

ALCOR LIFE EXTENSION FOUNDATION

CRYONICS

1ST QUARTER 2009 · VOLUME 30:1

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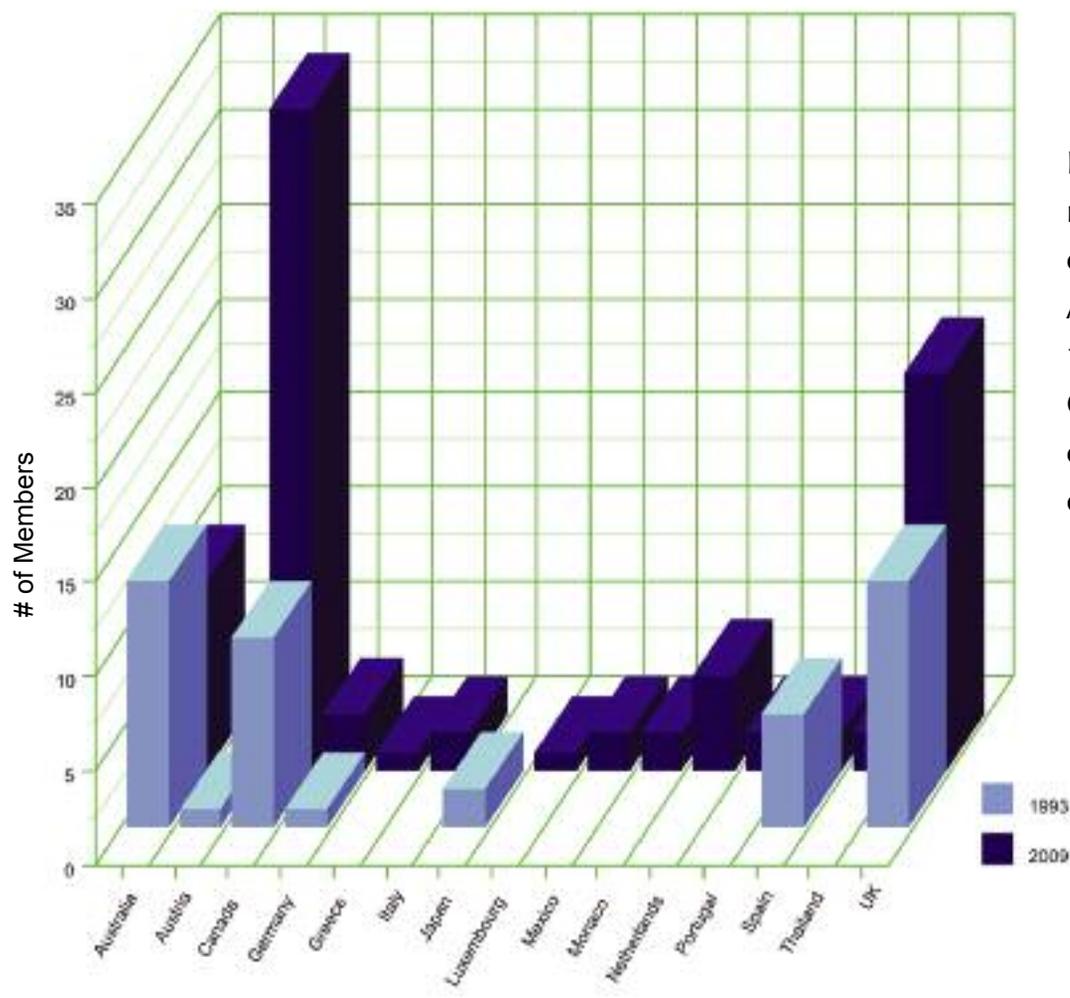
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INTERNATIONAL



In 1993, Alcor had 46 members in 7 non-US countries. In March 2009, Alcor has 88 members in 13 non-US countries. Close to 10% of Alcor's current membership lives outside the United States.

CRYONICS

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The appeal of cryonics is international and people around the world have been spreading the message and creating national groups. This issue features profiles of the state of cryonics in four different countries: Portugal, Germany (p14), Russia (p16), and Finland (p19). In the case of Russia, we are glad to report the establishment of a new cryonics service provider.

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Editor

Aschwin de Wolf

Art Director

Jill Grasse

Contributing Writers

R. Michael Perry, Ph.D.

Chana de Wolf

Nuno R. B. Martins

Aaron Drake

Marcus Beyer

Valerija Pride

Danila Medvedev

Antti Peltonen

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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

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Visit us on the web at www.alcor.org

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The appeal of science is universal and the quest to conquer aging and delay death is not confined to national borders. Since Robert Ettinger introduced cryonics to the general public in the 1960s the idea of using low temperatures to stabilize critically ill patients in anticipation of future medical advances has gained supporters all over the world. At some point during its existence Alcor even had a separate facility in the United Kingdom. This facility no longer exists but, as can be read in Valerija Pride and Danila Medvedev's article, since 2005 there has been a focused effort to establish independent cryonics capabilities and storage in Russia. This issue of *Cryonics* includes a number of articles about cryonics organizations in other parts of the world. Let us hope that at some point in the future these activities will be coordinated to facilitate improved communication and advances in the delivery of cryonics services.

It is hard to overestimate the challenges of delivering cryonics services in another continent. With the exception of clients of KrioRus, the quality of cryonics care is highly dependent on the ability of local cryonicists to rapidly stabilize the patient after pronouncement of legal death and prompt, but safe, shipping to the United States. These challenges do not just involve basic knowledge of cryonics procedures, but also up-to-date knowledge of regulations involving dead bodies and transport. Even if these issues are properly addressed there is still an inevitable delay between pronouncement of legal death and arrival of the patient at Alcor. As a general rule, if the patient is cooled down rapidly, and transport time is minimized, cryopreservation with a vitrification solution may be feasible.

The Alcor Board of Directors has made the production of timely and detailed case reports an important priority. There are a number of reasons why the writing and publication of case reports is key to a credible cryonics organization. Most importantly, it confers transparency on a cryonics organization. We want members and the general public to know that Alcor is serious about delivering the best care we can offer. Secondly, these reports are essential in improving our procedures and learning from our mistakes. Last but not least, case reports could be instrumental for the resuscitation of individual patients. This issue of the magazine features the first case report by Alcor's new transport coordinator Aaron Drake. Incidentally, this report involves a case in the United Kingdom which highlights both the complications of last minute cases and overseas transport.

During the last couple of years, there have been renewed debates about the desirability of more member involvement in Alcor's formal decision making. Members and Directors do not always agree on what would be the best organizational structure for our survival, but all parties agree that Alcor benefits from a motivated and visible Board of Directors. The following two issues will feature member profiles of the most recent additions to the Alcor Board of Directors. We start off with Alcor Director James Clement who has demonstrated a long time commitment to the science and practice of cryonics. We wish James well in the formidable challenge to secure the survival of our organization and the needs of our members.

Alcor Portugal

By Nuno R. B. Martins



I offered myself to be a part-time volunteer for Alcor in July 2008. I started my work as a volunteer in the Alcor facility in Scottsdale in October 2008. I soon realized that the most important project (at least for me and for those living in Portugal) was to improve Alcor's capacity to perform standby, stabilization and transport in Portugal.

Several problems can happen when trying to help an Alcor member that is pronounced dead in Portugal. Problems can occur in accessing the body, in the stabilization process, and in transport of the patient to the Alcor facilities in Scottsdale. Alcor-Portugal intends to help Alcor deal with these problems. The main goals of Alcor-Portugal are:

- To help Alcor in the process of standby, stabilization and transport of Alcor members that are pronounced dead in Portugal.
- To establish (create, maintain and coordinate) a local intervention team in Portugal.
- To be an information source for the participants of the process of stabilization and transport (local team of Alcor-Portugal, Alcor staff, physicians, mortuaries, and others). Our website is also an information source (in English) for the Alcor staff. All our website pages are translated to English.
- To increase the number of Alcor members in Portugal. For that purpose we provide information in Portuguese on our website and we help prospective members in the process of becoming members.

- To advertise Alcor and cryonics to all Portuguese and Portuguese-speaking people, thus helping those who are not able to contact Alcor directly.
- To inform and make a connection between future Portuguese members and Alcor.
- To keep Portuguese Alcor members in touch so they can help each other.

I started the project Alcor-Portugal with my brother Diogo Martins and my friend Rui Freitas. We started by creating a website: www.cryonics.com.pt, with all pages written in English and Portuguese to centralize all the information. We started also doing regular meetings every Saturday to evaluate previous work and to plan future work.

After some meetings with only the three of us, we started having more people involved. The group has currently seven members that attend the regular meetings. There is a lot of work to do, so if you want to help, we would be glad to hear from you. Regardless of your background or language your help would be very useful.

(From left to right in photo)

Diogo Martins is a Software Engineering currently finishing a Master's in Informatics. His main interests are new technologies, life extension, cryonics, biology, mathematics, photography and sports.

Rui Freitas is a Software Engineer currently finishing a Master's in Informatics and is mainly interested in technology, life extension, cryonics, physics, sports, photography, & cinema.

Nuno Martins is currently pursuing a PhD and is interested in life extension, cryonics, nanotechnology, neuroscience, and computing systems.

We are also planning to organize a conference about cryonics, together with crionica.org from Spain. The goal will be to find cooperative hospitals and mortuaries, and to try to convince them helping us dealing with the standby, stabilization, and transport process.

To create this project we didn't have any reference guide. We were able to start and move forward with this project because we had the help of many amazing Alcor-related people. We are thus very grateful to: Robert Freitas, Tanya Jones, James Clement, Brian Wovk, Mike Perry, Hugh Hixon, Russel Cheney, and Regina Pancake. Many others are not mentioned but I want them to know that I'm very grateful.

How useful is this project for Alcor members that do not live in Portugal? Our website can be used as a guide for other worldwide groups that want to develop a similar project. We will be glad to provide help.

What is the benefit of creating Alcor-Portugal? The benefit is to have a better preservation for us and for the ones we love, once/if we need it. How much is that worth? ■



ALCOR CASE REPORT FOR PATIENT A2404

By Aaron Drake, NREMT-P, CCT, Alcor Transport Coordinator

Ivy Gladys Eyre, age 92, born on September, 28th, 1916, a retired cashier and widow of George William Eyre, from Plumstead, London, U.K., legally died on October 6th, 2008, of Myocardial Infarction secondary to Ischemic Heart Disease.

Due to the overseas location of this patient and the lengthy process to have this member's paperwork completed, there was a significant amount of time involved between legal death and bringing this patient to Alcor.

History

In late August of 2008, we were contacted by an existing member that his mother had experienced a minor heart attack the previous week and that there was a desire to have her signed up as a member of Alcor. A meeting was set up with the family's legal counsel to establish a Power of Attorney (POA) relationship between the son and mother. At this point his mother was recovering and out of bed and moving around. However, on Oct. 6th we were informed the mother had passed away suddenly and the intention was to have her shipped to Alcor on dry ice for neuropreservation once she was accepted as a member. Since the POA had not been completed prior to her death, the son needed the estate to be probated before he could obtain the financial resources to complete the cryopreservation arrangements.

During this time, instructions were given to immediately transfer his mother to a mortuary that could get her as cold as possible. (The son was advised to store his mother on dry ice, if possible, but that option was not pursued.) She was moved to F.A. Albin & Sons Funeral Home, (www.albins.co.uk), on the same day of her death at 1:30 pm, placed in

cold storage at -20 deg C, and maintained at that temperature until the membership arrangements could be completed. We continued to receive updates from the son until he received word on December 12th that the Probate had been finalized and he could now pay for the membership and complete Alcor's documents on behalf of his mother. Albin's indicated that it would cost approximately 8000 British Pounds to have her transported to the United States. Due to the excessive price quoted, the precarious nature of dry ice shipments, and a previously established relationship with Rowland Brothers International (www.rowlandbrothersinternational.co.uk), it was determined that it would be preferable to work with Rowlands. We would keep the patient at Albins until Alcor arrived with the shipping container and would then have her transferred to Rowlands to be prepared for shipment. In anticipation that this case would come to fruition, we began to prepare documents that contained instructions on dry ice shipping and container construction and forwarded these on to the mortuary.

The Alcor Board approved the membership with the waiver of the last-minute case fee at the January 3rd, 2009 board meeting.

On Jan 15th, 2009 we received the Alcor contracts from the son and the wire transfer of the cryopreservation funding was received on Feb 5th, 2009. This later date is significant as we were not able to complete any actions that incurred expenditures since pre-funding arrangements had not been established prior to death. Over the course of the next week, we began to establish primary and contingency plans for travel, shipping containers and local vendors to overcome a variety of unknown obstacles associated with overseas shipping, customs, international regulations, weight restrictions and specific dry ice shipping requirements.

After consulting with multiple airlines to determine their dry ice requirements, it was determined to use Continental Airlines. They had the best blend of dry ice allowance, flight times with appropriate connections and price. One important variable was the final weight needed to be less than 400 lbs in order to take a flight into Phoenix. This had to do with the size of the plane and weight restrictions. If the entire shipment would be in excess of 400 lbs, we would need to come as close to Phoenix as possible via a direct flight from Heathrow on a Wide-Body style of aircraft. It

was determined that if this occurred, we could fly to LA, where the Southern California team could meet us and help us transfer the shipment to a vehicle where we could travel the remaining distance by ground. Initially, we were only going to book the outbound leg of the journey since we did not know the return date. However we discovered that a round-trip fare was significantly cheaper than just a one-way ticket, even after incurring a change trip fee.

The shipping container that was identified for use was Alan Sinclair's dry ice shipper that he had constructed in the mid-'80s by British Oxygen. It was unknown if this case was still in sufficient shape for use given the age of the unit. The plan was to visit Alan's house upon arrival and check on the condition and potential viability of the box. If its general appearance indicated that it might be usable, it would be moved to Rowland Brothers to be tested. If neither of these conditions passed, the previously sent instructions would be used to construct a shipping box specific for our purpose and subsequent tests would be performed on this newly constructed unit. The testing criteria were predetermined by Brian Wovk and Hugh Hixon.

Primary and secondary dry ice suppliers were identified and lodging arrangements were made with proximity in mind. An email was sent out to all of our contacts in and around London for assistance in the form of transportation, additional sets of hands, and general availability. We were able to secure the assistance of Alcor-UK member Sebastian Smit¹ to help with transportation and provide a strong back. Alcor-UK member Theo Ibrahim also took photos of Alan's dry ice shipper and emailed them to us so we could remotely assess the unit's condition and viability.

Deployment

On Feb. 12th, 2009, Aaron Drake and Hugh Hixon dropped Regina Pancake off at the airport and she departed for Heathrow airport, London, England, UK. She was scheduled for a flight from Phoenix to connect in Newark, however a storm on the East Coast was causing extensive delays and she would probably miss her connecting flight. Instead, she was changed to a flight in Houston and then flew direct to Heathrow. Her flight arrived early morning at 7:00 am on Feb 13th and sufficient time was allotted to accommodate time to clear customs.

Sebastian Smit lives 170 miles north of London, and he traveled to Heathrow airport to pick up Regina and they traveled by private car down to the town of Croydon where the Rowland Brothers office was located. Regina met with one of the family owners, Tony Rowland, where they had a cup of tea and chatted about everything he knows about cryonics. They have the ability to accommodate just about every religion, faith and language. To them, cryonics was viewed as just another version. She received a tour of their facility that handled the transfer of human remains from around the world. Rowland Brothers International has been in operation since the late 1800s and will process some 60 to 70 individuals over the course of one week's time. This facility was only one of multiple locations. They then proceeded with coordinating the plans of the Alcor patient.

Sebastian and Regina traveled to the hotel and called Alan Sinclair to discuss his dry ice shipper. He assured Regina that the unit was more than sufficient to do the job, no dry ice tests would be needed to be performed at his home, and that we should just plan on picking it up and transporting it to Rowlands. Sebastian then traveled to Alan's home, around 50 miles away, and spent the night.

Case Work (UK)

On Saturday morning, Feb. 14th, Sebastian rounded up some neighborhood kids to help him move the dry ice shipper from Alan's shed and lift it into his van. He stated that it wasn't any worse than moving a 'fridge. By 10:00 am, he was back at the hotel to pick up Regina and deliver the unit to Rowland Brothers. Due to the size of the box, at Rowland Brothers they were unable to move the unit into the building as planned since there was a roll of sheet metal that blocked the rear loading area. Therefore, it was secured in the locked yard until Monday when the forklift operator could be there to assist. Normally this would not be an issue as most European coffins are quite small and their forklift was there only to accommodate American style coffins, which are significantly larger.

On Sunday, Eskimo Ice was contacted and an order of 120 kilograms of crushed dry ice was placed for delivery to Rowland Brothers between 8 and 9 am. This is the amount of dry ice we had been told the shipper could hold.

The process of obtaining all of the necessary documents for shipping out of the country was initiated by Rowland Brothers on

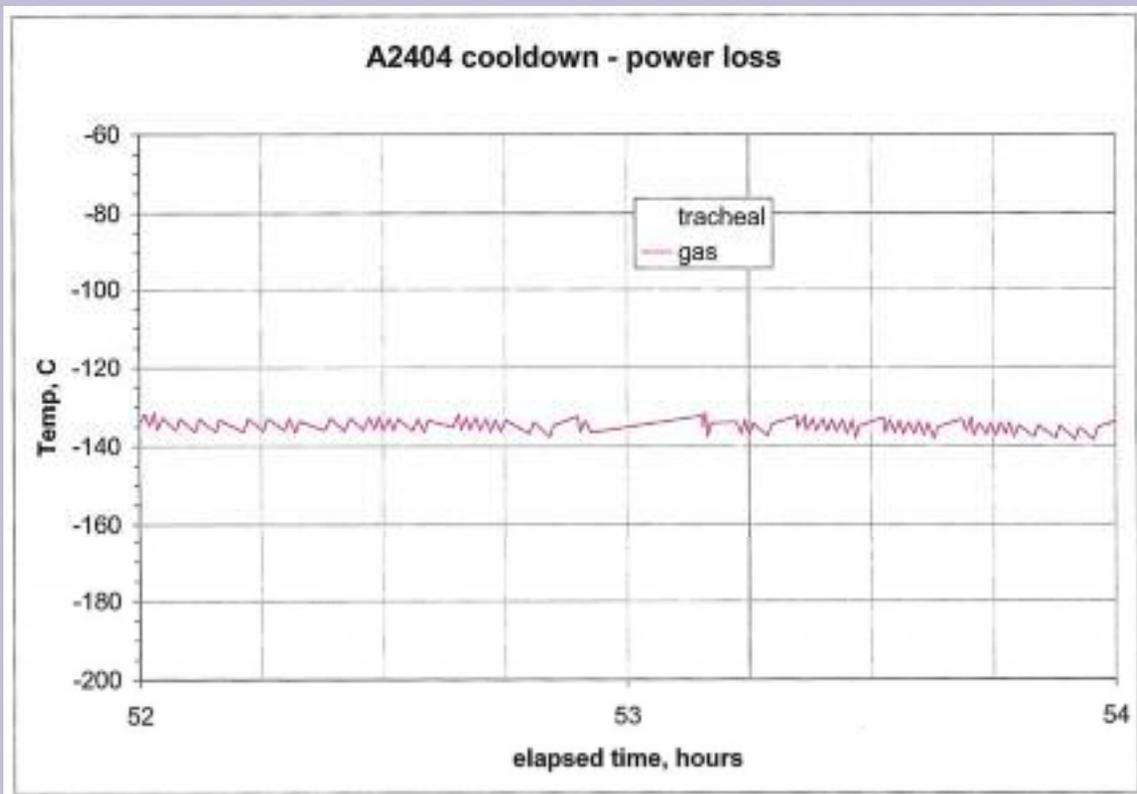
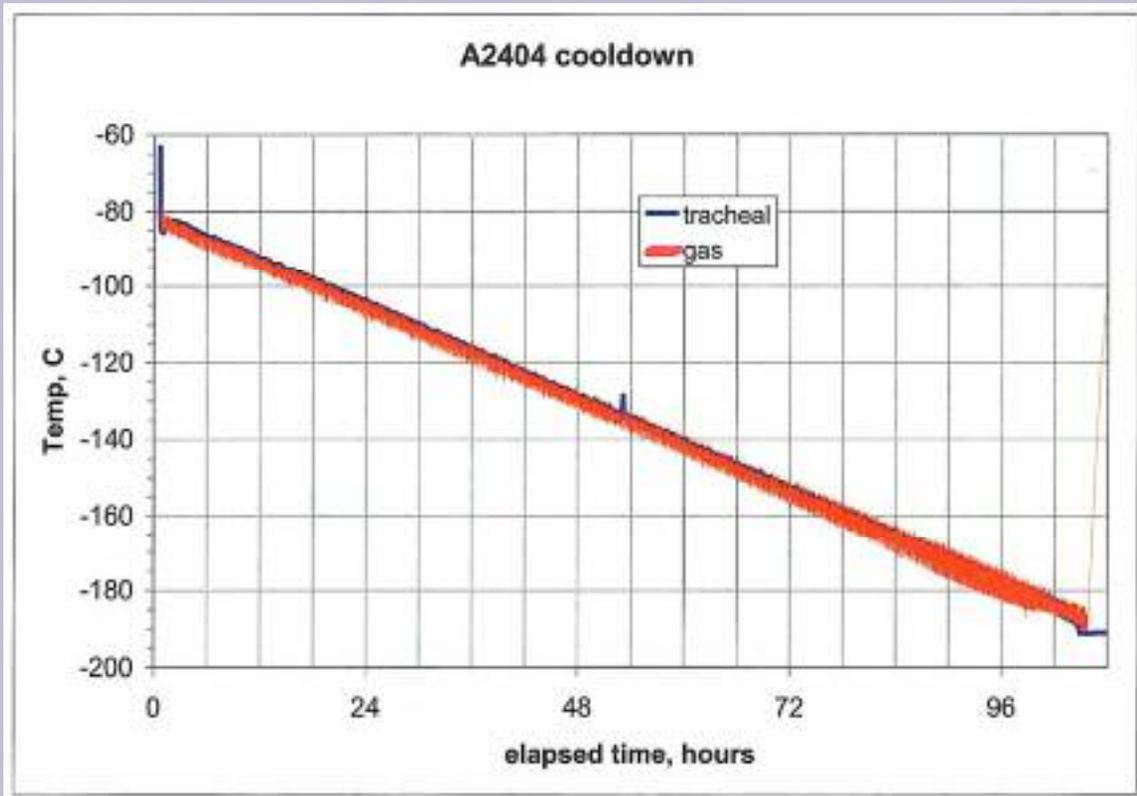
Monday, Feb 16th. This included a non-infectious disease form, death certificate, cause of death, date of death and finally a visit to the American Consulate to submit for transit. They felt confident that all of this would be completed by the time we were ready to ship. Another travel modification was made by Rowland Brothers. Due to their longstanding relationship with British Airways, they have an established process to expedite shipping handling and they preferred to use them. The shipment was booked by Rowland Brothers and Aaron rebooked Regina's flight to match the shipment. Continental Airlines was contacted and the remaining value of the ticket was converted into a credit for future use. The British Airways flight was cheaper in the form of a roundtrip ticket over that of a single one-way ticket. This also leaves us a credit to be used in the future from the return portion of the ticket.

The patient was also transferred from Albin & Sons to Rowland Brothers on Monday morning. The patient was placed into the Ziegler case which was inside the shipping container. All of the dry ice ordered was placed inside the Ziegler around the body, on the bottom, sides and partially covering the top. The level was marked to determine evaporation rates. There was still quite a bit of empty space inside the unit so we planned to add additional ice after an initial test to monitor how quickly the dry ice evaporated. Our goal was to ensure the dry ice would last the flight back to Alcor's facility. This required waiting until the patient's temperature had adequately descended. The test ran from 3:30 pm on Monday until 8:30 am on Tuesday. Upon examination, only a small amount of ice had evaporated from the top measurement. The most visible change occurred from the sides.

Regina's attempt to place a thermocouple in the patient's nose was unsuccessful, and since the patient is in a shroud, an insulated TC could not be put on her body to gauge the temperature descent either. It was estimated that an additional 30 kilograms of the dry ice had evaporated by Tuesday Feb 17th afternoon. Another order was placed for 100 kilograms, which was added at 4:45 pm. The priority was around the patient's head and the remainder was placed between the outside of the Ziegler case and the inside of the shipping case.

On Wednesday, Feb 18th the manner in which the additional dry ice was added was

¹Sebastian Smit is a pseudonym of a UK Alcor member.



determined to be incorrect as putting dry ice on the top of the Ziegler case caused the lid of the shipper to warp to the point where cold gas was leaving a trail of frost down the outside of the shipper. It was warped a bit before, but close contact with the dry ice caused the inner surface to really contract and bend the lid. It is important to avoid condensation, which could cause concern with the airlines. Regina then removed all of the dry ice she could get to that was in the shipper and placed it inside the Ziegler case, using the remaining air gap as an insulator. She also placed 1 1/2" of Styrofoam sheet between the top of the Ziegler case and the shipper lid, which should allow the lid to straighten out significantly. A 24-hour test to let the whole thing come to equilibrium was conducted to see what would happen.

By Thursday, almost all of the dry ice spots on the exterior of the case had disappeared and the unit was ready for shipment. Small pieces of cardboard were inserted along the seal to prevent excessive pressure buildup due to dry ice evaporation. These areas were then boldly marked with a stencil to satisfy any airline or customs officials. In advance of the flight, Rowland Brothers took the unit and all of the paperwork off to Heathrow airport to be placed into queue for Customs for Friday morning's flight.

Case Work (US)

Regina and A2404 left Heathrow on British Airways, Friday Feb. 20th bound for Phoenix Sky Harbor airport on a direct flight. In the morning, Rowland Brothers faxed a copy of all of the documents to Alcor that were traveling with the shipment. These were subsequently faxed to Steve Rude to begin processing so that the patient could be transported from the airport to Alcor. During the day, Aaron Drake met with Steve Rude to discuss the pickup and delivery plans and to obtain all of the required signatures. US Airways handles the cargo shipments for British Airways in Phoenix and we stopped in to their office for the customs form. This form was then taken to the Customs office for signature and stamp. Proper corporate identification was required of Aaron to receive the shipment. Throughout the day, continual checks were made with British Airways and it appeared that the flight would arrive about 45 minutes late. Aaron and a group from Rude Family Mortuary met at US Airways cargo building around 6:30 pm. The flight arrived at 8:10 pm. The shipping box

was the first item off of the plane. A large coffin van was brought to receive the shipment. It required two forklifts to maneuver the shipping unit into the back of van. Hugh Hixon was called at Alcor to let him know that we were on the way.

We arrived at the Alcor facility at 9:06 pm and were met by Hugh Hixon, Mike Perry, Todd Huffman, Bruce Cohen, Jerry Searcy and Simone Syed. The neuroseparation was completed inside the mortuary vehicle which saved the trouble of moving the patient (as a whole body) inside. The patient and shipping unit were then moved into the facility.

The cooldown process lasted through the next seven days. There was a brief power outage that occurred during the cooling process on Feb. 23 at 01:58. There was a thirteen minute period where there was no power until it was switched to different circuit. Power to the original circuit was restored at 03:45 the same morning. A decision was made to purchase a UPS with two battery packs to mitigate the same risk in the event of another power outage during this or future cases. It took several weeks for delivery.

On Friday, Feb. 27th, patient A2404 was placed into a neurocan and transferred to long term care.

Conclusions and Findings

- Dry Ice Shipper: The unit that we used from Alan Sinclair is too large, too heavy and too expensive to realistically utilize on cases. Hugh developed and tested a dry ice shipper that could be constructed remotely with common items that could be obtained almost anywhere. This new unit performs better, is lighter, will cost less to ship and is a single use item that can be discarded after use. A nine-page manual was developed to show how to construct and use this shipper when needed on a future case.
- International airlines: Although preliminary shipping arrangements can be made as a case develops, mortuaries that ship on an international basis have fostered long-standing relationships with the airlines and can have more options available to them than we can hope to establish on an occasional basis. Utilizing the mortuary's expertise in the planning and execution of the shipping process is preferred.

- Round-Trip tickets: Throughout this case, it became abundantly clear that round-trip tickets are far cheaper than two one-way tickets and even single one-way tickets. It may be difficult to predict the return date on a case, however it still may be cost effective to purchase a round-trip ticket and pay the change fee or utilize the second half of a ticket on a future trip.

- Location of the Neuroseparation: It was determined late in the case that performing the neuroseparation in England would have been preferable. This would have eliminated the need to borrow a dry-ice shipper, the time needed to acquire and test the shipper, the additional cost of shipping due to the weight, the need to cremate the remainder of the body locally, the need to ship the cremated remains, the cost of returning the borrowed dry ice shipper back to England. On a straight freeze of a Neuro, this option should be considered early, however considerations will have to be taken with respect to the views of the participating mortuary. We may need a field design for a Neuro dry ice shipper, such as a cooler chest, with subsequent tests.

- Wide Body Aircraft: When shipping dry ice shippers containing human remains, weight is of major importance when selecting an airline. Most airlines have a weight limitation of 400 lbs when it comes to shipping cargo on a narrow body style aircraft. If the weight exceeds this amount, a wide body style aircraft needs to be used which greatly reduces the choices available that fly into Phoenix Skyharbor Airport.

- Colder; Quicker: We may need to become more aggressive about getting the body down to dry ice temperature on a quicker timetable. Although the body was kept at -20 C, a neuroseparation and dry ice could have been completed much earlier on this case. This would have substantially reduced the storage, handling and shipping charges.

- Albin and Sons has freezers, Rowland Brothers does not have freezers. ■

Timeline Summary – Patient A2404

Late Aug 2008

Mrs. Eyre had a minor heart attack.

16 – Sept (Tues)

Roger with his attorney to set up Power of Atty (POA) for his mother.

17 – Sept (Wed)

Diane instructed Roger to have POA forms sent and processed by the U.K. government. Reported that mother was out of bed and moving around.

05 – Oct (Sun)

We were informed that Mrs. Eyre in England has died and will be shipped here on dry ice for neuropreservation once she's accepted as a member.

1506. Tanya directs Hugh to do guesstimate on dry ice usage.

08 – Nov (Sat)

We received an update from Roger that the paperwork is still tied up in Probate and that he should be hearing from his government soon.

12 – Dec (Fri)

Received word that Probate has been completed, and they are ready to go.

17 – Dec (Wed)

Roger indicated he had received the contracts, and he had some additional questions that were answered by Diane C.

Mrs. Eyre has been moved to Albin and Sons' Funeral Home in London. Roger states that Albin's will charge 8000 BP to transport Mom to the U.S.

1028 Talk with Regina, Jennifer about Mrs. Eyre's case and Tony Rowland.

18 – Dec (Thurs)

1145 Helping Regina with dry ice shipping instructions to Rowland Brothers.

03 – Jan 2009 (Sat)

Alcor Board approved the membership with waiver of the last-minute case fee.

30 – Jan (Fri)

1400 Questions about dry ice shipping – with Aaron, Regina, weigh Ziegler case – 65 lbs.

1618 Search for prior dry ice shipping experience.

1723 Search for prior dry ice shipping experience.

02 – Feb (Mon)

1030 With Jennifer, Regina, Aaron, discuss dry ice shipping from England.

10 – Feb (Tues)

1129 Discuss England dry ice case with Regina, Jennifer, and Aaron.

1216 Jennifer checked wording to Research re above meeting on dry ice shipping.

11 – Feb (Wed)

1040 Put new batteries in DuaLogRs and set up for Regina's England trip.

1451 With Regina, bring DuaLogRs, adapters, TCs and boxes together.

12 – Feb (Thurs)

0930 With Aaron, pick up Regina and get her off to England.

13 – Feb (Fri)

0700 (UK) Regina arrives Heathrow.

1300 (UK) Regina arrives Rowland Brothers Mortuary.

1317 Call from Regina in England – can't get through to Aaron – passed to Aaron, tested phone connections – Aaron can call her, though – headed for bed.

1319 Regina called to see if Todd had come in – not yet, he's going to talk to Tanya.

14 – Feb (Sat)

Dry Ice Shipper delivered to Rowland Brothers.

16 – Feb (Mon)

0735 Regina calls – 120 kg dry ice is not near enough to fill Alan's box.

0748 Check back with Regina on possible winding sheet problem.

1000 Conference call with Regina, Jennifer, Aaron, and then with Steve Rude.

18 – Feb (Wed)

0324 Regina calls – lid warping, cold spots.
0332 Call Regina – solution.
0552 Regina calls – progress.
0640 Regina calls – progress.
0823 Regina calls – admin stuff – looking for Diane.
0940 Brief Aaron, Jennifer – Regina calls – other stuff.
1011 Email on morning's activities.

19 – Feb (Thurs)

0411 Regina calls – cold spots almost completely cleared up, going in to put inside insulation in place.
0843 Regina calls – what is hazmat number for dry ice?
0904 Call back – dry ice is UN1845.
1338 Regina calls – patient off to Heathrow.

20 – Feb (Fri)

0414 Jennifer calls – check Fax from Rowland Brothers for A2404 paperwork.
0445 Jennifer calls – check Fax from Rowland Brothers for second set of A2404 paperwork.
0451 Jennifer calls – and fax to Steve Rude.
1000 Aaron meets with Steve Rude to preplan arrival and delivery plans.
1111 Called Aaron re body removal – Plane running about an hour late.
1200 Aaron and Steve obtain shipping documents from US Airways (for British Air).
1230 Aaron and Steve obtain customs acceptance stamp and signature for delivery.
1623 setting up in PCB for A2404 ETA here ~2000hrs
2010 A2404 on the ground, ETA here ~2200. Bruce came and went back home till 2200.
2043 loading difficulties – prep RV to go get her – they got her on with two forklifts – will have to use the RV lift gate to get her off.
2106 A2404 arrived at Alcor facility.
2126 Neuroseparation procedure initiated.
2225 A2404 transfer completed without incident – cool down in progress.

21 – Feb (Sat)

A2404 cool down in progress.

22 – Feb (Sun)

A2404 cool down in progress.

23 – Feb (Mon)

0158 Lost power on one phase – cool down lost.
0211 Cool down restarted
0213 Called Jennifer re power loss.
0300 Jennifer comes, leaves.
0345 Power restored.
0500 APS calls to check.
1000 Put Randal on looking for uninterruptible power supplies.
1350 With Todd and Aaron, look at what Jennifer got quoted for a commercial UPS (\$2700).
1405 Look at phase monitor and latching problem.
1420 Looking at UPS systems.
1524 Order UPS for cool down from Gruber (Steve Ray) in Deer Valley 602-863-2655 x396 Base unit plus two battery packs (\$2000).
1731 Check A2404 cool down.

24 – Feb (Tues)

1340 Clean out Sinclair shipper, new batteries in scale – looks OK – for dry ice usage.
1401 Steve Rude drops off A2404 ashes, ring.

25 – Feb (Wed)

0508 A2404 cool down 4.4 inches LN2 in bottom.
0648 End A2404 cool down.
0930 Pull cool down lid and top off A2404 Dewar.

27 – Feb (Fri)

1154 Prep for A2404 move to neurocan.
1441 Transfer A2404 Eyre to neurocan.

THE BLANK SLATE: THE MODERN DENIAL OF HUMAN NATURE

Author: Steven Pinker [London: Penguin Books, 2003]

BOOK REVIEW BY R. MICHAEL PERRY, PH.D.

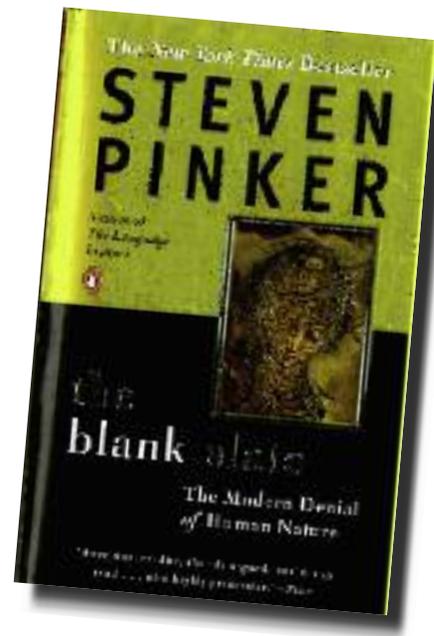
Nature or nurture? In the interest of fairness we tend to deny that there are innate differences in people. Instead we invoke the doctrine of the Blank Slate or Tabula Rasa, which teaches that people start out life just about equal. Differences, good and bad, this theory tells us, are not inborn but come about through learning and conditioning as we mature to adults—nurture rather than nature determines the type of people we are. Along with the Blank Slate are two accompanying theories which can affect our sense of what is right and where we ought to be heading. The first is the Noble Savage, that primitive humans, living in a “state of nature,” were pretty well off materially as well as peaceable and kind to their neighbors so that modern civilization by comparison has a lot to answer for. The second is the Ghost in the Machine which treats the mind as something innate and nonphysical, so that, for example, there is an “ensoulment” that occurs when a human egg is fertilized to become a zygote, and deliberately sacrificing this single cell, as in a scientific experiment, is a form of murder.

Pinker’s book offers an extended meditation on these themes which he argues have been upheld to the detriment of modern society. The book is long and many issues are treated in it. We are reminded that the doctrines he critiques are not simply wrong-headed and worthless. Thinking based on them has made positive contributions, for example, in upholding the worth and dignity of the individual, and recognizing that people can exhibit shortcomings traceable to hardships over which they had no control. The doctrines have been promoted, applied, and extended enough, however, that their dangerous shortcomings are apparent from many quarters. Taking the Noble Savage as a case in point, we are misled into thinking that primitive cultures are considerably nicer than they really are, while human depravity is largely a product of more modern civilization. Careful field work emphatically shows otherwise.

Modern civilization in fact has given us great benefits, as Pinker reminds us. And people have worth and dignity too, even if there is no ghost in the machine, while racism and sexism are unjustified even if we do not start out as blank slates. Overall Pinker’s stance favors individualism over collectivism, and science and common sense over dogmas.

Pinker in fact subscribes to three laws of behavioral genetics. (1) All human behavioral traits are heritable. (2) The effect of being raised in the same family is smaller than the effect of the genes. (3) A substantial portion of the variation in complex behavioral traits is not accounted for by the effects of genes or families. “Heritable” of course does not mean “perfectly heritable”—traits are inherited to a greater or less extent. Pinker feels however that upbringing actually has a substantially smaller effect than genes, at least on basic traits such as intelligence, shyness versus aggressiveness, and the like. This is not to say, however, that the genome is “everything”—far from it—as we are reminded by (3). What then is the cause of the “substantial portion” of variation in traits that does not come from genes or how we were raised? Pinker argues that it is the random growth process that occurs as we mature to adults, particularly as it affects the brain. This process is governed by our genes but is not precisely determined by them, and on the other hand is largely insensitive to how we are raised. This then would account for the differences seen in one-egg twins, especially when growing up together. (In fact one-egg twins show about the same level of diversity even when raised separately.)

Of special concern to cryonicists is the issue of just how important different developmental influences are to the personality. An answer would shed light on what we are up against in trying to preserve an individual for later reanimation, and how to go about reanimation in difficult cases. According to Pinker, nature is decidedly more important than nurture, but “nature” includes far more than the



genome. Still it seems to point to the possibility that important features of personality are relatively insensitive to how well the patient is preserved, beyond a certain, threshold level that stops short of details of learning. Recorded data might be used to reconstruct vanished knowledge or memories. Preserving such records as a backup would become a priority. ■

About the Author

Steven Arthur Pinker (born September 18, 1954) is a prominent Canadian-



American experimental psychologist, cognitive scientist, and author of popular science. Pinker is known for his wide-ranging advocacy of evolutionary psychology and the computational theory of mind.

http://en.wikipedia.org/wiki/Steven_Pinker

MEMBER PROFILE:

JAMES CLEMENT

By Chana de Wolf

This is the first of two profiles introducing new Alcor Board Directors to the membership.



Since his earliest memory of John F. Kennedy's famous 1962 speech, reaffirming America's commitment to landing a man on the moon by the end of the decade, James Clement was hooked on the potential of science to do great things. "The space program was utterly and incredibly exciting to me," he recalls. "I was reading science books from first grade on. I almost burned my bedroom down trying to build a liquid-fuel rocket!" And though nearsightedness dampened his aspirations of becoming an astronaut, he never lost his interest in science.

He maintained a single-minded focus on science until the late '60s, when he entered high school and the war in Vietnam became an increasingly large topic in the news. "Teachers started telling me to forget about science because the world was going to blow itself up and it needed people like me to go into politics," he explains. Being an idealistic young man, he started thinking they might be right. Most importantly, he wanted to do good for humanity and the world.

James received his B.A. in political science and psychology from Truman State University in 1978, after studying at both Harvard University and the American University in Paris. In psychology, he became fascinated with the brain, and gained scientific experience in the laboratory of neurophysiologist Michael Patterson, co-authoring a paper published in *SCIENCE* in 1976 regarding classical conditioning of the nictitating mem-

brane response in cats.

After working for a year for the President Pro Tem of the Missouri State Senate and working on several state and national political campaigns, James became cynical of politics and realized that he did not want to pursue a career in this field. Still an idealist, he decided to attend law school to focus on international public law, and enrolled in the University of California, Hastings College of Law. Things went as expected until his third year, when he happened to see *Life Extension: A Practical Scientific Approach*, by Durk Pearson and Sandy Shaw, in a bookstore window. "I literally ran into the store, bought it, and read all 950 pages of it immediately," James laughs. The material impacted him so greatly that he seriously considered quitting law school and switching to a Ph.D. program in molecular biology after finishing his law degree. But after several months of wrestling with the idea, he and his wife, also a law student, came to the conclusion that the debt burden of law school and graduate school would be too high. Following graduation, he stuck to his original plan and went into law.

James first worked as an attorney in Honolulu, Hawaii (1982-1984), specializing in foreign investment in U.S. real estate law, then obtained an advanced law degree in taxation from New York University School of Law. He remained in New York City for several years where he worked as a tax manager for the International Services Office of Arthur Young & Company. "I lived in some great

places and traveled a lot," James explains, "but it all became very routine and I wanted some new experiences. I had read a lot of Ayn Rand, and I realized that I wanted to become an entrepreneur."

Strangely enough, James' former interest in life extension led him to do something completely different. He had been making wine while in law school in California and brewing beer afterwards, primarily due to an interest in molecular biology, when he read a great deal about yeast. It seemed like a no-brainer for him to raise a little money and open a brewpub, a brewery which serves its own beer on-premise, in Ithaca, NY. The Chapter House Brewpub was one of a handful of brewpubs on the East Coast. It served not only its own home-made beers, but had over forty foreign and microbrewed beers on draft.

Ithaca is home to Cornell University, which boasts one of the largest research programs in the U.S., with over 6,000 graduate students. Since the brewpub was near campus, it was popular among graduate students and professors. And, because he enjoyed talking to the patrons, James often tended the bar himself. "I participated in lots of intellectual discussions with researchers," he says. "It was very stimulating. But after nine years I felt it was time to move on, so I sold the brewing equipment and started a new career."

For awhile he followed a similar path, doing general business consulting and helping



James with Mike Perry, Ph.D.

Mike is Patient Caretaker at Alcor and the author of *Forever For All: Moral Philosophy, Cryonics, and the Scientific Prospects for Immortality*.

startup companies get off the ground. All the while, he maintained an interest in life extension and neuroscience, continuing to read in those fields. Having read Eric Drexler's book, *Engines of Creation*, in the late '80s and later read James Halperin's *The First Immortal*, he was familiar with the concept of cryonics. However, it wasn't until he saw Ray Kurzweil talking about cryonics in his *AI Daily Newsletter* many years later that he did a little digging online and found the Alcor website, which he read in its entirety. "During the course of reading the website I immediately decided to sign up," he states. "The combination of seeing how quickly things were moving in cryonics [toward improved methods of preservation] and learning about what was happening in nanotechnology totally sold me that [preservation] is something that could be done now, and that eventually science would figure out how to deal with [resuscitation]." James became an Alcor member in 2001.

When he found himself contemplating the upcoming arrival of his 50th birthday, James finally decided to make good on his smoldering scientific passions. The way he saw it, he could do one of two things: either go back to school and go directly into neuroscience or life extension himself, or use his legal and business background to promote

those same fields. Ultimately, after careful consideration and solicitation of advice from respected mentors, he decided to put his expertise and knowledge to practical use by helping scientists commercialize the innovative products coming out of their labs as well as become involved in managing non-profit organizations involved in these fields.

Along with this change in business priorities, James began attending life extension conferences where he met others involved in the advancement of anti-aging medicine and technology. Before long, he was COO of the Maximum Life Foundation (2006-2007), then became the Executive Director of the World Transhumanist Association (now known as Humanity+) (2007-2008). "I like transhumanism because it is an umbrella for a wonderful array of emerging technologies and general human enhancement," he explains. "I thought that it was an area where I could potentially have a big impact. At the time the WTA didn't have much money and hadn't focused on building their membership. I really wanted to build an outreach component to the organization. During my 18 months as executive director, the Board of Directors and I raised \$75,000, re-branded the organization, reworked the website, increased membership, and started an online transhumanist magazine."

Having put Humanity+ on the path to

success, James decided to move on and develop further interests and organizations, including Innerspace Foundation (innerspace-foundation.org), BetterHumans (betterhumans.com), and h+ Magazine (hplus-magazine.com), all of which are dedicated to the improvement of humanity, on both a personal and global level, through science. At the same time, he became more involved with Alcor. After doing some volunteer fundraising for the research program in 2006, James saw areas in which he felt he could help Alcor improve, particularly financially. James was elected to the Board of Directors in December 2008.

James' primary concerns as Director are long-term stability and improved member relations. "I hope to bring stronger financial stability to the organization by helping to develop an endowment fund and participate in fund drives. I would also like to liaison with our members to make sure their concerns are being heard." He is also interested in improving cryopreservation through better perfusion techniques and developing the ability to stabilize and cryopreserve members as quickly as possible following deanimation. "I am somewhat confident that technologies will be developed in the near future which can bring a person out of biostasis," he remarks. "So the issue is mostly how to preserve one-



Playing the Hydraulicophone with University of Toronto inventor and "Cyborg Man" Steve Mann.

self (and our memories and important brain pathways) such that we are, as much as possible, mentally the same person when we are revived as we were when we were vitrified.”

James has been a practicing life extensionist – taking supplements, exercising, and meditating – since 1982. He adopted a Mediterranean diet 5 years ago, and began practicing caloric restriction (CR) more recently. Alcor membership has not significantly altered his lifestyle in this regard, but he did quit traveling internationally for several years after joining, only recently deciding that some things are too important not to travel for. Still, he says that the one area where his membership has impacted him is in “thwarting an interest to live abroad, until Alcor can quickly reach us no matter where we are.”

On the other hand, he has met lots of people through Alcor, and many have become his closest friends. James is open about his involvement in cryonics and says that most of his friends are either members already or are sympathetic to it, though he is still trying to

convince his parents to join.

As a member and Director, James wants to increase communication between Alcor and its membership. He feels that the most important things any Alcor member can do to help themselves and Alcor in this endeavor are to: “encourage your family and friends to join and support Alcor; volunteer to help Alcor if you live close by, and consider leaving part of your estate to Alcor upon your death; and stay in touch with Alcor frequently, letting them know about changes in your address, health, family situation, etc. Also encourage your spouse, Administrators, or Legal Guardians to stay in touch with Alcor, too.”

Lastly, James says he loves being on the Alcor Board. “I am extremely impressed with the other Board members and the amount of

time they devote to the cause. The Alcor Board is extremely busy and we have a tremendous amount of business before us. Each Director is as dedicated to cryonics as I feel I am and this is reflected by the amount of effort I have observed they are willing to spend on Alcor matters and cryonics in general.”

Welcome to the Board of Directors, James!

Visit H+ magazine online at www.hplusmagazine.com. You may contact James



At Singularity Summit 2008 with Pete Estep, Dan Stoicescu, and Peter Diamandis.

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



Deutsche Gesellschaft für Angewandte Biostase e.V.

By Marcus Beyer

In May 2006 several cryonics advocates got together to found a nonprofit organisation. Its name can be translated to “German Society for Applied Biostasis.” We elected Klaus Sames as chairman, with Eugen Leitl and Torsten Nahm in the board to assist him.

Soon I established the website www.biostase.de to let the world know we do exist now—and to provide some reliable information about cryonics in German. Next we did all the necessary administrative work to get registered (indicated by the “e.V.” part of the name) and to get our nonprofit status approved.

Some of us—mainly those with a medical, biological, or a cryo engineering background—formed an emergency response team. Klaus Sames, who was a university professor for anatomy, gives classes in medicine and cryonics and organizes practical training sessions—in university hospital and at his own home and garden. He also wrote German training instructions to guide the team members and to inform other interested members of our society about cryonics procedures.

Sadly, our response team was already confronted more than once with deanimating cryonicists (none of our members though). In some cases, members of our team were able to give some valuable help and hope to these individuals. I remember the case of a young man who was suddenly informed that he would die in the next coming months. Being in his thirties, of course, he wasn't prepared at all to die soon. After trying what was medically possible, he contacted us in his last days. Klaus then travelled to him (other team mem-

bers helped in the background) and was able to give him emotional stability, and also organized ice and convinced a physician to provide some protective treatment after the deanimation of this young man.

But what really depressed us in all these cases: It always took way too long (days) until vitrification was applied. And so one of our current main goals is to do everything necessary to become able to do the vitrification (the part above glass transition temperature) in Germany.

In the meantime, Klaus has decided not to be a candidate again for the board in order to concentrate on the practical work. Thus I became chairman in May 2008. As of now (August 2009) our society has grown to 23 members. Among us are two physicians, a refrigeration engineer, a molecular biologist, a biochemist, a structural engineer, a physicist, two nanotechnologists, two mathematicians, four computer scientists, and others. And of course we strive for more :) ■



About the Author

Marcus Beyer lives together with his wife and two children near



Freiburg, on the western edge of the Black Forest. He has a Master's degree in computer science with theoretical medicine as a minor. He is a founding member of the “Deutsche Gesellschaft für Angewandte Biostase e.V.”, and is now its chairman. He earns a living as a software architect and product manager. His interests include life extension, software engineering, and recumbent bicycles.

AI: THE TUMULTUOUS HISTORY OF THE SEARCH FOR ARTIFICIAL INTELLIGENCE

Author: Daniel Crevier [New York: BasicBooks (HarperCollins), 1993]

BOOK REVIEW BY R. MICHAEL PERRY, PH.D.

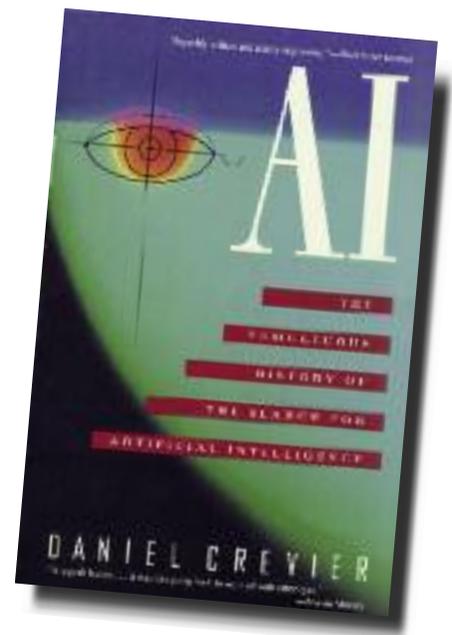
Artificial intelligence, or AI, has the potential of becoming history's greatest innovation, its advanced thinking capacity leading to a technological "singularity" in which humans, freed of diseases, aging, and drudgery, can develop into greater beings. Up to now, of course, the performance of what passes for AI has been more modest, but it still makes an interesting study, particularly its history. Daniel Crevier offers us a fascinating look at this checkered past in his book, with some speculations on what to expect in the decades to follow. (Crevier, for his part, is a cryonicist and an Alcor member, as is Marvin Minsky, who is sometimes called the father of AI and who features prominently in the book.)

Computer science largely got its start in the 1930s with the theoretical work of Alan Turing, who by 1950 was boldly asserting that machines would be able to "think" and proposed a test of intelligence, since known as the Turing test, in which a machine's performance is compared with a human's. If the machine using typed messages (say) can converse with a person in a manner not distinguishable from a human, then it must be considered intelligent. Others around this time confidently began to predict that this sort of advance would happen soon, within a few years. Part of the reason for optimism was the great speed and accuracy of even the primitive contemporary machines on many problems; arithmetic calculations could be done virtually error-free and hundreds of times faster than humans could do them. Moreover, there was a general-purpose nature to computers which lent confidence that they should be able to do anything in the way of information processing that humans could do. Turing and his contemporary, Alonzo Church, had in fact advanced a conjecture, since known as the Church-Turing thesis, implying that all computational tasks effectively doable by humans were also doable by a general-purpose computer of the sort that was then

becoming abundant in versions of ever-increasing power.

In fact, "there were plausible reasons in AI's early years for believing in its rapid progress," but these expectations were not realized; duplicating human thought processes overall proved far harder than some had thought. There were some interesting successes, such as Arthur Samuel's checker-playing program that improved its own performance, by repeatedly playing games against itself using different strategies, to the point that it regularly beat its creator as well as some recognized talent. But overall performance of "smart" systems did not live up to expectations, particularly those of the U.S. military, which had funded much of the research in hopes of defense-related applications. (Remember this was the Cold War era.) As the years went by, though, progress was made, both in computer hardware and in programming, so that, for example, a computer chess program reached the level of international grand master in 1988. (Nine years later and four years after the book was published, a computer would finally defeat the world chess champion.) Overall the author is optimistic about the prospects of AI, both in terms of achieving the eventual goal of human-level performance and beyond, and of this being a desirable accomplishment that will reap untold benefits if handled correctly.

The final chapter considers the future of AI and the possible dangers as well as the benefits it could offer. Three main outcomes are considered, two of them pessimistic. Under the "colossus" scenario advanced AIs take over the planet and humans either become their complete dependents, like lab animals, or are simply eliminated. The "big brother" scenario is less draconian but nevertheless worrisome, as AIs severely compromise privacy and inhibit personal lifestyle and other choices. Finally there is the "blissful" scenario in which the benefits outweigh the downsides, to the point that perhaps humans,



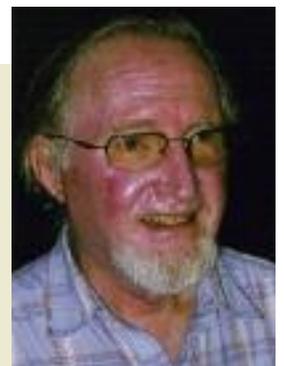
with the help of such innovations as brain implants and, more comprehensively, uploading, can individually become immortal and godlike.

The author cautiously refrains from expressing any firm conclusions as to which of the three scenarios is the likely outcome (or a fourth in which the promises of AI are simply never realized), though his sympathies are clearly on the optimistic side as I've noted. In any case, I found the history fascinating, with its interplay of interesting, high-functioning characters. I have to wonder if there will ever be an update to cover more recent developments. ■

About the Author

Daniel Crevier

(born 1947) is a Canadian entrepreneur and artificial intelligence and image processing researcher. In 1974 Crevier received a Ph.D. degree from Massachusetts Institute of Technology. In 1979 Crevier founded Coreco Imaging (CONtractual REsearch COmpany), which was acquired by Dalsa in 2005. [Source: Wikipedia]



Cryonics in Russia



By Valerija Pride & Danila Medvedev

Cryonics is not an easy area to work in. From the technical point of view the early stage of cryonics is the most difficult one: moving from ideas and conceptions to actual perfusion of patients, mastering the techniques of proper cooling and fabricating unique custom equipment. No wonder that cryonics in Russia and elsewhere in the world develops slowly.

From the year 2005, when we put a stake in the ground with our first publicized cryonics case, Russian cryonics was a unique phenomenon. Unlike the supply-driven “push” model of cryonics in the US, where cryonics companies were formed by specialists (or people eager to become specialists), the Russian model was demand-driven. We were eight transhumanists not willing to die, who wanted cryonics for ourselves and our families. After a decade of hoping that cryonics would materialize we wanted to DO something.

We didn’t have access to expertise, little in terms of contacts, and the language barrier loomed over us. We had a few pages of instructions from the Cryonics Institute and often had to improvise. There was no one to call for advice, no one to guide us in our first steps. Fortunately, one of the founders, the biophysicist Igor Artyukhov, had first-hand experience with cryobiology and vacuum equipment and has been promoting cryonics for 10+ years. He became the Science Director of KrioRus. Today, 4 years after the company was founded, he works in a Voronezh laboratory on xenon cryopreservation, a technology which can potentially enable reversible preservation of mammals.

The practical matters, though, were more pressing. We didn’t have the funding and we had other urgent matters too. Unlike in the US, there was no cryonics community in Russia before organized transhumanism

emerged. That meant we had to nurture and grow this community, running seminars, creating websites, doing interviews - not just on the topic of cryonics, but everything else, from immortalism to the Singularity. Lack of focus is an obvious risk, but in the age when the 3rd most influential person in Russia reportedly thinks that transhumanism is cool, can we really ignore the bigger picture?



The 240 liter dewar houses KrioRus neuropatients. Two roses on the cover were brought by visiting relatives. The green flag on the wall says “For Increasing Life Extension,” the logo shows the unity of nature, biology and the digital realm – three approaches to life extension.



Former Alabushevo school. The KrioRus building has a history. The owner of the building, Victor Grebenshikov, became one of the company’s founders and has invited KrioRus there.

So we had too much to do - restoring vision to the blind, popularizing nootropics in Russia, educating the philosophical community about NBIC-convergence, organizing the search for a cure for aging and more. Yes, cryonics is a No. 1 priority for us. But we are spread very thin...

Nevertheless, we did our best to get the organization running. We set up liquid nitrogen storage for neuro patients in our facility, renovated it and made it look presentable, and got basic equipment and chemicals for perfusion. In addition to renovation in our facilities and around it, we have built two dry ice full-body storage containers. Three full-body capsules were constructed for storage

(each for one patient), and the fourth cryostat is coming soon - a big one, for approximately six patients. A spot is being prepared for the construction of a large cryostat. This one will be built from a fibercloth-epoxy composite. The design and manufacturing is handled by Alexander Olikevich, an accomplished inventor, science program host on TV, and a nanotechnology pioneer in Russia.

We tried to grow the cryonics community, getting publicity and doing our best to turn it into practical interest. Our main goal was to have a backup plan for ourselves, but we welcomed others and did as best as we could. During the 4 years of operations 10 people were cryopreserved by KrioRus. Five were neuro patients (1 head, 4 brains), 5 were full-body patients. Women outnumbered men 7 to 3. The age varied from 23 to 82 years. Geographically we have had cryopatients from Moscow, Saint Petersburg, Saratov, Kemerovo, and Tallinn (Estonia).

In addition to humans, a dog, a cat and two birds were cryopreserved. The dog and the cat were subjected to perfusion, that's how we got our first experience in animal cryoprotection. Right now we are developing plans for an animal cryopreservation business, done in co-operation with the leading funeral services company for animals, run by two bright transhumanist businessmen.

Although we don't have a training program yet, most of the human cases (except when the body was frozen on dry ice by relatives due to geographic remoteness) were done with perfusion. We started using the



The cryopreservation of a dog in February 2008.

publicly available CI glycerol solution, but for latest cases switched to a BPS carrier solution recommended by Mike Darwin.

After this initial start, where we can claim to have a cryonics organization operating for 4 years, we want to move forward, where we can reliably provide quality patient care. It is not easy to do it without easy access to proper documentation and a pool of experienced specialists. But we will develop a set of manuals, develop and train on a standard perfu-

sion kit (hopefully in co-operation with other emerging European groups), set up animal training and set up good governance. We want to be professional, we want to be transparent, and we want to do what we can to help cryonicists in Russia and in Europe. We welcome contacts from interested partners - this August we are meeting with Spanish and Canadian cryonicists in Moscow. Write us. Let's discuss what we can do for cryonics together. ■



Danila Medvedev has a Bachelors degree in Business Administration from IMISP, the first Russian business school. He has been involved in transhumanism since 2000 when he presented on "Death and Immortality" in the business school. In 2003 with the help of his family (his parents and a younger sister got converted to

transhumanism) he became a full-time transhumanist, eventually co-founding the Russian Transhumanist Movement. He has translated Prospect of Immortality into Russian and in 2005 helped launch KrioRus, the first cryonics company outside the US, and has served as its director until 2009.



Valerija Pride graduated from the Moscow Institute of Physics and Technology where she majored in "Thermodynamics and gas dynamics". After graduation she started a rock band called "The Common Cause" (named after the immortalist philosophy of Nikolaj Fedorov). In 2005 she helped found the Russian Transhumanist Movement and in

2006 she helped found KrioRus. In 2009 she replaced Danila Medvedev in the position of the KrioRus director. Since then she has been very active in the mass media, giving interviews, writing popular articles on topics ranging from futuristic art to cryonics and cyborgs, from future sex to space travel and nanotechnology.

WATER: WHAT'S IN IT FOR YOU?

Author: Allen McDaniels, M.D. [San Pedro, Calif.: The Heather Foundation (1972)]

BOOK REVIEW BY R. MICHAEL PERRY, PH.D.



This 30-page pamphlet was written a few years before Dr. McDaniels became active in Alcor and served a term as president (1976-77). It is long out of print and not easy to obtain, but with diligent effort I finally succeeded. It briefly and concisely covers health issues relating to water, which is both a necessity of life and also, all too often, a source of diseases and chemical contaminants. The main section headings are (1) “water’s importance to the body,” (2) “water quality and you,” and (3) “is pure water available?”. Concerns are raised in (3) about the common sources of drinking water,

including both bottled and tap water, and a radical conclusion is offered: “The problem of a diminishing supply of healthful water is solved by preparing your own pure water—preferably by distillation—and consuming no other kind.” Do we need to go this far, especially today? On the face of it, despite any “diminishing supply of healthful water” circa 1972, it seems that the safety of drinking water from normal (US) sources is adequate. Still the reader must judge, especially in unusual circumstances. ■

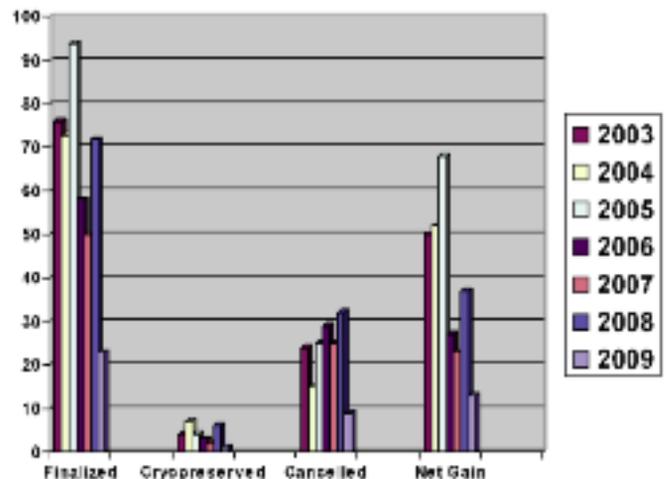


Author:
Allen McDaniels, M.D.

Membership Statistics

On March 31, 2009, Alcor had 888 members on its Emergency Responsibility List. During the 1st quarter of 2009 22 memberships were approved, 1 membership was reinstated, 9 memberships were cancelled and 1 member was cryopreserved. Overall, there was a net gain of 13 members this quarter.

2009	01	02	03	04	05	06	07	08	09	10	11	12	
TOTAL	876	883	888										888
FINALIZED	3	11	8										22
REINSTATED	1	0	0										1
CANCELLED	3	3	3										9
CRYO-PRESERVED	0	1	0										1
NET GAIN	+1	+7	+5										+13



KRYOFIN Finland



By Antti Peltonen

It was December 20, 2007, when FTA (Finnish Transhumanist Association) was looking for a person to take care of contacts to KRIORUS. I volunteered to be a backup person for this purpose, but it turned out that there were no others who volunteered. So I turned out to be the primary contact. Prior to this I had already been in contact with KRIORUS in the spring 2007, when starting to create the first version of a living will and solving questions of how to arrange a cryonics contract with KRIORUS.

I realized that executing a contract with KRIORUS just wasn't good enough. In the case that someone quickly collapses beyond current repair technology, there is no time to be lost when trying to get someone cryonically preserved.

The initial idea to establish a Finnish organization was to create a support network that would assist KRIORUS experts when they would arrive to take the patient to Russia, and to give the patient immediate last aid (since it takes some time for a person to get from Finland to Russia), and to provide help to do all the possible necessary organizing for transport of the body to Russia. There was a great need for a Finnish organization to make the whole thing more reliable and run things more efficiently and smoothly.

Somewhere during the time of FTA's search for a contact person, I had sent an email to FTA's mailing list asking for others interested in organizing cryonics activities in Finland. I got a few replies, and soon I had a meeting with Jyrki Parkkinen. Ville Salmensuu joined after that, and also Marko Naumanen, with whom I had been in contact previously when looking for volunteers for such a project half a year ago. And so we had our first meeting between the founding members

of KRYOFIN. We managed to establish our organization in September 2008. During that time Juhani Sademaa joined us.

Soon after KRYOFIN was established, we launched the first version of our web site (www.kryoniikka.fi). The language of the web site was decided to be Finnish, since this page is meant for Finnish speaking people. Soon the site was being found by some press people, to whom we gave our first two interviews.

The purpose to establish a web site was:

- to gather all information in the same place
- to ensure that information would be accessible regardless of one's location
- to provide a source of information for people interested in cryonics
- as a means for someone wanting to find us to easily make a contact with us
- to get more members

We've been having official meetings regularly among 4-5 of us, at the rate of 0.5-1 per month. We have 10 paying members in our group, and several others have shown interest towards cryonics activity in Finland. Currently we are aiming to find cooperative mortuaries and hospitals, and acquire a proper standby kit and training to use it. Also, gathering and compiling information is an active task for all of us.

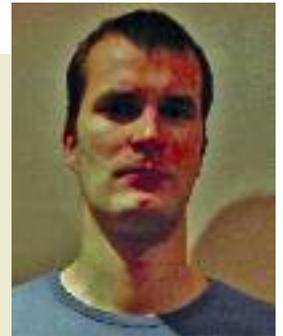
Besides of all this, the idea of having our own perfusion and/or storage facilities still lives strong among us. ■

*Antti Peltonen (antti.peltonen@tkk.fi)
is the President of KRYOFIN.*

About the Author

Antti Peltonen

lives in Espoo, Finland, west from Helsinki. He has a Masters degree in Microelectromechanical Systems (MEMS) engineering. Currently he is working as a process engineer in Micronova, Centre for Micro- and Nanotechnology in Espoo. His interests range from thai boxing, gym, jogging, soccer, biking, hiking, and climbing to playing drums, building things and reading.



Nano "Tractor Beam" Traps DNA

Using a beam of light shunted through a tiny silicon channel, researchers have created a nanoscale trap that can stop free floating DNA molecules and nanoparticles in their tracks. By holding the nanoscale material steady while the fluid around it flows freely, the trap may allow researchers to boost the accuracy of biological sensors and create a range of new "lab on a chip" diagnostic tools. "For this research to emerge in the marketplace in a device such as a 'lab on a chip,' it is essential for engineers to be able to manipulate matter at the scale of molecules and atoms, particularly while the matter is contained within a fluid stream only slightly larger than the particles themselves," says William Schultz, the National Science Foundation (NSF) program officer who oversaw the researchers' grant. "NSF and other funding agencies have made nano-science and -technology a high priority. The Cornell researchers have made an important step in realizing the full potential of these devices." Light has been used to manipulate cells and even nanoscale objects before, but the new technique allows researchers to manipulate the particles more precisely and over longer distances.



When DNA molecules suspended in a tiny stream of water flow through a nanoscale channel, they can be captured by a field of light if that light is confined in a device called a slot waveguide. The pressure from the light can then propel the DNA along the waveguide channel to bring the molecules to new locations. Such manipulation could prove valuable for assembling nanoscale structures, driving powerful sensors and developing a range of other technologies. (Credit: Nicolle Rager Fuller, National Science Foundation)

ScienceDaily
1/5/09

<http://www.sciencedaily.com/releases/2009/01/090104092923.htm>

Quantum Mechanics, Biology, and Consciousness Connected?

Green algae may rely on quantum computing to turn sunlight into food. From quantum tunneling to entanglement, the special properties of the quantum realm allow events to unfold at speeds and efficiencies that would be unachievable with classical physics alone. New experiments keep finding quantum processes at play in biological systems, says Christopher Altman, a researcher at the Kavli Institute of Nanoscience in the Netherlands. His team examined the protein scaffold connecting the bacteria's external solar collectors, called the chlorosome, to reaction centers deep inside the cells. Unlike electric power lines, which lose as much as 20 percent of energy in transmission, these bacteria transmit energy at a staggering efficiency rate of 95 percent or better. The secret, Fleming and his colleagues found, is quantum physics. Quantum physics may explain the mysterious biological process of smell, too, says biophysicist Luca Turin, who first published his controversial hypothesis in 1996 while teaching at University College London. Stuart Hameroff, an anesthesiologist and director of the Center for Consciousness Studies at the University of Arizona, argues that the highest function of life—consciousness—is likely a quantum phenomenon too.

Discover
1/13/09

http://discovermagazine.com/2009/feb/13-is-quantum-mechanics-controlling-your-thoughts/article_view?b_start:int=1&-C=

Bendy-Gadget Future for Graphene

A remarkable material called graphene could soon be used to make flexible and transparent

high-speed electronics, researchers say. Graphene's incredible mechanical and electronic properties are well-known, but it is difficult to make in bulk. It consists of one-atom-thick layers of carbon atoms arranged in hexagons. A report in the journal *Nature* is the third in recent efforts that have seen the production of centimeter-scale samples of graphene. The transparent samples can be fixed to any surface and bent or twisted without damaging them. When the technique is perfected, such films could be used in solar cells as well as any number of bendy, thin, transparent gadgetry, such as crystal-clear, flexible displays. First discovered in 2004, graphene is a close cousin of carbon nanotubes, which are in effect graphene rolled up.



A pencil's "lead" is primarily graphite, made up of millions of sheets of graphene

BBC News
1/14/09

<http://news.bbc.co.uk/2/hi/science/nature/7827148.stm>

Green Light for US Stem Cell Work

US regulators have cleared the way for the world's first study on human embryonic stem cell therapy. The US Food and Drug Administration have been considering the 21,000 page application for months. The decision by the FDA to give the go-ahead comes at a symbolic moment, just days after the inauguration of President Barack Obama. Since 2001 there have been limits on federal funding for embryonic stem cell research. The decision of the FDA is independent of White House control, but the new president is widely expected to adopt a more pragmatic and science-oriented approach to stem cell

research. The knowledge that will be gained in this first clinical trial deploying embryonic stem cell derived material will accelerate the development of all future stem cell therapies. Under President Bush, federal funding had been limited to around 60 stem cell lines created from embryos destroyed prior to August 2001. Scientists had warned that only 20 eligible cell lines remained useful for research and many of these were problematic. Researchers had told the BBC that the restrictions had slowed down their work. Geron Corp, the company behind the research, plans to initiate a clinical trial in a handful of patients paralyzed due to spinal cord injury.

BBC News
1/23/09

<http://news.bbc.co.uk/2/hi/health/7847450.stm>

Carbon-Nanotube Memory that Really Competes

Researchers in Finland have created a form of carbon-nanotube based information storage that is comparable in speed to a type of memory commonly used in memory cards and USB “jump” drives. The group’s memory scheme has a write-erase time of 100 nanoseconds, which is about 100,000 times faster than previously reported carbon-nanotube memory, and retains this ability over more than 10,000 write-erase cycles. The work is reported in the January 16, 2009, online edition of *Nano Letters*. “In terms of speed and endurance, our memory structure is as good as the commercially available Flash memory technologies,” said Helsinki University of Technology physicist Päivi Törmä, the paper’s corresponding author, to PhysOrg.com. The memory scheme stores information using single-walled carbon-nanotube transistors, specifically field-effect transistors, which are among the fastest carbon-nanotube electrical components. Each transistor consists of four key parts, the gate, source, drain, and substrate. As a substrate, Törmä and her colleagues chose a silicon wafer.

PhysOrg.com
1/26/09

<http://www.PhysOrg.com/news152202897.html>

Eating Less May Not Extend Human Life

If you are a mouse on the chubby side, then eating less may help you live longer. For lean mice—and possibly for lean humans, the authors of a new study predict—the anti-aging strategy known as caloric restriction may be a pointless, frustrating and even dangerous exercise. “Today there are a lot of very healthy people who look like skeletons because they bought into this,” said Raj Sohal, professor at the University of Southern California’s School of Pharmacy. He and Michael Forster, of the University of North Texas Health Science Center, compared the life span and caloric intake of two genetically engineered strains of mice. The “fat” strain, known as C57BL/6, roughly doubles in weight over its adult life. That strain benefited from caloric restriction, Sohal said. The “lean” strain, DBA/2, does not become obese. Caloric restriction did not extend the life of these mice, confirming previous work by Forster and Sohal. “Our study questions the paradigm that caloric restriction is universally beneficial,” Sohal said. “Contrary to what is widely believed, caloric restriction does not extend (the) life span of all strains of mice.” For humans of normal weight, Sohal strongly cautions against caloric restriction.

ScienceDaily
1/26/09

<http://www.sciencedaily.com/releases/2009/01/090123101224.htm>

Gene Therapy Cures Form of “Bubble Boy Disease”

Gene therapy seems to have cured eight of 10 children who had potentially fatal “bubble boy disease,” according to a study that followed their progress for about four years after treatment. The eight patients were no longer on medication for the rare disease, which cripples the body’s defenses against infection. The successful treatment is reported in the Jan. 29 issue of the *New England Journal of Medicine* and offers hope for treating other diseases with a gene therapy approach. Bubble boy disease is formally called severe combined immunodeficiency, or SCID. This genetic disorder is diagnosed in about 40 to 100 babies each year in the United States. The nickname

comes from the experience of a Houston boy, David Vetter, who became famous for living behind plastic barriers to protect him from germs. He died in 1984 at age 12. He had the most common form of SCID. Recent studies found that gene therapy produced impressive results for that form of the disease, but also carried a risk of leukemia. The new study involved a different, less common form of SCID—and one that holds a key position in medical history. In 1990 it became the first illness to be treated by gene therapy, according to the U.S. government. Two Ohio girls improved but continued to take medication.

PhysOrg.com
1/28/09

<http://www.PhysOrg.com/news152387369.html>

MS Stem-Cell Treatment “Success”

Stem-cell transplants may control and even reverse multiple sclerosis symptoms if done early enough, a small study has suggested. Not one of 21 adults with relapsing-remitting MS who had stem cells transplanted from their own bone marrow deteriorated over three years. And 81% improved by at least one point on a scale of neurological disability, *The Lancet Neurology* reported. Further tests are now planned, and a UK expert called the work “encouraging.” MS is an autoimmune disease caused by a defect in the body’s immune system, which turns in on itself, causing damage to the nerves which can lead to symptoms including blurred vision, loss of balance and paralysis. It is not the first time the treatment—known as autologous non-myeloablative haemopoietic stem-cell transplantation—has been tried in people with MS, but there has not been a great deal of success. The researchers at Northwestern University School of Medicine in Chicago said most other studies had tried the transplants in people with secondary-progressive MS where the damage had already been done. In the latest trial patients with earlier stage disease who, despite treatment had had two relapses in the past year, were offered the transplant.

BBC News
1/30/09

<http://news.bbc.co.uk/2/hi/health/7858559.stm>

Worm Survives Antarctic Cold via Natural Antifreeze

Two Brigham Young University researchers who just returned from Antarctica are reporting a hardy worm that withstands its cold climate by cranking out antifreeze. And when its notoriously dry home runs out of water, it just dries itself out and goes into suspended animation until liquid water brings it back to life. Identifying the genes the worm uses to kick in its antifreeze system can be useful information—similar genes found in other Antarctic organisms are currently being used to engineer frost-resistant crops. But BYU's Byron Adams, associate professor of molecular biology, and his Ph.D. student Bishwo Adhikari are carrying on their love affair with microscopic nematode worms for a different reason. They spent Christmas near the South Pole to help determine how the fate of a half-millimeter worm can actually impact an entire ecosystem, and how that information can serve as an important baseline for understanding climate change's impact on more complex systems, such as a farmer's field in the United States. Their latest study, published Monday in the journal *BMC Genomics*, used samples Adams gathered during previous trips to the world's most inhospitable continent.

PhysOrg.com
2/9/09

<http://www.PhysOrg.com/news153424129.html>

Stem Cells from Skin Cells Can Make Beating Heart Muscle Cells

A little more than a year after University of Wisconsin-Madison scientists showed they could turn skin cells back into stem cells, they have pulsating proof that these "induced" stem cells can indeed form the specialized cells that make up heart muscle. In a study published online Feb. 12 in *Circulation Research*, UW-Madison School of Medicine and Public Health professor of medicine Tim Kamp and his research team showed that they were able to grow working heart-muscle cells (cardiomyocytes) from induced pluripotent stem cells, known as iPS cells. The heart cells were originally reprogrammed from human skin cells by James Thomson and Junying Yu, two

of Kamp's co-authors on the study. "It's an encouraging result because it shows that those cells will be useful for research and may someday be useful in therapy," said Kamp, who is also a cardiologist with UW Health. "If you have a heart failure patient who is in dire straits—and there are never enough donor hearts for transplantation—we may be able to make heart cells from the patient's skin cells, and use them to repair heart muscle. That's pretty exciting."

ScienceDaily
2/13/09

<http://www.sciencedaily.com/releases/2009/02/090212161808.htm>

Dire New Warning on Climate from IPCC Scientist

Previously unconsidered positive feedbacks in the climate system (such as the release of arctic permafrost) have led a Nobel Prize-winning Intergovernmental Panel on Climate Change (IPCC) scientist to warn that "as a society we are facing a climate crisis that is larger and harder to deal with than any of us thought." "Greenhouse gases in the atmosphere are rising more rapidly than expected, increasing the danger that without aggressive action to reduce emissions the climate system could cross a critical threshold by the end of the century," says Chris Field, director of the Carnegie Institution's Department of Global Ecology and co-chair of the IPCC Working Group 2. Field is overseeing the Working Group 2 Report on the predicted impacts of climate change for the IPCC Fifth assessment, scheduled to be published in 2014.

Scienceagogo.org
2/16/09

http://www.scienceagogo.com/news/20090115173329data_trunc_sys.shtml

Designer Babies—Like It or Not, Here They Come

Long before Watson and Crick famously uncovered the structure of DNA in 1953, people envisioned with both horror and hope a day when babies could be custom designed—free of inherited disease, yet equipped with superior genes for good looks, intelligence, athleticism, and more. Now the

beginnings of that day have finally come. The Fertility Institutes recently stunned the fertility community by being the first company to boldly offer couples the opportunity to screen their embryos not only for diseases and gender, but also for completely benign characteristics such as eye color, hair color, and complexion. The Fertility Institutes proudly claims this is just the tip of the iceberg, and plans to offer almost any conceivable customization as science makes them available. Like it or not, the era of designer babies is officially here and there is no going back. For decades now a technology called preimplantation genetic diagnosis, or PGD, has enabled In Vitro Fertilization (IVF) clinics to screen embryos for more than 100 potentially debilitating and often deadly diseases before the embryo is implanted into the mother. A medical revolution has thus unfolded, enabling literally tens of thousands of couples and their babies to sidestep some of the world's most terrifying diseases.

Singularity Hub
2/25/09

<http://singularityhub.com/2009/02/25/designer-babies-like-it-or-not-here-they-come/>

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 by Alcor employee Regina Pancake. To RSVP, visit <http://cryonics.meetup.com/45/> or email regina@alcor.org.

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.

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!

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.

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.

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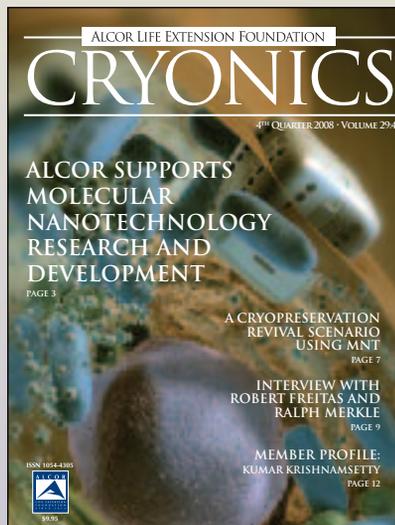
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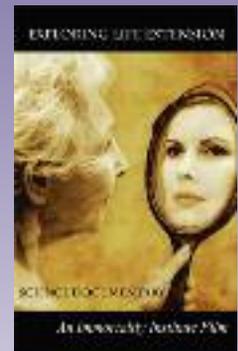
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WHAT IS CRYONICS?

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 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, 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:

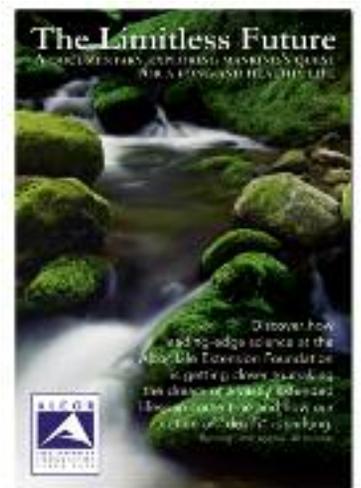
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