (I had doubts about that) but he was so adamant in his concept of freezing the first man. He would have these people contact him but he would never go through with it. There were several people he was going to freeze when they died but for some reason—we never got the details on it—they weren't frozen. Since then I realized that when it came to push and shove and you actually had to deal with morticians and doctors and so on, he was quickly discouraged.

Robert Nelson was impressed with us when, on our trip, we visited him in California, because we were from out of state and had some very good-looking brochures for the time, and were putting out a newsletter. He thought we were the big hotshots from New York with a big Buick and plenty of money. As I said, though, the people we saw were mostly just individuals with a passing interest in cryonics. The only one who was making any kind of a tank was Hope in Arizona. At the time I knew nothing about cryogenic tanks—in fact, that's where I learned about them. We spent a couple of weeks living and sleeping there at Hope's facility. It was just a warehouse, just an industrial bay. At that time he had a tank with a woman in it, and it was holding liquid nitrogen though not well—he had to keep the vacuum pumps going. He was making other tanks. He had hired a couple of engineers, and he was spending quite a bit of money, more than everyone else put together, on developing some sort of tank that would work. After that we came home, and it was several weeks after that that Nelson froze Bedford.

MP: Tell about your early experiences actually freezing people.

CH: First of all we realized that you had to have the cooperation of a mortician, because you had to get into the licensing system of handling a dead body. You couldn't just pop up and say, "hey, we're a cryonics society, somebody just died, now give us the body,"—they won't do that. So we wrote letters to every funeral director listed on Long Island and we got no answer. One man however, Fred Horn at St. James, called us and he said he was interested. We gave him what literature we had, and because he'd broken his leg skiing he took the time to read it. That's literally the truth—he admitted it many times. He never would have read any of it if he hadn't been sitting there with his leg in a cast. But he became interested in it, and when Steven Mandel died he more or less put all of us on the spot: Now, this was it, either put up or shut up. At that moment we had somebody who had made the preparations, who'd signed papers indicating he wanted to be frozen, and had an insurance policy that had been signed over to his mother with the proviso that it was going to be used to freeze him. His mother called us when he died, so now it was put up or shut up time. We're gonna do it or not. And we did it. And of course from then on it ceased to be a discussion group.

From the pressures of keeping him frozen and Mrs. Deblasio and the

others who wanted to be frozen, who put us in the position of do it or not, we became familiar with the real costs. We'd bought a tank from Hope, then another tank, which didn't work very well. A search for an efficient tank started. We more or less were caught up—we had to go on with it, to turn back was to give up the whole project. Most of what happened after that is common knowledge.

MP: No doubt many are aware that all the companies freezing people in the '60s ultimately went out of business, including your own, and that nearly all the patients from those early days were lost, for one reason or another. The tragedy was not all in vain, however, because other organizations were formed who tried to avoid the earlier mistakes and as a result cryonics, while not a large movement, at least has a devoted circle of followers today, and no suspension failure has occurred in over five years. But much has been written about the ill-fated efforts of Robert Nelson in Chatsworth, California, in which all the dozen or so people in storage there were allowed to thaw out and decompose. Can you comment on that, in relation to your own efforts?

CH: The fight with Nelson started, really, over his intolerance of the existence of Bay Area Cryonics, in San Francisco. Nelson's later problems, I'm certain, evolved out of the same kind of problems we had. He didn't handle them nearly as well as we did. The costs of keeping people in liquid nitrogen went way beyond anything he estimated, way beyond anything he was getting from the people he was freezing, and he insisted on undercutting our prices to get people. And our prices were way too low. In the meantime he was carrying on this struggle with the people who had started Bay Area Cryonics, three or four people including Jerry White and Michele Navarette. The basic problem was always the same—we had way underestimated the cost of storage. Towards the end there, Mike Darwin got into it. He was interested in perfusion, and here was a whole area of technology we had no idea about, and yet it probably was the most important area. And of course the costs of doing a good job of perfusion, to keep records of it and so on, were astronomical compared to anything we had estimated. I had sort of a nightmare, because if anybody sued us and took us to court we were going to be in the position of just taking a body and perfusing it—if you want to call it that—at some point within hours or days after death, with an embalming pump which has absolutely no way of recording pressures or pH or anything. You weren't really doing much more than taking a fish and throwing it in a bed of ice, and saying, "well the fish is preserved, it's frozen." That's about the quality of the early freezings. The cost of doing it properly with qualified people was simply out of the question.

MP: What finally happened to your organization?

CH: Saul went to Florida. Everybody had to keep earning a living. A fellow in Florida offered to finance Saul and his Life Extension Magazine that he was putting out. I stayed there in New York because that's where I was working and where my home was. It just sort of faded. We stopped taking on any new people. Still it was costing us four or five hundred dollars a month, and most of the time that money came out of our pockets. One relative, a Mr. Hurst, always paid. Another fellow froze his father, and he wanted to take care of his father himself, which I was only too glad to let him do. (He eventually let his father melt.) We had the people buy their own tanks—we never owned them. I'm glad we did it that way, because when they started saying they were unhappy with the way things were I could say fine, take the tank.

MP: So in the end the relatives all took their people away?

CH: Yes. The last one, Hurst, went to New Zealand, wrote to the city and said "I can't carry it any more, I want my father buried," and we went along with his wishes. You see, almost none of these people had any inkling of cryonics before they died. It was their relatives who wanted to freeze them. We had all-night discussions with Mike Darwin when we were going through all these troubles, and we literally forged the policy that you have now of not freeing people off the street, of freezing only those you know want to be frozen, who have made arrangements, and who have signed papers expressing their desire to be frozen. We had people who had never heard of cryonics. Dostal and Steve Mandel were the only exceptions. (Steve's mother got unhappy, said Nelson was Mr. Cryonics, and that she wanted to take him there. The tank ended up in Chatsworth. She wasn't paying us, and I don't know how she paid Nelson.)

MP: What do you see for the future of cryonics?

CH: There has been a lot of discussion and a lot has happened historically aside from cryonics. The advent of our present age of "pulling the plug" was hardly hinted at back in the '60s. I was very surprised recently, when I took a friend of mine to the hospital, to learn that over half the deaths involved this business of stopping the life-support system, once they're in the hospital, and that the staff gets permission from the relatives to do that. This is quite a wild thing when you think about it. Now death is a matter of an act, a decision by somebody. But, to get to the point, I think that the health industry—as they like to call themselves now—is faced with this horrendous cost which is now almost a significant part of the national budget, of keeping these people alive with no hope of recovery. They're going to be

forced either to look to alternatives like cryonics, where instead of pulling the plug you give them at least a palliative, or just making it official that at a certain point a board or your doctor or somebody will decide that's it and—that's it. They do this unofficially now, I hear, dose someone up with morphine and put him on his way.

As cryonics increases its technical ability it increases the promise of coming back. As medical science increases its ability to extend life under the worst of conditions, at some point I can't see how they can avoid the obvious: "Are we going to keep this man on these machines at five or ten thousand dollars a day, eating up our money if he's indigent, eating up his family's money if they have any, eating up his estate's money if he's rich, or are we going to take this chance of cryonics?" I would think that the appeal of cryonics would be hard to resist because to some degree it gets everybody off the hook. It gives an emotional and economic way out for what is becoming a major problem.

I don't think suspended animation will ever be totally eliminated as a medical procedure. Some form of suspended animation has been desired for a long time, and even if you had indefinitely extended youth some form of suspended animation would be very desirable. So I don't think any of this technology is ever going to be wasted. Right now I think cryonics is going to come along the way most things do. I think it will attract more and more interest. The pressures to use it will mount and the desire to use it will mount. The line between life and death will get hazier and hazier, and the legal response to that is going to have to come. There'll have to be a whole different approach to when a man is alive and when he is dead. They're already having problems with that. It used to be that the heart stopped and that was the end of the ball game, but not anymore. The more cryonics becomes a viable choice, and the more people accept it as a viable choice, the more people will do it and the more support it will get. And probably, when it starts to come into favor and really get support, for most people it won't be needed anymore—like most things [laughter].

MP: Thank you. ■

Curtis Henderson

Cryonics Pioneer

By Charles Platt

Curtis Henderson could be a difficult man, especially during meetings of Alcor's New York chapter in the 1990s, when he was loud, irascible, and confrontational. I used to look forward to those meetings with a mixture of weariness and dread. But even when I was exasperated by Curtis, I never lost my great affection and admiration for him, because I knew I could never have done what he did.

In the late 1960s, after helping to establish The Cryonics Society of New York with four others, Curtis took on most of the work associated with obtaining and building equipment, managing cases, and maintaining cryopatients. Merely obtaining a functional storage tank in those days was a major challenge. Curtis was a genuinely dedicated pioneer who was relentless in the face of adversity.

"I was raised as a person with a cause," he told me during one of my attempts to interview him for a cryonics book that I was never able to sell. "My parents were both members of the Communist Party. So emotionally, I was always geared to a cause."

He became predictably disgusted with Stalinism after the Soviet Union turned into a totalitarian state. Subsequently, his part-time work as an insurance adjuster may have deepened his cynicism about human behavior, as he liked to say that his job basically required him to confront a succession of deadbeats, fakers, and cheats. Still he retained an idealistic need to dedicate himself to something, and cryonics became that something, even while his skeptical nature made him uncomfortably aware of its failings. Thus the same man who dedicated his life and much of his money to cryonics was always one of its strongest critics. I think he felt that if cryonics couldn't withstand a critical examination, it wouldn't be worth much—and I always felt that he was right.

I'm not going to try to characterize Curtis in any more detail than this, because my words cannot convey the essence of the man. His own words are more effective for that purpose. They also give just a hint of what it must have been like to pursue the dream of human cryopreservation on a do-it-yourself basis, when only a handful of people in the world could take the idea seriously.

The following paragraphs are excerpted from the many hours of tape that I accumulated. I've omitted a lot of digressions and have reshuffled some of the material, but the remaining text is pretty much verbatim. It has been reviewed by one of his contemporaries, who suggested some detail corrections, but has not been subjected to truly rigorous fact-checking.

In the Beginning

Ettinger's book, I thought, was a penance, like reading *Das Kapital* when you're a communist. I think it was terribly written. But the idea was what mattered. I wrote to him, and he gave me the names of two other people who had written to him. One was Saul Kent, and the other was a man named Jimmy Sutton, who lived in Queens, and told me to come and meet him at the Frank Charles bar, under the El [the old elevated subway line].

It was like, I guess, a thousand bars in Queens. A blue-collar kind of thing, with a TV, endless football games. They had a room at the side where there were booths, and that's where we [Henderson, Kent, and Sutton] would meet each week.

At that time, there was no such thing as a cryogenic tank big enough to hold a human body. But the assumption was that all we had to do was explain the idea to the powers that be, and obviously Rockefeller and all these other people would want to live forever, would jump on the bandwagon, and Union Carbide would make the tanks for us.

So it came down to this: shall we form our own society? I said I would incorporate it, because I was a lawyer. Karl [Karl Werner, who invented the word "cryonics"] wanted to design the stationery, and Saul wanted to write letters on it, so we had to have a name. One of us said Cryonics Society, it just came out.

It slowly came into our consciousness that the world out there didn't think this was such a great idea at all. In fact the vast majority of people thought it was a grotesque idea, a ridiculous idea. And certainly when somebody had died, talking about freezing them was like spitting on the flag, even worse than that. So our perceptions started to change.

The Road Trip

Ettinger would go on TV, and he'd hold up pictures that people had sent him, and he'd say, "These people in Kansas City are building a giant facility, freezing bodies." He was such an optimist. The fact was, all these people were basically just looking for money. And there was no money. In our organization, it was basically my out-of-pocket money and Saul's brains. And I was getting into my first divorce. My wife went away to Florida and took the kids, the usual crap.

In those days for about $12.95 you could get a credit check. I used to do it all the time when I worked for the insurance company. And amazing things came back. There was a guy named Gold, in Springfield. He said things like, "In two weeks we're going to have the first freezing, on color television, and the capsule's going to be consecrated by the Pope." The two weeks would come and go, and nothing would happen. So Saul wanted to get in the car and go to each of these places and check them out.

We went to Springfield, Ohio, and I put on my old clothes and went in looking for a job as a welder. And there was no evidence of any bodies. We broke into the factory at night, we even had some Polaroid pictures. And there was an old tank in there covered with dust. No facility at all. So, we went on with our travels, and we found nothing genuine till we got to Ed Hope's place in Phoenix, Arizona. He was actually building tanks, although his main business was selling wigs. He had two wig shops in Phoenix.

We spent a couple of weeks there, actually working on these tanks, learning about high vacuum and helium-leak detectors, and all the rest of it. This was evolving away from the idea of having people do things for us. We could see that if we were going to do something, it was going to be a do-it-yourself, back-alley kind of thing.

After we left Phoenix we went to California and met [Robert] Nelson, who had started the group there. He said he had this electronics business—he's telling me these things, but I'm sitting there with his credit-check! The fact was, his wife was supporting him, working as a teller in a bank. He carried on about all his technical knowledge, and so long as he was talking to someone who knew nothing about it, he could get away with it. But already I was building up a body of knowledge. Essentially I taught myself cryogenics, hands-on.

Nelson was full of energy, willing to grab the flag and charge the enemy, regardless of the consequences, regardless of anything. He was the leader of this group, very enthusiastic, and we were the people from New York in our big Buick, we did a very good job of putting on an image, of course. Even now we still have the same kind of situation, cryonics is a stage show, and we don't really have very much substance.

In Phoenix we'd ordered one of Hope's tanks, nothing could stop us now. We came back bathed in glory. Now we were going to really do it. It was the dawning of a new age, and so on and so forth.

But, of course, it wasn't.

The First New York Case

We had written to every funeral parlor on Long Island, and got literally no response, except from Fred Horn at St. James funeral parlor. We went over to see him, and the only reason he was interested was he had broken his leg skiing and he had nothing better to do.

[Later] we were having this big party over at Paul Segall's, it was early in the morning on a Sunday morning, and the phone rang, I remember getting up off the floor. It was [a female relative of] Steven Mandell calling, he had just died, she said do you intend to freeze him? So I went over to Fred's, there was a lot of excitement, and he said go ahead, we'll do it. The perfusion was done with a Porter Boy embalming pump. A big glass dome, looks like a big juicer. We didn't have any money, but Fred said he would cover the initial expenses. He got the body in his station wagon from the hospital. Fred supposedly perfused him with glycerol, I don't know how well, because he'd been dead a day or so.

Fred Horn was a playboy. He got out of the air force, he'd been assembling nuclear weapons. He took the mortuary science course, he borrowed money, Long Island was booming, he built the funeral home, he had his apartment above it. He was always getting into trouble, went through a series of divorces, a real adventurer type. There was a bar across the street, he got in a fight because the bikers would come and raise hell while he was having funerals. So he bought the bar. He also had a boat. We chopped the top off and moved it into the bar. I think it's still there.

Money Troubles

I used to have five people stored in tanks. Look at the photograph of this tank, this is

the same one that's lying out there [in the back yard] now. We used it in a show we did for Walter Cronkite, right there in that garage.

There's been so many radio shows, so many TV shows, that's why I don't expect anything anymore. You get a lot of phone calls, maybe a thousand, but out of that, you only get one person to sign up.

Here, look at this picture. Death Valley. I went out to get the tank from Arizona—I didn't trust the shippers, I went to get it myself. Here's my wife, see? And she used to complain I never took her anyplace. Complained all the time.

We bought the second tank for $3,000. Me and Saul paid it out of our pockets.

I never made any money on the tanks. We thought the remaining money would cover everything, with some further monthly payments for liquid nitrogen. Thinking back now, it was a ridiculously small amount of money for what we were thinking of doing. We had to build frames and racks, there were the vacuum pumps [to maintain the vacuum insulation of early cryogenic tanks]—there was never any money.

It became more and more obvious that to do this, we had to be better funded, none of this back-alley stuff. We were going to end up getting sued, it was going to blow up in our faces. So a retreat was necessary.

Third-Party Situations

Basically, all my suspensions were third-party situations. Somebody would come to me and say, "Dad's died, I want to freeze him, I don't care what it costs." So the man in the tank, you haven't made any deal with, and the people on the outside, their lives change, things happen to them. Pretty soon they start thinking they never liked that old geezer anyway. See? Now you've got troubles, because they don't like to admit that.

I went through this with any number of people. They don't want to actually say, "Oh, I don't want to keep him frozen, pop him in the ground." They start with complaining that I'm charging too much, the nitrogen level isn't high enough, and why didn't I get them on the last TV show? That was one of the biggest complaints. They come here and see people making a TV show, and they complain if I don't get them on it.

We used to sit here at night, when things really got bad, and talk about the future of how we would do things, and out of that came the policy of freezing only people who were signed up and had made preparations. Now at least you've got a piece of paper saying he wants to be frozen. The other way, you've got a man's wife five years down the line saying, "Oh, he never knew anything about cryonics and I only did this in a moment of grief, and these fraudulent people came along and told me they were going to bring him back—" And the woman at that moment has the legal say, and the cryonics company doesn't have anything.

I had it up to here a couple of times with cryonics. But it wasn't cryonics, it was the way we were doing it. This is why, when they started Alcor, we talked about it many times, that we would never touch anybody except somebody who was prepared ahead of time and fully understood what they were getting into. If it's going to change someone's lifestyle to have someone frozen, sooner or later, you're going to have problems. It got to the point where if someone called me and said they had to have someone frozen and they didn't care what it cost—I'd hang up. ■

"THERE IS NO SUCH THING AS FEEL-GOOD CRYONICS"

By Aschwin de Wolf

I cannot say that Curtis Henderson and I go back a long time, though I had heard about him quite a bit. In conversation with people who did know him well he was invariably praised as a ruthless realist who played a key role in eliminating one of the biggest mistakes in the history of cryonics: the practice of accepting third party funding in which living relatives or friends take on the ongoing financial responsibility of keeping the patient in storage. The idea of third-party funding should not just be rejected because of its naiveté, the practice also presents a danger to other, well-funded cryonics patients. No one likes to take an existing patient out of liquid nitrogen and burn or bury that person –not to speak of the public relations aspects. We would like to think that there are no hard decisions in cryonics, but as Curtis has reminded us, *"there is no such thing as feel-good cryonics."*

Unlike other cryonics pioneers such as Ev Cooper and Marce Johnson, Curtis has safely made it to long term care in liquid nitrogen. But the journey was not easy. In 1974 the New York Department of Public Health notified him that cryonics was in violation of the law and the bodies of three Cryonics Society of New York (CSNY) patients had to be returned to their relatives. In 1979 cryonics suffered a major, additional blow when the nine patients of the Cryonics Society of California were discovered to have thawed as a result of inadequate or nonexistent funding by relatives, a big strike against the "pay as you go" practice that dominated cryonics up to that point. Curtis himself, after the demise of his own organization, CSNY, eventually became an Alcor member, but switched to the CryoCare Foundation in the 1990s and, after this organization became inactive, finally joined the Cryonics Institute, where he is now cared for.

It was at the Cryonics Institute where I met Curtis in person a number of times. He seemed quite eager to see me and said that Mike Darwin had spoken highly of me. Curtis believed that it is important for young cryonics activists to learn from history and to that purpose he took me to his car and gave me a number of bound copies of Cryonics Reports. I persuaded him to sign these volumes. Curtis complied but could not understand why and said: *"You should go to Saul, he was the one doing all this."*

Communicating with Curtis required patience and understanding. Years ago Curtis had suffered a stroke and was painfully self-conscious of its effects. I have reflected quite often on my encounters with Curtis and the fragility of human life. Curtis was still quite fortunate in having suffered relatively mild injury to the brain and having recovered as a self-aware person with a lot of memories. Not all cryonicists have been this fortunate, and in some cases, it cost them their lives.

We live a lot longer today but this has also increased the chance of personality-destroying brain diseases and insults. I think it is about time that we not only advocate cryonics for those who are written off by contemporary medicine, but also advocate that people should have the liberty to specify that they want to be stabilized through the use of low temperatures in case of extreme brain insults and progressive dementia. This was not necessary in the case of Curtis, but I think that he would have welcomed this use of cryonics in the fight against the debilitating effects of aging. ■

John literally scours the earth in his search for intracellular junk-digesting microbes.

MEMBER PROFILE:

JOHN SCHLOENDORN

By Chana de Wolf

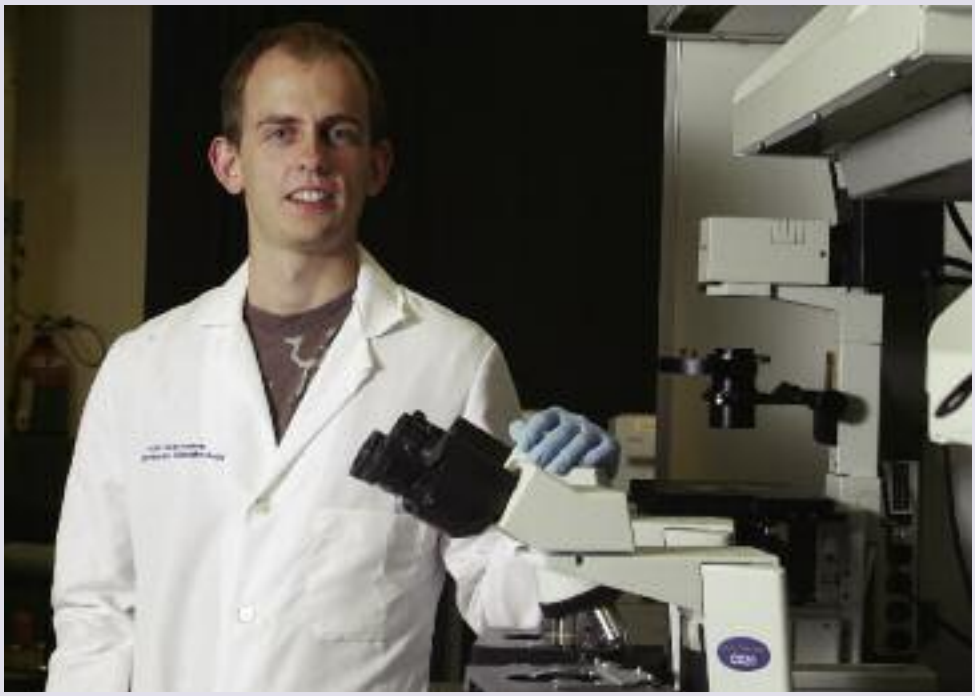
Cryonics is only necessary because we currently suffer from the plague of death. Alleviating humans from suffering the ailments of aging and death altogether is our ultimate goal, and John Scholendorn is on the job.

Expressing a precocious interest in avoiding death, John first learned about cryonics by researching how to live forever on the Internet when he was very young. He says, "Cryonics was, of course, one of the first things that came up. Even then, without any science background, I very much had the immortalist mentality – no matter what the chances of this working are, as long as they're greater than zero, I obviously need to take it." And take it he has. However, he's not ready to bet the farm on cryonics when he can try to prevent the need for cryonics in the first place. In fact, John would like to "put cryonics out of business by helping to solve death in another way." His life has been dedicated to this goal for several years now, first really beginning when John attended Aubrey de Grey's second annual Strategies for Engineered Negligible Senescence (SENS) conference in Cambridge, England, in 2005.

At this meeting, discussion among Dr. de Grey and several other scientists involved in life extension research centered on putting together the research teams to tackle Dr. de Grey's seven proposed mechanisms of aging – particularly, the LysoSENS research team, which would be tasked with disovering microbes capable of dissolving intracellular junk. John, who had just finished his master's work in biochemistry, participated in these discussions and was happy to accept an opportunity to obtain his Ph.D. in molecular biology from the Biodesign Institute at Arizona State University in preparation for leading the LysoSENS team.

"I spent the past 3.5 years in Tempe, AZ, getting a Ph.D.... I like the way the education at Biodesign emphasizes 'design' applications, i.e. goal-oriented intervention in biology, as opposed to the mere knowledge production engine that most science is."

John's thesis research was funded by SENS Foundation and focused on dissolving intracellular junk molecules. "I discovered a panel of enyzmes that may one day be used to dissolve cholesterol plaques in arteries, and a second panel that dissolve lipofuscin, a different junk molecule that accumulates in macular degeneration. SENS Foundation, Arizona State University, and a new collaborator at Columbia are now working to develop these enzymes into new first-in-class junk dissolving biotechnology therapeutics." Since



John at BIL conference 2008.

John is a happy-go-lucky guy on a very serious mission to circumvent the need for cryonics altogether by annihilating death.

mainstream researchers now seem to be "getting it," John is excited about the potential for pushing aging therapies such as his forward more easily by passing off their further development to these researchers.

Most recently, John has taken this strategy to the next level with a new non-profit called Livly. Livly focuses on enabling other immortalists to start their own projects by making used lab equipment available to interested individuals with ideas for potentially ultra-high impact life extension projects." Did you have a new idea for how to cure cancer in the bath tub, but don't have the $100,000 to get a biolab started?," John asks. "Just come over and use Livly's gear. Human cell culture, immunology, synthetic biology – we have it all. You will remain in full control of the project and your intellectual property; all we want is to help you save everybody's lives."

John joined Alcor in May 2007. He knew he wanted to become a member for a long time but says he needed to understand the financing before he decided to sign up. "The cost quoted on the website seemed so high that cryonics always seemed like a remote dream that I might be able to afford at the end of my life or maybe never."

But then he found out about financing his cryonics arrangements through life insurance. John felt like he was winning the lottery when he found this out. As soon as he realized he could afford his arrangements now, he signed up immediately. John tells this funny anecdote to illustrate how amazing this revelation seemed to him at the time:

"When I was very little, maybe 5 years of age, I learned about insurance. I thought insurance actually protects you – fire insurance makes sure your house can never burn, theft insurance makes sure nobody can ever steal from you, etc. So then I heard about life insurance. Great! Problem solved! When I grow up I'll get that to protect me from death. Mission accomplished! I proudly told my parents about this plan. They explained to me that insurance didn't quite work that way. I was devastated. Now what? Decades later, when I met cryonics life-insurance agent Rudi Hoffman at a conference, I finally discovered that my parents had been wrong this one time. When used for cryonics, life insurance actually might just save your life directly."

But, like every cryonicist, John does have his concerns about the challenges facing cryonics and how they might be solved. First, he questions how stable cryonics organizations can be over the long run in times of technology-driven change or other, unforeseen changes the future may hold. He also wonders how much time between post-legal death and suspension is acceptable without causing unacceptable loss of personal information in the brain, and whether cryonics as practiced today actually preserves enough information to reconstruct a patient's personality. Lastly, he wonders what we would do if cryonics suddenly became wildly popular and 100 million people showed up and demanded preservation arrangements. These are all questions that cryonics and cryonicists have struggled with over the years, and there are no easy answers. But John quickly points out that cryonics questions can actually be addressed by research, and, of course, strongly supports research efforts in the field.

John and other young cryonicists show their appreciation for resveratrol-containing red wine at the Teens and Twenties cryonics conference hosted by the Life Extension Foundation. (From left: Michael Maier, John Schloendorn, Chana de Wolf, and Michael Smith.)

John says that his cryonics plans have not impacted his lifestyle so far, simply because his lifestyle explicitly incorporates plans for longevity. John feels that he's too young to die and hopes to survive in another way via technologies such as stem cell therapy or uploading. However, he acknowledges that accidents happen and he doesn't necessarily know the best way to handle that possibility. "...it does pose problems for making sure that I die in a way that allows the most efficient suspension," he says. "Right now I'm more or less ignoring this problem, and that's not good." He does wear his Alcor bracelet, though, and his social network consists of other cryonicists. To further improve their chances in case of an emergency, John and his friends also interact regularly with Alcor readiness and response teams and attend training sessions when possible.

Obviously, these days most of John's friends are also cryonicists or life extensionsts with no qualms about his cryonics arrangements. "Most of my friends love it," he claims. "The immortalist community is large and growing fast." In fact, it has grown so fast that John socializes almost exclusively with those who share his vision. "Even though it is very pleasant, I can't afford interacting too much with people who don't share the goal – my life is at stake, after all!" John explains. "I need the synergy of being around fellow immortalists."

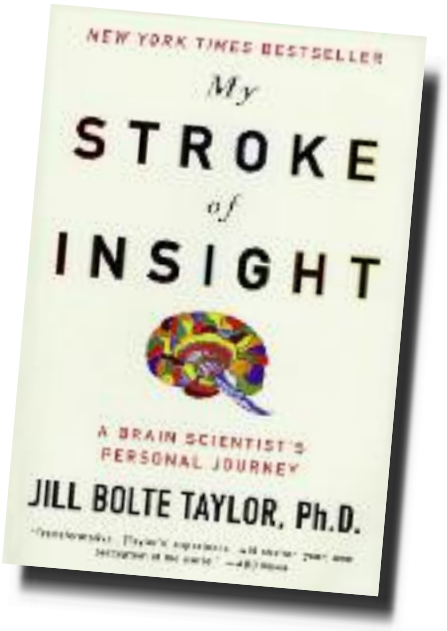
And synergy he has found. Being an aging researcher intimately involved in the community, John meets other Alcor members, immortalists, and life extensiontists all the time. In fact, he says that almost everyone he knows wants to live forever very badly, and is signed up or has plans to sign up.

Where John grew up, in Germany, he could relate to people in terms of personal style and had many friends there. But, John laments, "it was always hard to find a way to experience true personally meaningful interaction with people who wish for me and themselves to die." Since John has been around other immortalists in Arizona and California, he has finally discovered what it means to connect with people on this level, and he highly recommends it. "If there are really people reading this who have never met other Alcor members," John proclaims, "I have only one piece of advice – try it!" ■

My STROKE *of* INSIGHT

Author: Jill Bolte Taylor *[New York: Plume (Penguin), 2009]*

BOOK REVIEW BY MIKE PERRY



My Stroke of Insight is a brain scientist's first-hand account of what it was like for her left brain hemisphere to be disabled by a rare form of stroke that left most of the affected cells intact but nonfunctional. The left hemisphere normally handles analytical tasks such as speech comprehension and mathematical reasoning, while the right hemisphere handles intuitive tasks such as nonverbal communication and artistic expression. At first the problem for the author was recognizing the seriousness of her rapidly worsening situation and summoning help while she still able. She was living alone, and several harrowing pages are devoted to the difficulties of calling someone when you can barely speak or comprehend what a telephone number is. Eventually she experienced a complete functional recovery, even training surviving neurons to perform tasks such as arithmetic calculations for which the original neurons had been destroyed.

What was it like, then, when the left brain hemisphere was disabled? According to Ms. Taylor, not bad. She could not speak or understand speech and (it happened) was also paralyzed, yet still somehow felt fine. "I knew that I was different now—but never once did my right mind indicate that I was 'less than' what I had been before. I was simply a being of light radiating life into the world.…In the absence of my left hemisphere's negative judgment, I perceived myself as perfect, whole, and beautiful just the way I was."

The road back to normalcy by comparison was painful and difficult. The stroke produced a massive blood clot which, when removed, relieved pressure on the left hemisphere and permitted gradual recovery of function, but much effort was required to complete the process. It is interesting that the author's self-stated motive for taking this painful path, rather than remain in a blissful state of impairment, was to send a message to the world. "… I became excited about what a difference my recovery could make in the lives of others—not just those who were recovering from a brain trauma, but everyone with a brain!" Thus one did not need to be impaired to experience the benefits of right-brain thinking. The author in fact argues that a lasting improvement resulted from the stroke, and that she can assist others to a better state who do not undergo trauma. Actually her claim is stronger, and problematic for immortalists: that she—her old self—"died" with the stroke and a new, albeit better person emerged, even though memories from the earlier time in some degree survived. It is significant that the choice to pursue the path of recovery was made out of a sense of obligation or altruism rather than perceived personal benefit.

At this point it occurs that the idea and claimed benefits of right-brain thinking have already been long advocated and indeed antedate our modern understanding of the brain. Blissful states of detachment—nirvana, moksha, or kensho—seem clearly to correspond to right-brain dominance. By appearance we see a pervasive attitude: the "self" (left brain-centered) is a burden one wishes to escape while still in some sense continuing to exist. I am left with the thought that it is possible to see both brain hemispheres in a positive light, as essential, complementary parts of a valued self. It may be uncommon that people strongly feel this way, though, and it may in part account for the scarcity of those who choose cryonics.

In any case the reader will be intrigued by this first-hand account of one person's encounter with a debilitating mental disorder and her brave and successful struggle to reinvent herself and come back stronger than ever, even if perhaps the original person did not survive. As a sideline the book also encourages postmortem donations to the Harvard Brain Bank which reportedly is confronting a shortage of tissue for research. Unfortunately this would not fit the plans of a cryonicist, and it does point up the conflicts if you take seriously the idea that true death and clinical death are not the same. ■

About the Author

Jill Bolte Taylor, Ph.D., is a neuroanatomist affiliated with the Midwest Proton Radiotherapy Institute in Bloomington, Indiana. She is the national spokesperson for the Harvard Brain Tissue Resource Center (Brain Bank) and one of Time magazine's 100 Most Influential People in the World, 2008. For more information please visit www.drjilltaylor.com and www.mystrokeofinsight.com. (Source: *My Stroke of Insight*, front matter.)

Alcor Membership Dues 2010 Increase

One of the primary ways our members support the organization is through the payment of membership dues. Alcor charges membership dues to support the advancement of its programs and to help defray the costs of equipment and supplies, administrative expenses, professional services, and other similar expenses. Alcor's last dues increase was eight years ago, in 2002. Since then, the CPI-U (a frequently cited measure of inflation) has increased by nearly 20%. Alcor's expense budget has accommodated this significant increase in general cost levels without any corresponding increase in revenue from member dues.

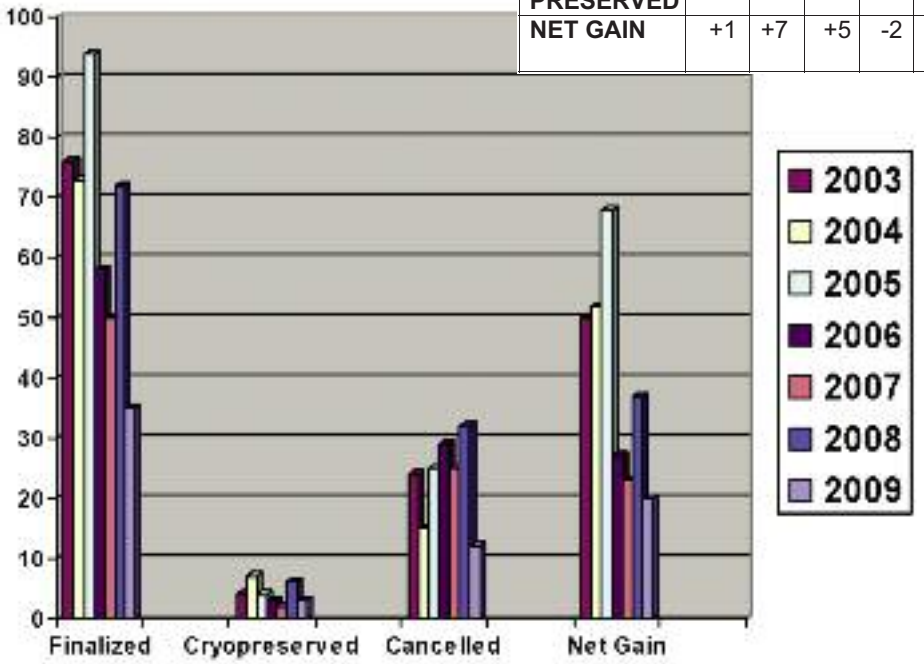
In light of this, and considering the need to address Alcor's current operating budget deficit, the Alcor board of directors approved a 20% dues increase effective January 2010. Comprehensive Member Standby charges and Life Member dues remain unchanged.

The updated fee schedule which will apply as of January 2010 can be viewed on the Alcor website here:

http://alcor.org/BecomeMember/scheduleA.html

Membership Statistics

2009	01	02	03	04	05	06	07	08	09	10	11	12	
TOTAL	876	883	888	886	891	893	895						895
FINALIZED	3	11	8	0	4	3	3						32
REINSTATED	1	0	0	0	2	0	0						3
CANCELLED	3	3	3	2	1	0	0						12
CRYO-PRESERVED	0	1	0	0	0	1	1						3
NET GAIN	+1	+7	+5	-2	+5	+2	+2						+20



On July 28, 2009, Alcor had 895 members on its Emergency Responsibility List. During the first seven months of 2009 32 memberships were approved, 3 memberships were reinstated, 12 memberships were cancelled and 3 members were cryopreserved. Overall, there was a net gain of 20 members for the year of 2009 to date.

Alzheimer's Symptoms Reversed in Mice

A human growth factor that stimulates blood stem cells to proliferate in the bone marrow reverses memory impairment in mice genetically altered to develop Alzheimer's disease, researchers at the University of South Florida and James A. Haley Hospital found. The granulocyte-colony stimulating factor (GCSF) significantly reduced levels of the brain-clogging protein beta amyloid deposited in excess in the brains of the Alzheimer's mice, increased the production of new neurons and promoted nerve cell connections. The findings are reported online in *Neuroscience* and were scheduled to appear in the journal's print edition in August. GCSF is a blood stem cell growth factor or hormone routinely administered to cancer patients whose blood stem cells and white blood cells have been depleted following chemotherapy or radiation. Advanced clinical trials are now investigating the effectiveness of GCSF to treat stroke, and the compound was safe and well tolerated in early clinical studies of ischemic stroke patients. "GCSF has been used and studied clinically for a long time, but we're the first group to apply it to Alzheimer's disease," said USF neuroscientist Juan Sanchez-Ramos, MD, PhD, the study's lead author.

ScienceDaily
7/2/09
http://www.sciencedaily.com/releases/009/07/090701160557.htm

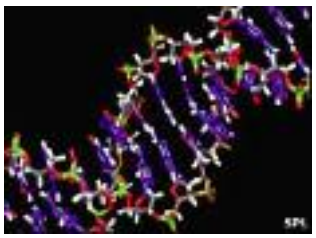
Researchers Grow New Teeth in Mice

According to study recently published online in the journal Proceedings of the National Academy of Sciences, a group of Japanese scientists have successfully grown a fully functional tooth in an adult mouse using specially engineered stem cells taken from a mouse embryo. To grow the new tooth, the research team, led by Etsuko Ikeda and Ritsuko Morita of the Tokyo University of Science, sought to recreate the processes that occur while an animal is undergoing normal embryonic development. The new tooth, therefore, grew after a biologically engineered "tooth germ"—a group of seed-like stem cells loaded with all the necessary information to eventually form a mature tooth—was implanted into a bony hole in the upper jawbone of an adult mouse following the removal of a regular molar. After about five weeks, the new tooth emerged from the gums of the adult mouse and eventually grew to the "plane of occlusion" with the opposing molars, creating a perfect interlocking bite with the teeth below. The scientists found that the replacement teeth were equal in hardness to and had the same structure of regular teeth—including enamel, dental pulp and blood vessels. Additionally, neural fibers from the "host" animal eventually re-entered the pulp and periodontal ligaments of the new tooth.

Miller-McCune
8/10/09
http://www.miller-mccune.com/mice/nice-crop-of-teeth-1417

DNA "Organizes Itself" on Silicon

Researchers reporting in *Nature Nanotechnology* have now shown how to get engineered "DNA origami" to self-organize on silicon. The origami can be designed to serve as a scaffold for electronic components just six nanometers (nm) apart, making these DNA-bound circuit components smaller and thus faster than can currently be produced. Several research groups have shown that DNA itself can be used to store or manipulate data, and the juggling of DNA in a test tube or within bacteria has been shown to solve simple computational tasks. The current method, by contrast, leverages the ability to design DNA strands into regular shapes such as triangles. The computer industry would like to make use of next-generation materials with favorable electronic properties such as carbon nanotubes or nanowires. Such structures are tiny and difficult to manipulate, but the chemical groups hanging off of DNA molecules could be used as anchor points for them. "The combination of this directed self-assembly with today's fabrication technology eventually could lead to substantial savings in the most expensive and challenging part of the chip-making process," said Spike Narayan, a science and technology manager at IBM's Almaden research centre.



DNA offers many anchor points for tiny circuit components.

BBC News
8/17/09
http://news.bbc.co.uk/2/hi/technology/8204906.stm

Special Stem Cells Build "Biological Bypass"

U.S. researchers have identified stem cells that are able to grow new coronary arteries, a finding that could lead to new ways to treat atherosclerosis. "We have defined this novel class of primitive cells and named them coronary vascular progenitor cells [CVPCs]. These cells possess all of the fundamental properties of stem cells and are distributed within niches located in the vessel wall of the entire human coronary circulation system," Dr. Piero Anversa, of Brigham and Women's Hospital in Boston, said in a hospital news release. To test the activity of these cells, the scientists created a blockage in a coronary artery in dogs and injected human CVPCs in the blocked artery. After one month, the dogs showed improvements in blood flow and heart functioning. The researchers found that the dogs had grown large, intermediate and small human coronary arteries. The findings suggest that the human heart contains a reservoir of CVPCs that can be used to create a

biological bypass in patients with chronic coronary artery disease and ischemic cardiomyopathy, which results when arteries that supply blood and oxygen to the heart are blocked. The study is scheduled to appear in this week's online issue of the *Proceedings of the National Academy of Sciences.*

AJC.com
8/17/09
http://www.ajc.com/health/content/shared-auto/healthnews/cora/630096.html

Single Molecule's Stunning Image

The detailed chemical structure of a single molecule has been imaged for the first time, say researchers. The physical shape of single carbon nanotubes has been outlined before, using similar techniques—but the new method even shows up chemical bonds. Understanding structure on this scale could help in the design of many things on the molecular scale, particularly electronics or even drugs. The IBM researchers report their findings in the journal *Science*. It is the same group that in July reported the feat of measuring the charge on a single atom. In both cases, a team from IBM Research Zurich used an atomic force microscope or AFM. Their version of the device acts like a tiny tuning fork, with one of the prongs passing incredibly close to the sample and the other farther away. When the fork is set vibrating, the prong nearest the sample will experience a minuscule shift in the frequency of its vibration. Comparing the frequencies gives a measure of just how close the nearer prong is, effectively mapping out the molecule's structure. Lead author of the research Leo Gross told BBC News that the group is aiming to combine their ability to measure individual charges with the new technique, characterizing molecules at a truly unprecedented level of detail.

Atomic force microscope (SPL).

BBC News
8/28/09
http://news.bbc.co.uk/2/hi/science/nature/8225491.stm

How Broccoli Can Protect Your Arteries

It's long been thought that broccoli is good for your heart, and now British scientists think they know why. Farm workers of the D'Arrigo Brothers Company harvest broccoli in Salinas Valley, often called the "Salad Bowl of the World," in the central coast region of California. Researchers at Imperial College London have found evidence a chemical in broccoli and other green leafy vegetables could boost a natural defense mechanism that protects arteries from the clogging that can cause heart attacks. In a study funded by the British Heart Foundation charity and conducted on mice, the researchers found that sulforaphane—a compound occurring naturally in broccoli and other brassicas—could "switch on" a protective protein which is inactive in parts of the arteries vulnerable to clogging. "We know that vegetables are clearly good for you, but surprisingly the molecular mechanisms of why they are good for you have remained unknown for many years," said Paul Evans of the National Heart and Lung Institute at Imperial College. "This study provides a possible explanation for how green vegetable consumption can promote a healthy heart."

Reuters
9/4/09
http://www.reuters.com/article/scienceNews/idUSTRE5833ZZ20090904

Insulin Boost Restores Muscle Growth in Elderly

Recently, scientists have recognized that loss of responsiveness to insulin plays a major role in the loss of physical strength that occurs as people grow older. Now, University of Texas Medical Branch at Galveston researchers have demonstrated that by increasing insulin levels above the normal range in elderly test subjects, they can restore the impaired muscle-building process responsible for age-related physical weakness. "Insulin is normally secreted during food intake," said Dr. Elena Volpi, senior author of a paper on the study published in the September issue of *Diabetologia*. "When you give insulin intravenously and increase the blood insulin levels to the same amount produced after a meal, you see that in young people it stimulates protein synthesis and muscle growth, while in older people it really doesn't. But when we gave seniors double the insulin they would normally produce after eating, their muscles were stimulated like those of young people."

ScienceDaily
9/27/09
http://www.sciencedaily.com/releases/2009/09/090925115457.htm

A Genetic Fountain of Youth

By disabling a gene involved in an important biochemical signaling pathway, scientists have discovered a way to mimic the well-known anti-aging benefits of caloric restriction, allowing mice to live longer and healthier lives. This finding, published online Oct. 1 in *Science*, offers a promising drug target for combating the many health problems associated with aging. "This research points the way to potential pharmacological approaches to treating aging-related diseases in humans," says senior author Dominic Withers, professor of diabetes and endocrinology at University College London. "It really defines this as a pathway that's affecting aging all the way from yeast to mammals, which I think is pretty striking," says Matt Kaeberlein, professor of pathology at the University of Washington and coauthor of a commentary accompanying the new study. Caloric restriction has long been known to extend lifespan and reduce the incidence of age-related diseases in a wide variety of organisms. Exactly how a nutritionally complete but radically restricted diet achieves these benefits has remained unclear. But recently several studies have offered evidence that a particular signaling pathway, involving a protein called target of rapamycin (TOR), may play a pivotal role.

Technology Review (MIT)
10/1/09
http://www.technologyreview.com/biomedicine/23560/

"Ethical" Stem Cell Crop Boosted

US researchers have found a way to dramatically increase the harvest of stem cells from adult tissue. It is a practical step forward in techniques to produce large numbers of stem cells without using embryos. Using three drug-like chemicals, the team made the procedure 200 times more efficient and twice as fast, the *Nature Methods* journal reported. It is hoped stem cells could one day be widely used to repair damaged tissue in diseases and after injuries. Much of the work on stem cells has focused on those taken from embryos as they have an unlimited capacity to become any of the 220 types of cell in the human body—a so-called pluripotent state. This is the first example in human cells of how reprogramming speed can be accelerated. But this has proven controversial and some campaigners have objected to their use on the grounds that it is unethical to destroy embryos in the name of science. The creation of stem cells from human adult skin cells was first reported in 2007 by Japanese and US researchers, opening the way for new sources of stem cells. The latest research builds on that process by adding specific chemicals to improve the process. Study leader Professor Sheng Ding said they had manipulated a "fundamental" process in the cell.

BBC News
10/18/09
http://news.bbc.co.uk/2/hi/
health/8311055.stm

Tests Raise Life Extension Hopes

A drug discovered in the soil of a South Pacific island may help to fight the aging process, research suggests. When US scientists treated old mice with rapamycin it extended their expected lifespan by up to 38%. The findings, published in the journal Nature, raise the prospect of being able to slow down the ageing process in older people. However, a UK expert warned against using the drug to try to extend lifespan, as it can suppress immunity. Rapamycin was first discovered on Easter Island in the 1970s. It is already used to prevent organ rejection in transplant patients, and in stents implanted into patients to keep their coronary arteries open. Researchers at three centers in Texas, Michigan and Maine gave the drug to mice at an age equivalent to 60 in humans. The mice were bred to mimic the genetic diversity and susceptibility to disease of humans as closely as possible. Rapamycin extended the animals' expected lifespan by between 28% and 38%. Researcher Dr Arlan Richardson, of the Barshop Institute, San Antonio, Texas, said: "I never thought we would find an anti-ageing pill for people in my lifetime; however, rapamycin shows a great deal of promise to do just that."

BBC News
7/8/09
http://news.bbc.co.uk/2/hi/
health/8139816.stm

The 15-Minute Genome: Faster, Cheaper Sequencing on the Way

In the race for faster, cheaper ways to read human genomes, Pacific Biosciences is hoping to set a new benchmark with technology that watches DNA being copied in real time. The device is being developed to sequence DNA at speeds 20,000 times faster than second-generation sequencers currently on the market and will ultimately have a price tag of $100 per genome. Chief Technology Officer Stephen Turner of Pacific Biosciences will discuss Single Molecule Real-Time (SMRT) sequencing, due to be released commercially in 2010, at the 2009 Industrial Physics Forum, a component of the 51st Annual Meeting of American Association of Physicists in Medicine, which takes place from July 26—30 in Anaheim, California. A decade ago, it took Celera Genomics and the Human Genome Project years to sequence complete human genomes. In 2008, James Watson's entire genetic code was read by a new generation of technology in months. SMRT sequencing aims to eventually accomplish the same feat in minutes.

ScienceDaily
7/29/09
http://www.sciencedaily.com/releases/
2009/07/090727191912.htm

Call for Debate on Killer Robots

An international debate is needed on the use of autonomous military robots, a leading academic has said. Noel Sharkey of the University of Sheffield said that a push toward more robotic technology used in warfare would put civilian life at grave risk. Technology capable of distinguishing friend from foe reliably was at least 50 years away, he added. However, he said that for the first time, US forces mentioned resolving such ethical concerns in their plans. "Robots that can decide where to kill, who to kill and when to kill is high on all the military agendas," Professor Sharkey said at a meeting in London. "The problem is that this is all based on artificial intelligence, and the military have a strange view of artificial intelligence based on science fiction." Professor Sharkey, a professor of artificial intelligence and robotics, has long drawn attention to the psychological distance from the horrors of war that is maintained by operators who pilot unmanned aerial vehicles (UAVs), often from thousands of miles away.

BBC News
8/3/09
http://news.bbc.co.uk/2/hi/
technology/8182003.stm

Groundbreaking Treatment for Oxygen-Deprived Newborns

Until now immediate cooling of the newborn infant was the only treatment that could possibly prevent brain damage following oxygen deprivation during delivery. New research findings from the Sahlgrenska Academy at the University of Gothenburg and Sahlgrenska University Hospital, Sweden, in collaboration with Zhengzhou University in China, open up the possibility of a new and effective treatment that can be started as late as two days after birth. The new treatment involves newborn infants being given a two-week course of injections of erythropoietin, a hormone that stimulates the formation of red blood cells. "For the first time we can demonstrate that it is possible to influence the brain damage occurring as a result of oxygen deprivation during delivery considerably later than the six-hour window of opportunity for treating with cooling," says Klas Blomgren, professor of pediatrics at the Sahlgrenska Academy and specialist at Queen Silvia Children's Hospital.

ScienceDaily
8/16/09
http://www.sciencedaily.com/releases/
2009/08/090811144000.htm

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, and the Patient Care Bay is personally monitored 24 hours a day.

ARIZONA

Scottsdale:
This group meets the third Friday of each month and gatherings are hosted at a home near Alcor. To RSVP, visit http://cryonics.meetup.com/45/.

At Alcor:
Alcor Board of Directors Meetings and Facility Tours – Alcor business meetings are generally held on the first Saturday of every month starting at 11:00 AM MST. Guests are welcome. Facility tours are held every Tuesday and Friday at 2:00 PM. For more information or to schedule a tour, call D'Bora Tarrant at (877) 462-5267 x 101 or email dbora@alcor.org.

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 Mark Galeck at (408) 245-4928 or email Mark_galeck@pacbell.net.

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!

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!

OREGON

Portland:
Cryonics Oregon holds regular meetings every 2-3 months for members of cryonics organizations living in Portland and the surrounding areas. For information, please contact Chana de Wolf at chana.de.wolf@gmail.com or (503) 756-0864.

A Yahoo group is also maintained for cryonics activities in the Pacific Northwest at http://tech.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.

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.

NEW ENGLAND

Cambridge:
The New England regional group strives to meet monthly in Cambridge, MA – for information or to be added to the AlcorNE mailing list, please contact Bret Kulakovich at 617-824-8982, alcor@bonfireproductions.com, or on FACEBOOK via the Cryonics Special Interest Group.

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 Alan Sinclair at cryoservices@yahoo.co.uk. See the web site at www.alcor-uk.org.

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 is one of the best sources of detailed introductory information about Alcor and cryopreservation (www.alcor.org). We also invite you to request our **FREE** information package on the "Free Information" section of our website. It includes:

- 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, other forms of prepayment are 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.

Call toll-free today to start your application:

877-462-5267 ext. 132
info@alcor.org
www.alcor.org

ALCOR
LIFE EXTENSION FOUNDATION
SINCE 1972

Will You Be Alive and Healthy 10...20...30 Years from now?

Your best chance at achieving future immortality is to protect your precious health now so you can benefit from future medical breakthroughs. Staying informed about the latest health discoveries can mean the difference between life and premature death.

And the **Life Extension Foundation** can be 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.

Join today and you'll receive these life-prolonging benefits:

- **A subscription to *Life Extension* magazine** ($59.88 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**, including naturopathic doctors, nutritionists, and a cancer expert, 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.

FREE BONUS!

- ***Disease Prevention and Treatment* book** ($49.95 cover price) ...this hardbound fourth edition provides novel information on complementary therapies for 133 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 vitrification and gene-chip research. Your $75 membership fee helps support scientific projects that could literally save your life.

Call 1-866-820-4967 today.

LIVE Healthier & Longer

LifeExtension™ FOUNDATION

Join today. Call toll-free 1-866-820-4967. Or visit www.lef.org/pim