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A Publication of the Immortalist Society

LONG LIFE

Longevity Through Technology

Volume 46 - Number 01

- A tribute to cryonics pioneer John Bull
- The Past, The Present, The Future and Everything
- Funding Cryonics in an Inflationary Universe
- "The Repairable Human"

"Shou", pictured here, is the Chinese character for "long life" or "longevity"

www.immortalistsociety.org www.cryonics.org

www. americancryonics.org

CRYONICS INSTITUTE
Technology for Life

Why should You join the Cryonics Institute?

The Cryonics Institute is the world's leading non-profit cryonics organization bringing state of the art cryonic suspensions to the public at the most affordable price. CI was founded by the "father of cryonics," Robert C.W. Ettinger in 1976 as a means to preserve life at liquid nitrogen temperatures. It is hoped that as the future unveils newer and more sophisticated medical nanotechnology, people preserved by CI may be restored to youth and health.

1) Cryonic Preservation

Membership qualifies you to arrange and fund a vitrification (anti-crystallization) perfusion and cooling upon legal death, followed by long-term storage in liquid nitrogen. Instead of certain death, you and your loved ones could have a chance at rejuvenated, healthy physical revival.

2) Affordable Cryopreservation

The Cryonics Institute (CI) offers full-body cryopreservation for as little as $28,000.

3) Affordable Membership

Become a Lifetime Member for a one-time payment of only $1,250, with no dues to pay. Or join as a Yearly Member with a $75 inititation fee and dues of just $120 per year, payable by check, credit card or PayPal.

4) Lower Prices for Spouses and Children

The cost of a Lifetime Membership for a spouse of a Lifetime Member is half-price and minor children of a Lifetime Member receive membership free of charge.

5) Quality of Treatment

CI employed a Ph.D level cryobiologist to develop CI-VM-1, CI's vitrification mixture which can help prevent crystalline formation at cryogenic temperatures.

6) Locally-Trained Funeral Directors

CI's use of Locally-Trained Funeral Directors means that our members can get knowledgeable, licensed care. Or members can arrange for professional cryonics standby and transport by subcontracting with Suspended Animation, Inc.

7) Funding Programs

Cryopreservation with CI can be funded through life insurance policies issued in the USA or other countries. Prepayment and other options for funding are also available to CI members.

8) Cutting-Edge Cryonics Information

Members currently receive a free subscription to Long Life Magazine, as well as access to our exclusive members-only email discussion forum.

9) Additional Preservation Services

CI offers a sampling kit, shipping and long-term liquid nitrogen storage of tissues and DNA from members, their families or pets for just $98.

10) Support Education and Research

Membership fees help CI to fund important cryonics research and public outreach, education and information programs to advance the science of cryonics.

11) Member Ownership and Control

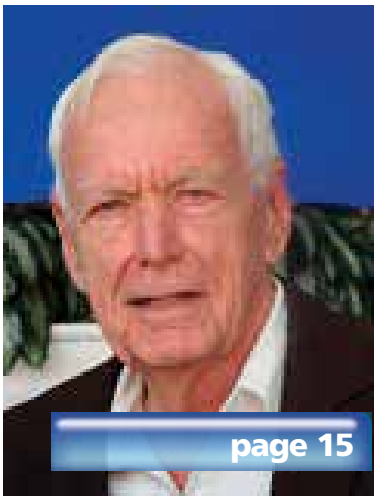
CI Members are the ultimate authority in the organization and own all CI assets. They elect the Board of Directors, from whom are chosen our officers. CI members also can change the Bylaws of the organization (except for corporate purposes).

The choice is clear: Irreversible physical death, dissolution and decay, or the possibility of a vibrant and joyful renewed life. Don't you want that chance for yourself, your spouse, parents and children?

To get started, contact us at:

(586) 791-5961 • email: cihq@aol.com

Visit us online at www.cryonics.org



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A publication of the Immortalist Society

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Delivering on a promise

Welcome to our second year of the "new" *Long Life* magazine. Unfortunately, it's a rather belated welcome, as this issue is coming to you much later than we had planned. More critically, we also understand that some of you are still suffering delivery problems.

Producing and distributing an international magazine is challenging, however regarding these delivery issues, we prefer solutions to excuses, so we're working to find those solutions.

One significant possibility we're exploring is regional printing and delivery, where we would print and ship the magazines locally from the countries we serve rather than from one central location in the United States. Local / regional printing should save both time and money, particularly by avoiding overseas postal costs, which benefits everyone.

A second option that's been suggested is digital delivery, either via direct download from the Immortlist Society or Cryonics Institute websites or through email delivery. The electronic version is available for immediate delivery at press time, eliminating printing time, shipping time and associated shipping expenses.

It's no secret that printing and shipping hard copy magazines is a significant business expense, however, rest assured that in spite of the current publishing trend toward digital-only delivery, we're not planning to discontinue printing the physical magazine. We're simply offering our readers additional and faster delivery options.

With this in mind, if you're interested in receiving digital delivery rather than a hard copy of the magazine, please contact Executive Editor York Porter at porter@kih.net. Please indicate if you'd prefer to download the magazine from the IS or CI websites or if you'd prefer some form of email delivery. The magazine is currently available in PDF format, but if you'd prefer to see an EPub or other electronic version, please let us know your suggestions as well.

We'll continue looking into the delivery problems with our current set-up while we explore these new options. To that end, if you are experiencing delivery issues, or if someone you know is experiencing issues (like not receiving the magazine at all and not being able to read this fine column) please don't hesitate to contact us with your name, address, country and, particularly, the specific date you received delivery. This issue we do have two "test issues" we'll be tracking to try to home in on the existing problems.

We appreciate your patience and your help - rest assured, our goal continues to be making *Long Life* the very best magazine it can be!

— *Douglas Golner* - *Managing Editor, Long Life*

LONG LIFE

A quarterly publication of the

Immortalist Society

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CRYONICS INSTITUTE
Technology for Life

CI EXECUTIVE REPORT

Dennis Kowalski - President, Cryonics Institute

Growing Pains:
Limited resources, duplication of effort and decentralization

Like it or not, cryonics is a business, and, like every business, certain challenges come up when new players enter the field, particularly when an increase in supply isn't balanced with an equal increase in demand.

With these thoughts in mind, a significant issue I feel that cryonics needs to address is a growing redundancy and duplication of effort in the way we collect, administer and spend limited resources as a collective community. We have many organizations and initiatives in cryonics that are beginning to do the same thing as other existing organizations. We now have multiple cryonics-type churches, charities, research institutions, educational groups, etc. and with more groups we're seeing more people doing the same things.

In some areas decentralization is good and even desirable. Standby and education are two areas that need to be spread everywhere, so I enthusiastically support local efforts in these two areas to help promote the cryonics message and globally improve the quality of all suspensions. However, in other areas, economies of scale are severely reduced when duplicate efforts by several organizations end up competing for the same resources.

For example, imagine two research organizations or cryonics companies independently investing dollars into the exact same research project and then both coming to the exact same conclusions. While duplication of experiments can validate or disprove an untested theory, do we really have the resources to do this within the cryonics community, where a majority of research consists of refining or reaffirming a relative handful of already-established principles? By virtue of the scientific method, any research project already includes multiple trials and experiments to verify results, so do we really need to reinvent the wheel over and over again with "new" projects that only reconfirm previously established conclusions? In my mind, spending dollars to reconfirm already well-established results isn't the most effective or beneficial way to use our resources or the wisest way to spend research dollars.

For another example, imagine two organizations separately raising money for the same charity, but with neither reaching their goals due to duplicated efforts and expenses. Now consider that by combining resources and sharing expenses, they could have effectively halved their expenses, doubled their effectiveness and easily met their goal. In the case of a charity fundraiser, missed goals are disappointing. In our world, that type of inefficiency can cost lives.

A more relevant example of this type of problem is the recent trend of wanting to create new cryonics facilities, which initially might seem like a great (and highly visible) way to grow the movement. However, apart from the benefit of saving transportation expenses by having a closer long term storage facility available (i.e. on other continents) there really isn't the huge influx of patients needed to support the tremendous overhead costs and capital infrastructure for numerous local storage facilities. Once a patient has been fully stabilized in dry ice, time becomes a much less critical factor regarding getting the person to a long-term storage facility. In fact, once a patient has been stabilized to dry ice temperatures, their suspension remains essentially the same, whether they're sent across the world or around the corner for their eventual long term storage.

Therefore, considering the massive infrastructure costs of setting up and maintaining a long-term facility of any size, there's really no advantage to having a dozen local storage sites competing for a single patient. A single large regional (or national) facility able to service numerous patients from a wider geographic area (national, continental, etc.) is in a much better position to capitalize on economies of scale - especially considering the relatively low current demand for long-term cryonic storage services.

To illustrate this point, let's say the US had ten cryonics facilities

instead of the two we have now. In this scenario, you would have a situation where you actually get negative economies of scale! Having 300 patients spread out among ten facilities would certainly cost far more to maintain than having those same 300 patients divided between only two facilities.

I have seen this scenario play out in the traditional emergency services arena where these facts are driving how resources are allocated. Local cities that used to have their own fire departments are now merging to form county fire departments. The result is that five separate administration buildings (and the rent, upkeep and maintenance costs for each) are consolidated into one. This saves money that can now be better spent investing in additional equipment, training and frontline personnel. When it's done right everyone enjoys greater efficiency and better service.

The cryonics industry already enjoys these efficiencies, with just a few primary, stable and established providers who are able to maximize the efficiencies of scale. Yet most of the world has little or no serious education in regard to cryonics or localized standby resources in place. I think it's important we put the horse before the cart and work on establishing a solid base for cryonics education and standby worldwide before we throw capital at an unproven market demand for the long-term storage of patients that do not yet exist. Or, even worse, divide up the limited patient demand we already have even further, increasing overhead and expenses for everyone. Local education and standby efforts can provide the benefit of increased visibility for cryonics, which seems to me like an essential first step to both increasing the acceptance of and creating more demand for cryonics services.

I simply do not believe in the "build it and they will come" scenario. I could be wrong and the act of starting more and more cryonics-related organizations and service providers may help create demand and end up doing more good than harm. However, this is a very expensive and high-risk prospect to consider with no guarantees of success, so I feel addressing the more pressing need for decentralized standby and cryonics education will do more to advance cryonics than investing in expensive facilities that may or may not succeed. This approach seems a lot more likely to succeed and provide the biggest bang for the buck, IMHO.

Standby and education efforts cost only the barest fraction of the expense of a new facility, meaning every dollar can go further and can benefit more people. A standby group with its equipment and personnel can literally be run out of a person's back room, basement, or garage at minimal or no cost. Educational materials and meetings can be held at various venues from internet forums to local pubs or libraries. Additionally, Funeral Directors already have established worldwide networks with the inherent benefit of an existing working business model that keeps them running and well-subsidized. Their business is handling & shipping human bodies, which is exactly the service cryonics patients and providers need. The transport and handling network is already in place - all we need to do is tap into it at key points. In contrast, the overhead of a brick and mortar building, specialized cryonics equipment and paid staff costs tens of thousands, if not millions of dollars. Adding the costs of liquid nitrogen and the unknown expense associated with guaranteed perpetual storage arrangements, any facility would need either a huge influx of patients or be forced to charge exorbitant prices in order to stay in business, much less make a profit. A traditional business that can't pay the bills has the luxury of simply closing its doors and declaring bankruptcy. That's not an option for a cryonics facility with the tremendous responsibility of preserving human lives.

I certainly wish well anyone who wishes to further the cryonics cause, especially those dedicated enough to invest or donate their own hard-earned money. But, as always, I encourage people to consider what they're investing in, and to contribute wisely and in a way that maximizes utility. In short, ask for the biggest bang for your buck.

With all that said, I believe CI's best course of action is to continue focusing on promoting standby everywhere at every level.

I also firmly believe in applicable research, and we are indeed looking at several research ideas and considering which directions offer the most promising potential. I don't believe in research simply for the sake of research, but rather in research that has the potential to provide tangible benefits and advances to the science and practice of cryonics.

We are also looking for help in the form of donations whenever it is possible. CI accepts donations directly through our website, including the less painful and more manageable option of setting up a small automatic monthly donation in any amount you're comfortable with. Every little bit helps, and even a small amount can grow over time to add up to a substantial gift.

Dennis Kowalski — CI President

You have signed up for Cryonics now what should you do?

Welcome Aboard! You have taken the first critical step in preparing for the future and possibly ensuring your own survival. Now what should you do? People often ask "What can I do to make sure I have an optimal suspension?" Here's a checklist of important steps to consider.

- ☐ Become a fully funded member through Life Insurance or Easy Pre-Payments

  Some members use term life and invest or pay off the difference at regular intervals. Some use whole life or just prepay the costs outright. You have to decide what is best for you, but it is best to act sooner rather then later as insurance prices tend to rise as you get older and some people become uninsurable because of unforeseen health issues. You may even consider making CI the owner of your Life Insurance policy.

- ☐ Keep CI informed on a regular basis about your health status or address changes. Make sure your CI paperwork and funding are always up to date. CI cannot help you if we do not know you need help.

- ☐ Keep your family and friends up to date on your wishes to be cryopreserved. Being reclusive about cryonics can be costly and cause catastrophic results.

- ☐ Keep your Doctor, Lawyer, and Funeral Director up to date on your wishes to be cryopreserved. The right approach to the right professionals can be an asset.

- ☐ Prepare and execute a Living Will and Power of Attorney for Health Care that reflects your cryonics-related wishes. Make sure that CI is updated at regular intervals as well.

- ☐ Consider joining or forming a local standby group to support your cryonics wishes. This may be one of the most important decisions you can make after you are fully funded. As they say- "Failing to plan is planning to fail".

- ☐ Always wear your cryonics bracelet or necklace identifying your wishes should you become incapacitated. Keep a wallet card as well. If aren't around people who support your wishes and you can't speak for yourself a medical bracelet can help save you.

- ☐ Get involved! If you can, donate time and money. Cryonics is not a turnkey operation. Pay attention and look for further tips and advice to make both your personal arrangements and cryonics as a whole a success.

What's happening in the worlds of the Immortalist Society with our associates at CI, ACS and elsewhere.

A Message from Aaron Winborn

Last Year's Successful Charity Effort is Making a Difference

Hello, My name is Aaron Winborn, and I was the recipient of the Society for Venturism's charity last year, to receive a future cryonic preservation at the facilities of the Cryonics Institute for when the time comes. I'm indebted to many of you for your contributions, and I want to thank you from the bottom of my heart for the peace of mind that this gives me. I still have an albeitedly diminished bucket list of things to do, but I don't stay up fretting over the things I'm incapable of accomplishing, in large part to this assurance. I know the odds are still not in my favor, but at least I have a significantly better chance of revival than if I were buried or cremated.

That said, this past year has been both challenging and a blessing. Challenging because of all the difficulties brought on by having to adjust to the continuing degeneration brought on by Amyotrophic Lateral Schlerosis, ALS, better known in the United States as Lou Gehrig's Disease, or Motor Neuron Disease in other parts of the world. Although I am not yet completely paralyzed, or "locked in" as they say, I am confined to my wheelchair, and cannot move my hands or arms. My breathing capacity is no longer measurable, and I cannot go for more than thirty seconds without mechanical ventilation before I'm in distress. I am not yet on a vent with a tracheostomy, but we are considering that as the next step to prolong my life. It's a difficult decision to make, however, because of the extraordinary amount of care that I would require around the clock, not to mention the possible loss of a quality of life. It's no wonder that only about ten percent of patients choose a tracheostomy, and only fifty percent of those go on to survive another year.

If that sounds scary to think about, well yes, it is. I could go on with a report of challenges we face, including the utter loss of the ability to speak or to understand spoken language, to the loss of the ability to eat or drink, to the devastation this awful disease has wreaked on my wife and our two young daughters, but I wouldn't be able to do it justice in a few short paragraphs, especially when I want to make sure that I leave space for the good things in my life.

So on with the good.

First, I have, after a year or so of giving up reading anything not available on the Internet, have reawakened my love of literature. I've rediscovered the ebook format, and am now devouring about two books a week. Mostly science fiction, but dotted with the occasional contemporary fiction. I'm also still participating in the Drupal community, with a friend who volunteers two hours a week and a tricked up communication device.

Although I have been largely holed up this winter, I still manage to get out every couple of months to see a movie with some friends, and it's been fun sitting at the picture window and watching the girls play in the snow. Oh, how I look forward to the warmer seasons when I'll be able to "walk" the neighborhood again.

I also have been exploring new ways of communicating with my sweetie. Certainly challenging, because of my inability to use the verbal bandwidth, and because so much of her time is taken up as both my primary caregiver and being almost a single parent. On top of that, my day is so broken up and consumed with my caregiving that I find it difficult to even focus on an email that I find myself consolidating my efforts and try to cheat, by counting in my mind a quick CC in an email, or say a mention in a magazine article or a blog post as a valid form of communication. But I know in my heart that doesn't fully count, so I continue to find new ways to let her know how special she is to me.

I am enjoying the simple things in life. I know that's a cliche, but as with all good cliches, there's an element of truth to it. From when our cat decided that my lap is warm and available for napping, to the spontaneous hugs my youngest daughter gives my leg, to watching my older daughter play computer games, to watching my wife's beautiful smile. These are the things that make up life, and I am so excited to have another day of it each morning I awaken.

Stay strong - ***Aaron Winborn***

Cryonics Institute Membership Statistics:

As of March 2014, the Cryonics Institute has 1,127 members and 121 patients.

Of the 1,127 Members, 549 have funding and contracts in place for human cryopreservation, an increase of nine. Of these 549, 152 have arrangements for Suspended Animation Standby and Transport

CI continues to be an industry leader in terms of both membership and practical affordability for all.

Cryonics Institute Membership by Country:

Worldwide Cryonics Groups

The cryonics movement needs your help! We're looking for your input to update and create a master list of cryonics organizations and resources world-wide. If you know of, or are considering starting a support, standby or other cryonics-related group in your area, please send details to immsoc@aol.com. We'll be using Long Life to list existing groups of interest as well as help spread the word and encourage new organizations (New additions to the list are denoted with an asterisk.).

AUSTRALIA: The Cryonics Association of Australasia offers support for Australians, or residents of other nearby countries seeking information about cryonics. caalist@prix.pricom.com.au. Their Public Relations Officer is Philip Rhoades. phil@pricom.com.au GPO Box 3411, Sydney, NSW 2001 Australia. Phone: +6128001 6204 (office) or +61 2 99226979 (home.)

BELGIUM: Cryonics Belgium is an organisation that exists to inform interested parties and, if desired, can assist with handling the paperwork for a cryonic suspension. The website can be found at www.cryonicsbelgium.com. To get in touch, please send an email to info@cryonicsbelgium.com.

***BHUTAN:** Can help Cryonics Institute Members who need help for the transport & hospital explication about the cryonics procedure to the Dr and authority at Thimphou & Paro. Contacts : Jamyang Palden & Tenzin Rabgay / Emails : palde002@umn.edu or jamgarnett@hotmail.co Phones : Jamyang / 975-2-32-66-50 & Tenzin / 975-2-77-21-01-87

CANADA: This is a very active group that participated in Toronto's first cryopreservation. President, Christine Gaspar; Vice President, Gary Tripp. Visit them at: http://www.cryocdn.org/. There is a subgroup called the Toronto Local Group. Meeting dates and other conversations are held via the Yahoo group. This is a closed group. To join write: csc4@cryocdn.org

QUEBEC: Contact: Stephan Beauregard, C.I. Volunteer & Official Administrator of the Cryonics Institute Facebook Page.

For more information about Cryonics in French & English: stephanbeauregard@yahoo.ca

DENMARK: A Danish support group is online. Contact them at: david.stodolsky@socialinformatics.org

FINLAND: The Finnish Cryonics Society, (KRYOFIN) is a new organization that will be working closely with KrioRus. They would like to hear from fellow cryonicists. Contact them at: kryoniikka.fi Their President is Antti Peltonen.

***FRANCE:**

- SOCIETE CRYONICS de FRANCE
  Roland Missionnier would like to hear from cryonicists in Switzerland, Luxembourg and Monte Carlo, CELL: (0033) 6 64 90 98 41, FAX: (0033) 477 46 9612 or rolandmissonnier@yahoo.fr

- Can help Cryonics Institute Members who need help for the transport & hospital explication about the cryonics procedure to the Dr and authority in Toulouse Area. Contact : Gregory Gossellin de Bénicourt / Email : cryonics@benicourt.com Phone : 09.52.05.40.15

GERMANY: There are a number of cryonicists in Germany. Their homepage is: www.biostase.de (English version in preparation.) if there are further questions, contact Prof. Klaus Sames: sames@uke.uni-hamburg.de.

GREECE: Greek Cryonics Support Group. Sotiris Dedeloudis is the Administrator. Find them at: http://www.cryonics.gr/

***INDIA:** Can help Cryonics Institute Members who need help for the transport & hospital explication about the cryonics procedure to the Dr and authority in Bangalore & Vellore Area. Contacts : Br Sankeerth & Bioster Vignesh / Email : vicky23101994@gmail.com Phones : Bioster / 918148049058 & Br Sankeerth / 917795115939

ITALY: The Italian Cryonics Group (inside the Life Extension Research Group (LIFEXT Research Group)) www.lifext.org and relative forum: forum.lifext.org. The founder is Bruno Lenzi, contact him at brunolenzi88@gmail.com or Giovanni Ranzo at: giovanni1410@gmail.com

JAPAN: Hikaru Midorikawa is President Japan Cryonics Association. Formed in 1998, our goals are to disseminate cryonics information in Japan, to provide cryonics services in Japan, and eventually, to allow cryonics to take root in the Japanese society. Contact mid_hikaru@yahoo.co.jp or http://www.cryonics.jp/ index.html

***NEPAL:** Can help Cryonics Institute Members who need help for the transport & hospital explication about the cryonics procedure to the Dr and authority at Kathmandu. Contact : Suresh K. Shrestha / Email : toursuresh@gmail.com Phone : 977-985-1071364 / PO Box 14480 Kathmandu.

NETHERLANDS: The Dutch Cryonics Organization (http:// www.cryonisme.nl) is the local standby group and welcomes new enthusiasts. Contact Secretary Japie Hoekstra at +31(0)653213893 or email: jb@hoekstramedia.nl

PORTUGAL: Nuno & Diogo Martins with Rui Freitas have formed a group to aid Alcor members in Portugal. Contact: nmartins@nmartins.com or visit www.cryonics.com.pt/

RUSSIA: KrioRus is a Russian cryonics organization operating in Russia, CIS and Eastern Europe that exists to help arrange cryopreservation and longterm suspension locally, or with CI or Alcor. Please contact kriorus@mail.ru or daoila.medvedev@mail.ru for additional information or visit http://www.kriorus,ru. Phone: 79057680457

SPAIN: Giulio Prisco is Secretary of the Spanish Cryonics Society. Website is http://www.crionica.org.sec. He lives in Madrid and he's a life member of CI and is willing to serve as a contact point for Europeans. He can be contacted at: cell phone (34)610 536144 or giulio@gmail.com

UNITED KINGDOM: Cryonics UK is a nonprofit UK based standby group whose website is: www.cryonics-uk.com and who can be contacted via David Styles (Organizer) at: +44 7706 149771 or ds@cryonicsuk.com or via Alan Sinclair (President) at +44 1273 587 660 cryoservices@yahoo.co.uk

INTERNATIONAL: The Cryonics Society is a global cryonics advocacy organization. Website is www.CryonicsSociety.org. They publish an e-newsletter *FutureNews*. Phone: 1-585-643-1167.

Please note, this list is provided as an information resource only. Inclusion on the list does not constitute an endorsement by Long Life magazine or our affiliated organizations. We urge our readers to use this list as a starting point to research groups that may meet their own individual needs. We further note that readers should always use their own informed judgment and a reasonable amount of prudence in dealing with any organization.

2013 Financial Reports

Continuing our Legacy of Financial Security

As member-owned and operated organizations, both the Immortalist Society and the Cryonics Institute are dedicated to transparency in our operations. As a service and convenience to members of our organizations, we publish Annual Financial reports in *Long Life* Magazine for our members' review. We think members will be satisfied to see that both organizations are on sound financial footing, thanks to judicious fiscal overview and management by our Boards of Directors.

Immortalist Society Annual Financial Report

(Covering the Period 09/01/12 through 08/31/13)

Beginning Balance $16,848.81

****

Deposits

Dues and General Donations $4,001.03

****

Subtotal of Assets: $20,849.84

****

Regular Disbursements

Newsletter (Production/Postage) $9,947.25

Bank Service Charges Through July $78.00
(August bank statement not received in time for this report)

Electronic Fund Transfer Fees Through July $449.32

Miscellaneous $220.00

****

Subtotal of Disbursements $10,694.57

Special Research Fund

Receipts (this year) $2655.71

Disbursements (this year) $1997.68

****

Balance as of 08/31/3012 ..... $10,813.30

(Note: Still to be deducted are Aug. bank service charges and EFT fees)

Cryonics Institute

Statement of Assets, Liabilities, and Fund Balance resulting from cash transactions - June 30, 2013

	General Operations	Contract Prepayments	Patient Care	COMBINED TOTAL
ASSETS				
Current Assets				
Checking accounts	44,320.63		0.00	44,320.63
Savings/Paypal accounts	1,655.26	0.00	0.00	1,655.26
Total Current Assets	45,975.89	0.00	0.00	45,975.89
Property, Equipment, And Other Assets				
Land	62,500.00			62,500.00
Building	236,596.36			236,596.36
Building improvements	175,430.54			175,430.54
Cryostats	409,192.63			409,192.63
Laboratory and office equipment	83,362.87			83,362.87
Furniture	1,299.00			1,299.00
Subtotal	968,381.40	0.00	0.00	968,381.40
Less: allowance for depreciation	(686,623.06)			(686,623.06)
Total Property, Equipment and Other Assets	281,758.34	0.00	0.00	281,758.34
Investments				
Cash balances in investment accounts		35,340.75	384,824.58	420,165.33
Investments, at current market value		818,212.66	1,467,557.67	2,285,770.33
CDs, at current market value		674,508.71	0.00	674,508.71
Total Investments	0.00	1,528,062.12	1,852,382.25	3,380,444.37
Note: Prepaid cryopreservation fees received before March 31, 2004 were recorded as income. After March 31, 2004 prepaid fees were recorded as a liability. All are refundable, pre-mortem. As of June 30, 2013, the remaining total of prepaid fees received before March 31, 2004 was $372,186.35. This amount is in addition to the Refundable Prepaid Contracts liability below.				
TOTAL ASSETS	327,734.23	1,528,062.12	1,852,382.25	3,708,178.60

LIABILITIES AND FUND BALANCE				
Liabilities				
Withheld and payroll taxes	3,438.09			3,438.09
Payments received on behalf of IS	79.00			79.00
Refundable Prepaid Contracts	0.00	960,738.06		960,738.06
Total Liabilities	3,517.09	960,738.06	0.00	964,255.15
Fund Balance				
Contributed capital	2,257,907.85	546,414.86	698,276.72	3,502,599.43
Accumulated balance (deficit) 12/31/12	(1,859,598.63)	47,394.17	1,179,688.45	(632,516.01)
Net revs (exps) 6 months ended 6/30/2013	(5,440.52)	28,986.07	(149,705.52)	(126,159.97)
Transfers	(68,651.56)	(55,471.04)	124,122.60	0.00
Total Fund Balance	324,217.14	567,324.06	1,852,382.25	2,743,923.45
TOTAL LIABILITIES AND FUND BALANCE	327,734.23	1,528,062.12	1,852,382.25	3,708,178.60

Cryonics Institute

Statement of Revenues and Expenses resulting from cash transactions for the six months ended June 30, 2013

	General Operations	Contract Prepayments	Patient Care	COMBINED TOTAL
REVENUES				
Cryonics services	140,568.39			140,568.39
Research grants	2,500.00			2,500.00
Dividends	0.00	12,860.71	6,747.87	19,608.58
Interest	0.00	10,638.19	0.30	10,638.49
Long term capital gains			5.45	5.45
Loss on disposition of asset	0.00		0.00	0.00
Net gain/(loss) on investments	0.00	5,487.17	(156,459.14)	(150,971.97)
Total Revenues	143,068.39	28,986.07	(149,705.52)	22,348.94

EXPENSES				
Advertising	4,636.04			4,636.04
Bank charges	3,133.93	0.00	0.00	3,133.93
Cryogens	14,845.06			14,845.06
Cryonics services and supplies	22,622.76			22,622.76
Depreciation	25,804.00			25,804.00
Facility supplies and services	1,164.96			1,164.96
Insurance	8,472.34			8,472.34
Interest	0.53			0.53
Legal and professional services	0.00			0.00
Maintenance and repair	2,814.47			2,814.47
Office supplies and services	3,474.06			3,474.06
Penalty	12.60			12.60
Pension	3,288.00			3,288.00
Research and development	0.00			0.00
Salaries and wages	45,921.00			45,921.00
Taxes	3,750.46			3,750.46
Telephone	2,652.10			2,652.10
Travel	426.03			426.03
Utilities	5,490.57			5,490.57
Federal Corporate Income Tax	0.00			0.00
Total Expenses	148,508.91	0.00	0.00	148,508.91
Operating revenues over (under) expenses	(5,440.52)	28,986.07	(149,705.52)	(126,159.97)

Cryonics Institute

Statement of Cash Flows resulting from cash transactions for the six months ended June 30, 2013

	General Operations	Contract Prepayments	Patient Care	COMBINED TOTAL
Cash Flow From Operations				
Net revenues (expenses)	(5,440.52)	28,986.07	(149,705.52)	(126,159.97)
Add back non-cash expenses and revenues:				
Loss on disposition of asset	0.00			0.00
Depreciation and amortization	25,804.00			25,804.00
Total Cash Flow From Operations	20,363.48	28,986.07	(149,705.52)	(100,355.97)
Cash Flow From Other Sources				
New memberships	66,948.93			66,948.93
Bequests received	5,813.83			5,813.83
Fixed asset purchases	(6,500.72)			(6,500.72)
Increase in amounts owed to IS	0.00			0.00
Increase in withheld and payroll taxes	124.50			124.50
Increase in contract prepayments-net	0.00	14,172.68		14,172.68
(Increase)/Decrease in CDs		16,610.53	0.00	16,610.53
Other transfers	(68,651.56)	(55,471.04)	124,122.60	0.00
Decrease/(Increase) in investments		(36,781.55)	31,539.16	(5,242.39)
Total Cash Flow From Other Sources	(2,265.02)	(61,469.38)	155,661.76	91,927.36
TOTAL INCREASE (DECREASE) IN CASH	18,098.46	(32,483.31)	5,956.24	(8,428.61)
Changes In Cash Accounts				
Checking accounts	16,443.20	0.00	0.00	16,443.20
Savings/PayPal accounts	1,655.26	0.00	0.00	1,655.26
Cash in brokerage accounts		(32,483.31)	5,956.24	(26,527.07)
TOTAL INCREASE (DECREASE) IN CASH	18,098.46	(32,483.31)	5,956.24	(8,428.61)

ACS Annual Inspection of CI for 2013

By: York W. Porter

Over the weekend of September 7th and 8th, 2013, York W Porter, as a member of the Board of Governors of the American Cryonics Society, carried out an inspection of the Cryonics Institute on behalf of ACS. For the full information of readers, Mr. Porter, the writer of this column, is both a CI suspension member and a member of the Board of Governors of the American Cryonics Society as well as the President of the Immortalist Society. The Immortalist Society is, of course, the publisher of *Long Life.*

The facility that the Cryonics Institute operates out of is located at 24355 Sorrentino Court, Clinton Township, Michigan in a small industrial park. Clinton Township is one of the many communities that are in the general region/are a "suburb" of Detroit, Michigan. The building itself is a well-maintained structure that blends in well with its surroundings. One of the most evident things in this year's inspection was the fact that several maintenance activities coupled with some improvements had been made.

One of the most noticeable improvements was to the patient preparation room. This room had been tiled, had been better organized with the placement of nicer looking and more functional cabinetry and, in general, offered both a more professional look to any prospective members and/or persons generally interested in cryonics, as well as obviously providing a more professional approach to providing services to patients.

The bulk storage tank on the outside at the back of the building, which is used to hold a large quantity of liquid nitrogen, was in good working order. This provides the facility with quite a bit of back up capacity in the event a problem occurring with liquid nitrogen supplies. Further, CI continues the policy of using more than one liquid nitrogen supplier to decrease the chances of such an eventuality happening to begin with.

A "walk through" of the facility at various times during the weekend showed the facility to be in good working order. The cryostats are arranged in a neat and orderly fashion with easy access via a "catwalk" for refilling them provided. Labels had been added to the cryostats providing a more professional appearance to any potential visitors.

No damage to any cryostats was noted. Tools and equipment sufficient to operate the facility were readily at hand. The "cool down" box appeared to be in good working order. Enough cryostats were on hand to handle an unexpected influx of patients.

The business license of the organization was prominently posted and appeared to be properly filled out. During the CI annual meeting, an extensive financial report was offered which an individual who has an extensive and professional background in auditing and finances prepares. It was noted that the CI Board of Directors has several such persons as Board members. That fact offers at least some assurance that one of the fundamental causes of failure of many organizations, lack of adequate attention to the organization's finances, was less likely to occur.

As an additional safeguard, one of the CI Board members who is not the Treasurer, but who also has a professional background in the area of finances, does "spot checks" of CI finances at random times. It is reassuring that this practice has been going on for several years and, to date, this individual has found zero defects and/or irregularities in CI financial operations and records.

In terms of building security, there are several prominently placed security cameras that, coupled with the alarm system, offer significant deterrence to anyone with criminal intentions entering the facility. Stickers about the security measures were prominently displayed as a further deterrence.

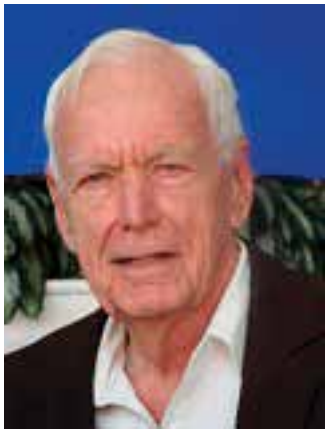
In summation, the annual inspection of CI indicated an organization that is generally well run and which is attempting to both stay on top of problems and is improving itself as time and other resources enable it. While no type of inspection regimen can assure one with absolute certainty that problems do not exist, the continuing inspections of ACS, coupled with internal controls and efforts at CI, give a reasonable level of assurance that individuals under the care of CI are in no immediate danger and that the prospects of their continued long term storage and care, at least for the foreseeable future, are excellent.

As a totally independent organization from either the Cryonics Institute or the Immortalist Society, ACS will continue its annual inspections of the CI operations and facility in an attempt to help assure, along with the efforts of the CI Board, that patients continue to be kept in a situation that maximizes the chances of safekeeping until such time as it may be possible to revive them and restore them to reasonably youthful health. ACS wants to thank the management of the Cryonics Institute for its cooperative and professional nature and for the assistance offered to ACS during these annual inspections.

Former *Long Life* Editor John Bull Becomes CI's 120th Patient

In January of this year, John Bull was placed under the care of the Cryonics Institute in Clinton Township, Michigan. John had to undergo a medical procedure from which, regrettably, he did not recover. John was a long time stalwart of cryonics, going back to the early days as the concept first began to gain prominence. John was one of the "workhorses" of the movement who toiled mightily, and, frequently, quietly and unheralded behind the scenes, in his efforts to help advance Robert Ettinger's world and life-changing concept.

In 1996, John became the editor of what was then called *The Immortalist* (and now called *Long Life* Magazine). John was also a member of the Board of Directors of the American Cryonics Society and the Vice President of the Immortalist Society. The article below is both a general tribute to John and an account of one of the many efforts John made on behalf of his fellow cryonicists. John was deeply respected and very well liked in the cryonics community and those of us who knew him are grateful to have done so and even more grateful for his willingness to share of his talents and time in helping further the cause we're all involved in.



John Bull (1929-2014)
Photo by Mike Perry

A Really Interesting Road Trip

When John Bull, John Day, Andy Zawacki, Dan Wilson, frozen people and animals, traveled cross-country and into the future

By Jim Yount
Chief Operating Officer, American Cryonics Society

The phone conversation might have gone something like this:

John Day: "Hello John Bull, how would you like to go on a really interesting road trip?"

John Bull: "I like interesting; tell me more."

John Day: "OK. So Andy Zawacki, Dan Wilson, me and you, if you want to, are going to drive these trucks from Los Angeles to Detroit. There are going to be passengers, sort of - ten humans, two dogs, and three cats!"

John Bull: "Good. The passengers can share in the driving."

John Day: "Not really. Those guys have all let their driver's licenses expire."

John Bull: "How inconsiderate!"

John Day: "They couldn't help it. They are all frozen solid and in liquid nitrogen."

John Bull: "Hmmm…. Frozen guys, huhh? Some of my best friends are frozen guys. So, what would I have to do to participate in this road trip?"

John Day: "Simple. You and I are going to mostly drive the chase truck right behind the truck driven by Andy and Dan. The frozen people will ride with Andy, so unless Andy and Dan have a breakdown, you and I will just cruise along, singing "99 Bottles of Beer on the Wall" or whatever to while away the time till we get to Detroit. If Andy's truck breaks down, then we load the frozen guys and frozen pets in our truck and motor on to the Motor City!"

John Bull: "I see. So we are sort of the suspenders, in the belt and suspenders scenario?"

John Day: "You got it! It will be kind of like the midnight ride of Paul Revere, except we won't be shouting 'the British are coming,' we will be shouting 'the patients are coming.' Seriously, our cargo is very precious: people and pets whose prospect for future lives may depend upon arriving in Detroit just as cold as they left LA. Our truck will be loaded down with extra liquid nitrogen and back-up insulated patient containers as well."

John Bull: "How will the logistics work?"

John Day: "First you take a taxi to the airport nearest you in Florida, fly to LA then take a taxi to Rancho Cucamonga,

California. That is the present home of the frozen guys. You and I will meet-up with Andy and Dan in Southern California. We pick up the chase truck in LA, load up the frozen guys and motor east! Then after the cryo-patients are delivered, you and I catch a taxi to the Detroit Airport, and we each fly back home."

John Bull: "That sounds like great fun! Count me in!"

It was the first week of April, 2004 when the famous cross-county transport took place. The frozen people and pets, that we like to refer to as "patients," were anatomical donations; subjects in the grand cryonics experiment. These people and pets (plus one DNA sample) had entered the frozen state at various times over quite a number of years before the famous road trip. Some of them had been cooled-down in Rancho Cucamonga, California under contracts the American Cryonics Society ("ACS") had with BioPreservation and CryoSpan. Other frozen folk, ACS patients all, had been on a previous road trip, being transported from the Trans Time facility in Oakland, California to the Southern California CryoSpan facility some years before.

The principals of CryoSpan, after being in business for several years with contacts with both CryoCare and the American Cryonics Society, had decided to close up shop. The CryoCare patients were transferred to the Alcor facility near Phoenix, Arizona while the ACS patients were destined to continue their frozen hiatus at the CI facility at Clinton Township, near Detroit, Michigan.

It is always discouraging to see a cryonics service company close down. During its tenure, CryoSpan had been reliable and innovative. For example, it was the first company, as far as I know, to use underground silos to house the cryostats that house the frozen patients. Engineers at CryoSpan also designed improved hard-vacuum cryostats, to get more efficient performance: less liquid nitrogen boiling off in a day. But the market was just not there. At that time there were four long-term cryonics storage facilities in the US, with often less than half a dozen people frozen each year.

For many years prior to this monumental patient move, the American Cryonics Society had had a contract with the Cryonics Institute with a number of ACS patients going directly to the CI facility. With the planned patients' move from Southern California to Michigan, ACS would bring together almost all of the patients it was responsible for, in one location. The move would increase the patient load at the CI facility significantly, perhaps enabling CI to take better advantage of the economies of scale: reduce the overhead cost per patient.

We did considerable planning, and worked through quite a number of scenarios prior to making the move. There was precedence for patients traveling by ground transportation in liquid nitrogen. CryoSpan's transport of ACS patients from Northern to Southern California; Alcor's transport of frozen patients in liquid nitrogen in its move from Riverside, California to Scottsdale, Arizona. Also Andy had previously brought two patients, frozen in liquid nitrogen, cross-country from Oakland, California to Clinton Township, Michigan. The transportation, however, that John and John, Andy and Dan participated in was to move the patients over 2,260 miles which I believe to be the longest patient move ever for ground transportation of patients in liquid nitrogen.

We are very thankful to Andy and to Dan. Even though Andy is now, and was then, an "old hand" at patient care, moving patients any distance at all, especially those frozen to liquid nitrogen temperature, presents unique challenges and dangers. CI is fortunate to benefit from such experience and dedication. Just to be able to start the road-trip with the ACS patients, Andy and Dad had driven the truck that was to be the patient transport truck, cross country from Michigan. That would make their road trip 4,520 miles, more than 18% of the distance around the world!

John Day is ACS' most experienced person in the art of patient care. John is a graduate engineer, who worked with Trans Time (another cryonics service company) for many years, including designing the largest high-vacuum cryostat ever to hold human patients. We definitely wanted John Day on this trip. It was John's suggestion that we employ a "chase" or backup truck in case of breakdown. This turned out to be a very good idea, as you will soon learn.

At the time of this historic road trip, John Bull was 74 years old, and by far the oldest of the four drivers. The two Johns were both volunteers. While John Day counted as friends some of the patients who would make the trip, or their families, as far as I know, John Bull had not personally known any of the people who benefited by this transport. Yet he readily stepped up to help out in what was a very physically demanding task. In recalling the road-trip Andy told me: "John Bull was dedicated to cryonics, and he had a lot of energy. To make a trip like he did at his age was really remarkable."

"John Bull and I initially decided to trade-off driving every two hours," John Day told me. "In practice it turned out to often be longer than that, but John Bull was always ready to get behind the wheel. It would have been very chancy and dangerous to attempt the trip without his help. As strange as it may seem, given the rigors of the journey, John Bull and I both rather enjoyed the trip, and became good friends."

The first leg of the trip brought our four drivers, ten frozen people, and five pets, to Las Vegas, Nevada where the drivers ate dinner at a casino. It seems ironic that the biggest gamblers in Las Vegas that night were NOT the people inside the casino, but the ten frozen folk

in a modest looking truck in the parking lot with a high stakes bet on the future! John Day recalls that the road-trippers continued on to North-Eastern Nevada to spend the night. Andy said that this first leg of the journey was longer than the four wanted before they were able to bed down. Every hotel and motel they passed had a no-vacancy sign.

As it turned out, the chase truck driven by John and John, was the one to break down on-route. It could just as easily have been the patient transport vehicle instead. On the steep grade going east from Salt Lake – it could have been the very spot where Brigham Young first laid eyes on the lake and declared the area the promised land -- the transmission of the chase truck deanimated. The vehicle was towed into Salt Lake City where the truck-rental company provided the two Johns with a replacement truck that was not available until the next day.

After losing the chase vehicle, Andy and Dan continued on with the patients to Michigan," explains John Day. "The truck driven by John Bull and me was loaded down with a couple of Dewars of liquid nitrogen and additional patient transport containers. Transferring this stuff from the broken-down truck to the new one was an interesting operation in itself.

We followed the designated route with our replacement truck, so we still could have rescued the patients if Andy's truck broke down." John added that in comparing notes with Andy later on it appears that Andy and Dan were just getting into Michigan at the time he and John Bull were leaving Salt Lake City with the replacement truck.

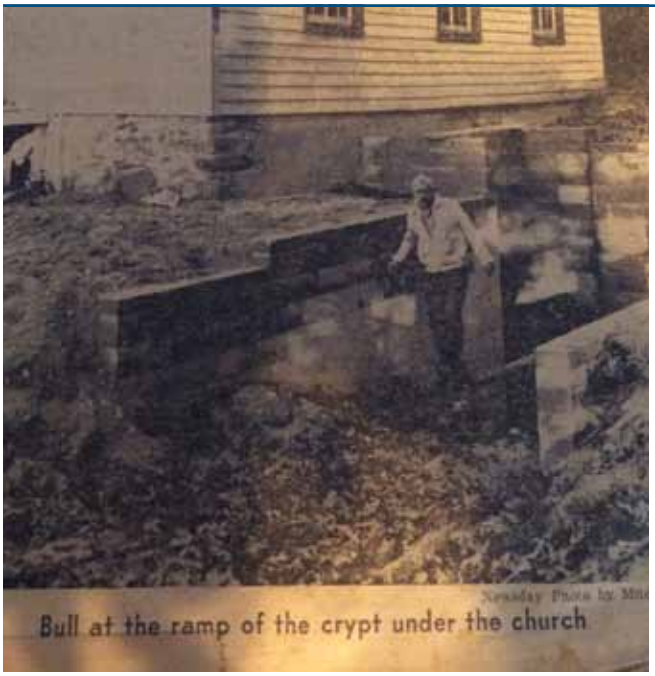
The human patients who make that trip became CI patients, now numbered on the CI webpage. People familiar with cryonics history will note the list includes some cryonics luminaries: long-time ACS President Jerry White, and ACS Governor Margaret Bradshaw.

John Bull also surely numbers among the cryonics notables. John's interest and participation goes all the way back to the Cryonics Society of New York. One of John's friends mentioned that he understood that John first learned of the people-freezers when he happened to pick up and read a brochure that Curtis Henderson had distributed to a gas station! That goes to show that any of our efforts to promote cryonics and spread the word often do lead to positive results. As readers to Long Life know, Curtis Henderson is also a patient at the CI facility.

Mike Perry has done much to gather information and preserve the record of what we now think of as "the early days of cryonics." Mike reports that the first mention in the written records he found of John was 1971 but he speculates that John's involvement goes back further "maybe in the mid-1960s". Even using the 1971 date, that would mean that only one or two of the present CI members can trace their participation in cryonics to an earlier time!

In private email communication, Mike gave another example from those early days of where John volunteered for a difficult and dangerous task. Mike said that records show that John helped Nick DeBlasio to repair a cryostat that Nick was personally maintaining at a New Jersey cemetery. Curtis Henderson and Mike Darwin also assisted. The repair required removing frozen patients from the cryostat, storing them temporarily in dry ice, then (after cryostat

Continues on Page 25


Bull at the ramp of the crypt under the church

A Cryonics Pioneer

Cryonics has come a long way since its inception, in no small part due to the efforts of pioneers like John Bull, who often faced significant challenges in the process. Bull's daughter Debbie Fleming forwarded this newspaper clipping from her Dad's files that illustrates one of the more dramatic episodes in cryonics history.

The articles come from a 1971 newspaper article about Cryo Crypt, one of the early cryonics operations. Bull was the treasurer of the company at the time this photograph was taken. Cryo Crypt Corp purchased the Middle Island Methodist Episcopol Church pictured here, with the intent of constructing a cryonics storage facility in the property's basement.

Unfortunately, zoning problems and controversy doomed the operation. According to Curtis Henderson in good-natured apocrypha, after the zoning permit was rejected, local citizens with torches surrounded the church on Halloween night, putting a dramatic and conclusive end to the project.

LEF To Host Fifth Annual Teens and Twenties Event

Cairn Idun and Bill Falloon will be hosting the Life Extension Foundation's Fifth Annual Young Cryonicist's Event April 4-6 in Deerfield Beach, Florida Also known as the "Teens and Twenties Event," the gathering is intended as a semi-formal get-together for young people between the ages of 17 and 30 who are interested in the subject of cryonics.

The event includes get-acquainted activities, informational sessions and an opportunity for attendees to interact with representatives from the professional cryonics community.

From the official Teens and Twenties brochure:

"Greetings to Young Cryonicists,

I am looking forward to meeting (and reuniting with) as many of you as possible in person. I respect the foresight you have shown by signing up early. I would like to review the goals of this gathering and then give you an overview.

Goals:

- *Educate young cryonicists about developing emergency response technologies and revival strategies.*
- *Develop a continuing social network of like-minded individuals who otherwise might not have the opportunity to meet in person.*

Overview:

This education seminar/gathering is sponsored by the Life Extension Foundation (LEF) (www.lef.org), a non-profit organization. The genesis of LEF began at a cryonics meeting in 1976. Saul Kent and I met with wealthy individuals seeking to establish an organization that would support scientific research and education aimed at eradicating biological aging and death.

This meeting resulted in the formation of the Life Extension Foundation. Yearly LEF contributions to anti-death research projects now exceed $10 million. Back when Saul and I met, our community of individuals signed up to be cryopreserved totaled only a fraction (less than 10%) of what it is today. Regular monthly meetings enjoyed an almost 100% attendance. Cryonicists developed strong social bonds in those days and relied upon each other's volunteer services for emergency responses and even perfusions and encapsulations.

We have witnessed the advent of the Internet and a move to paid professionals to provide what used to be volunteer cryopreservation services. Unfortunately, we have also witnessed the fragmentation of our community of more than 2,000 signed up cryonics members (in terms of personal interaction).

As increasing numbers of younger individuals sign up to be cryo-preserved, it has become apparent that a gap exists between today's aging cryonics leaders and those destined to be the future leaders of cryonics related organizations. The two-fold focus of this special Young Cryonicists Gathering will be one, for you to get to know each other and to provide you with the opportunity to meet a few of those responsible for today's ongoing advances occurring in cryonics and two, for us to get to know each one of you.

Cairn Idun, founder and director of "Teens and Twenties" events, understands that each of you has your own preference for social introductions. She has organized a variety of "getting acquainted" activities with the objective of having no unmet introductions and bonding opportunities.

This gathering creates an environment for today's scientific and financial caretakers to get to know the future leaders of cryonics AND for you to get to know each other AND, as a consequence, draw strength from each other. We are each others resources.

Enjoy this exciting and fulfilling weekend.

Friday

- Dinner & Get Acquainted
  Room will open at 5:30 pm.
- Welcome: Cairn Erfreuliche Idun & Bill Faloon
- Brief self introductions
- More detailed self introductions
- "Getting to Know You" Activity: Cairn Idun

Saturday

- Breakfast, Informal Socialization (Noon-1 pm: Lunch . Afternoon: Refreshments.)
- "Getting to Know You" Activities: Cairn Idun will host a variety of "getting acquainted " activities to encourage introductions.
- John Schloendorn: Research Update
- Optional Contact Exchange -A " Stay in Touch" Network, Forum & Meet-ups
- 6:30 pm -Dinner
- Bill Faloon: Current Topics
- "Getting to Know You" Activities & Entertainment by Our Talented Attendees: Cairn Idun

Sunday

9:00 am - 10 am Breakfast, Socialization

- 10am -5pm (1pm -2pm: Lunch.)
- * Attend Service at the Church of Perpetual Life
- * "Getting to Know You" Activities: Cairn Idun
- * Closing Remarks

Two Exclusive Scholarships for Long Life Readers!

We're pleased to report that Cairn Idun has extended the registration deadline for the Teen and Twenties event for two additional scholarships covering air fare, room & board and admission expenses. To apply, please fill out the form at the link below and return it to Cairn per the instructions listed on the form.:

www.immortalistsociety.com/teensandtwenties2014.pdf

The first two *qualified applicants received by Cairn will be awarded the scholarships to the event, so act fast!*

Cryonics Funding in an Inflationary Universe

An Analysis of One Possible Solution

Reprinted Courtesy of "Cryonics Magazine"

By Rudi Hoffman CFP CLU ChFC

Monetary or price inflation seems to be built into the fabric of twentieth century economics as inexorably as inflation is built into the structure of the universe. Both seem to be simply part of the facts of life, and we as humans with ambitions beyond our current station need to find ways to deal with these facts.

As you read these words, stars and galaxies are exploding away from us at enormous speeds. And, also as you read these words, inflation may be causing the cost of specialty medical interventions like cryonics to rise.

Numerous stories abound dramatizing the effects of monetary inflation. Cards which feature the price of bread, milk, stamps, and houses in the year of your birth are popular with baby boomers, a nostalgic tribute to a simpler and less costly past that were in fact almost certainly neither by real metrics, as Matt Ridley documents in "The Rational Optimist."

For the purpose of this article, let's stay focused on the cost of cryonic suspension, a medical intervention with tremendous potential which can only be realized if a number of variables work well for us, including the financing piece.

PURPOSE OF THIS ARTICLE, AN ANALYSIS OF INDEX UNIVERSAL LIFE

Compared to the fields of endeavor which the current consumers of cryonics services are engaged in, such as artificial general intelligence, biotechnology, advanced physics, software engineering, and the (almost) intractable field of ending aging, life insurance and finance is relatively straightforward.

If you are reading this article, the odds are very good that you are both smart and highly educated, and can handle a reasonable amount of nuance without breaking a sweat. In fact, you may find learning about this to be downright fun!

We will be analyzing a relatively new product offered by the life insurance industry called an "Index Universal Life". You may be familiar with the basic concept of a Universal Life policy. Let's take a quick review.

UNIVERSAL LIFE: THE BUCKET OF CASH METAPHOR

We can think of putting money into a Universal Life (UL) policy as putting money into an bucket of money made available by the life insurance company. From this bucket the insurance company pulls a relatively tiny dipper, which is used to pay the internal "cost of

insurance" each month. The actual "cost of insurance" is an internal risk cost and in the early years of a policy is generally quite low, enabling the cash in the bucket to grow and compound.

The cash in this "bucket of money" grows due to the influx of money, and the interest or growth credited on this money.

So, the simple variables are: 1. The amount going into the bucket, 2. The growth credited on this money, and 3. The cost of insurance being withdrawn from the bucket.

When UL illustrations are made, they generally, and in some cases by law, provide at least two illustrated scenarios of these variables.

Some UL policies also have a guarantee rider, that protects the death benefit even if the cash value falls to zero, which could be perceived as a helpful feature for cryonicists who want to know that their policy will pay the death benefit without fail regardless of market conditions.

One of these illustrations will be showing how the policy will work using several "worst case" assumptions.

The other, generally the rightmost three columns on the year by year illustrations page, assumes the CURRENT or actual interest rates and internal cost of insurance being charged by the insurance company.

Pretty straightforward so far, right? Here's where it gets a bit nuanced.

HEY, I READ A WALL STREET JOURNAL ARTICLE SAYING THAT SOME OLDER UNIVERSAL LIFE POLICIES ARE A DISASTER.

In November of this year, 2013, the Wall Street Journal had not just one but two separate articles informing their readers about a legitimate but not well known financial train wreck. The articles both accurately depicted what is happening to Universal Life policies which were sold back when the interest rates on fixed investments were not just higher, but in some cases much higher. UL policies sold in the 1980s were often illustrated at 12% or more growth on the cash value. And, with the interest rates continuing to be at historic lows, these policies are lapsing, or requiring more money to be put in them. (1) (2)

If you have one of these older policies, you own a ticking time bomb. You need to immediately call the company that issued the policy and ask for an "In force illustration" which will show you how the policy will perform under the current interest rate and contribution scenarios. It may help to have an expert run an analysis of your policy to see what the reality is. This policy review is certainly a good idea to have done every five or ten years or so regardless of when your policy was issued.

There is good news, however, especially if you are healthy and insurable. This brings us to a way you can structure a policy that will last as long as you do, with an increasing benefit the longer you live.

THE PAST, PRESENT, AND FUTURE OF UNIVERSAL LIFE POLICIES

Do you like history? Can you see yourself on a timeline stretching from the past to the present where you are reading these words and continuing to the future? On this timeline, if we put the OLD style Universal Life policies, we have some UL policies which could lapse...the policy could "die" before you do! . These were often sold using HIGH INTEREST projections and did not have any underlying "guarantee riders." If you have a policy more than ten years old you may have the "obsolete dinosaur" UL model, and you should get it checked to see how it will perform using more accurate current interest rates.

If you have a NEWER model of UL, it may have a guarantee rider to guaranteeing coverage to age 120. But, what if you live PAST age 120?

The future of Universal Life is what we move to now...a policy which can grow and help address the inflation question.

HOW INDEX UNIVERSAL LIFE WORKS, EVOLVING A NEW FINANCIAL CREATURE

What if you could obtain most of the "upside growth" of the stock market, without taking the risk of your account going down, the "downside risk" if the market turned south and plummeted?

The search for this "best of all possible worlds" and the evolutionary pressures of the financial industry has enabled the emergence of a new financial creature. This creature combines most of the upside growth of the market when times are good, but manages to avoid the downside risk of major market pullbacks. Instead, it simply takes a nap for a year, has zero growth, but zero loss, and waits for the market to start going up again.

This creature has evolved after decades and centuries of evolution of financial products, responding to enormous pressure in the reputation based free market system.

First introduced in 1998, this creature has been evolving nicely, with more and better consumer protections built in, multiple indices to utilize for growth options, and lower internal costs enabling streamlined growth of internal cash values in the policy. This new creature is called "INDEX UNIVERSAL LIFE INSURANCE."

The cash value inside the life insurance policy has options that the policyholder can decide on, with percentages of the cash value defined in each.

One or more of these investment options enables that section to have index related growth. This means that while the dollars are not invested directly in a stock market index like the Standard and Poor 500, the insurance company credits a growth to your account based on growth or change in this index.

WHAT DOES THIS MEAN TO ME AND MY POLICY?

In the case of at least one cryonics friendly insurance carrier, here is what this means to you and I as consumers. If the S and P 500 goes up in a given year, your account is credited with up to 12% of this growth.

If the Standard and Poor 500 index goes down, nothing is credited to your index account...but it does not go down either.

So, we are basically credited with something between zero and 12%, depending on what the S and P 500 does.

The obvious question, "How is this sustainable by the insurance company?" could fill a book length explanation. The short answer has to do with economy of scale that insurance companies have, as well as the ability to buy options on the S and P index that go up if the index goes up.

Plus there are some profits on the life insurance part of the program.

And, there are built in penalties that discourage people from pulling their money out in the early years of the program.

In short, it is a financially transparent product, in that we can see how the simple parts work, and also how the insurance company can rationally make it available.

We will show an example to see how this works. The example assumes a male 32-year old...let's call him Joe Visioneer...applies for and obtains an Index Universal Life policy at preferred non nicotine using rates. The policy is anIndex Universal Life

policy for a face amount of $300,000. Joe is paying 300 dollars a month into this plan.

WHAT IF YOU CAN'T AFFORD TO FUND A POLICY AT THE NECESSARY LEVEL NOW?

One of the enormous benefits...and dangers...of any universal life policies is that you can ADJUST the premium. While this does give people the right to shoot themselves in the foot and underfund a policy, this provision does something very positive. It gives people the right to establish a policy, pay less now, and more in the future when they can. So, Joe could start with 100 a month, and increase this after a few years to $300 a month or more.

SO, WHAT ARE THE TRADEOFFS?

We intuitively know that there must be tradeoffs in any decision. What are they with Index Universal Life? What are the risks?

Well, remember we talked about the "worst case scenario?" When you look at an IUL illustration, you will see a section that shows what happens in a worst case scenario. And, in Joe's case, this means that his policy shows zero value...cash value and death benefit of zero... at his age 75, some 43 years into the program. Should this worry us?

Probably not. Here is how the "guaranteed" side of an IUL is determined. It actually assumes FOUR worst case scenarios...occurring every year between now and the rest of your life. These four are 1. That the stock market goes straight down, decades in a row. AND 2. The insurance company goes to their maximum internal cost of insurance, which would only happen if all companies were doing this due to a worldwide pandemic or war AND 3. All internal costs of the policy go to the maximum AND 4. You and your broker see these things occurring year after year, decade after decade, and do nothing to adjust the policy so it delivers as needed, or redirect the premiums into a different policy or company.

It can be fairly observed that the likelihood of all four of these occurring is small. And, more importantly, if the stock market drops relentlessly for the next 43 years, and we have worldwide pandemic and/or wars, the odds of a good cryopreservation are certainly low.

WHAT IF YOU ARE 52 INSTEAD OF 32?

Joe's father John Visioneer is 52. He can invest $500 a month into a life insurance and savings plan. This gives him a death benefit of $300,000 which constantly rises each year, a reasonable expectation of over $339,000 in cash and a death benefit over $639,000 at his age 82.

There is no magic bullet that fixes every concern about proper cryonics funding. But a well funded Index Universal Life is certainly a program rationally minded and highly analytical cryonicists may want to consider.

1. Universal LifePolicies Hurt by Low-Rate Era -WSJ.com
2. Is YourLife-Insurance Policy at Risk? -WSJ.com

The Repairable Human:
Challenges of Biological Suspended Animation
By Blake Delaney - personal web site: BlakeDelaney.com

Public education remains a key objective for the cryonics movement, helping to raise awareness and ideally, acceptance and support from the public at large. CI Member Blake Delaney recently took the initiative to create a personal outreach program for his family. Delaney wrote an article arguing the case for cryonics as part of a packet that included his footnoted article, a DVD interview with David Ettinger, a copy of the Scientist's Open Letter on cryonics, and a number of internet resources. It's a thorough presentation with a lot of information and Blake was kind enough to share it with Long Life. Every little bit helps, and we think this is an excellent reminder that we can all make a difference to the movement..

Synopsis:

This paper discusses three items (listed below). Existing processes, events, and technologies are described to support their accuracy. Then, it is introduced how people or groups can apply these items with established technologies, to create the possibility of saving individual human lives that would otherwise inevitably be lost.

1. The biological processes in cells and organisms (collectively referred to as life), including human life, can be slowed, stopped, stored for an indefinite period of time, and restarted (resuscitated).
2. Organisms can be repaired from a physically damaged to a healthy state through the guided positioning, manipulation, and supplementation of their components. Components in this context refers to organs, tissues, cells, cellular structures, molecules, atoms, and subatomic particles.
3. Historic knowledge and past technologies have severely limited humanity's ability to take advantage of the above two items. Existing technologies and research are empowering us to reduce those limits, and to expand current medical applications. Future medical repair technologies are only limited by actual physical laws.

Content:

Human beings are made of matter. Any object that is made of matter can be created, repaired, or destroyed.

More specifically: Every object in existence was created at some point, by the rearrangement of matter through some physical process. Every object we are aware of, (with the possible exception of black holes), can be destroyed through the disassociation of its parts. Most types of everyday objects in our environment, including organisms and humans, undergo physical repair by human beings somewhere on Earth, on any particular day. The sophistication of a repair is generally a function of the practitioners' knowledge, skills, technologies, and tools. However, all repairs have certain characteristics in common, including these: 1) The repair of an item always involves the positioning, manipulation, and/or supplementation of the item's components. 2) The smaller the components that one is able to directly work with, the more sophisticated a repair can potentially be.

The above two paragraphs contain only common observations. However, the everyday concept of "repair" is not usually thought of in the context of biological entities like people. That is because people, like all other currently known organisms, are incredibly complex kinds of matter. Therefore, the skills needed to repair people are also proportionally complex. In other words, some kinds of matter are more difficult to repair than others. To illustrate this "difficulty scale", here are a few types of repairs, both mechanical and biological. They range from the relatively easy, to the increasingly difficult.

1. It is easier to fill a pothole in a road, than to...
2. Set a broken bone, which is easier than...
3. Fixing a car engine, which is easier than...
4. Performing heart surgery, which is easier than...
5. Curing a whole body bacterial infection (septicemia), which is easier than...
6. Growing a new human organ, to replace one that is not functional, which is easier than…
7. Curing metastatic breast cancer, which is easier than...

8. Repairing a single cell that has been damaged, at the molecular level, which is easier than...
9. Bringing a recently dead (by starvation) C. Elegans (a roundworm) back to life, by comprehensively repairing its approximately 959 total cells, which is easier than...
10. Repairing every damaged cell, tissue, and organ in a recently deceased human being. An adult human body has approximately 60-90 trillion cells, and approximately 1000 individual organs. (206 bones, 700 muscles, and at least 60 other types of organs and organ pairs).

The first half of this list represents basic and easily undestandable physical repairs.

The second half is more complex, and more recent. Number 6 on the list was actually only achieved in 2011. For the first time in history, mankind used tissue engineering to grow a new human organ in the laboratory, for the purpose of replacing one that was not functioning. The patient, Andemarian Beyene, a 36-year-old geology student from Eritrea, had been suffering from late-stage tracheal cancer. Beyene's own stem cells were used to grow a new trachea, which was later surgically implanted into his throat, to replace his own severely damaged organ.

The second half of the list contains types of repairs that we have not yet accomplished. However fantastic the latter items may seem, those repairs are just as physically possible as the ones that precede them.

This is a very important point. In order for the following sections to be understood, a person must first understand that there is nothing about repairing individual cells, or whole organs, that violates the laws of physics. It only requires research and technology that has not been fully developed.

No one can predict exactly how technology will develop. The types of technologies that would be required to repair individual cells on a molecular level, are very complex and difficult. The exciting news is that technologies are emerging today that could very well advance to the point where comprehensive cellular repairs are possible in the future. These include nanotechnology, advanced computing, genetics, biotechnology, tissue engineering, and tissue regeneration.

How exactly does a thing that is already broken, start working again? When you break a machine, whether a mechanical machine, or the biological constituents of a cell, organ, or an organism, it stops working. However, once a broken machine is fully repaired, it spontaneously starts working again. There is nothing magic about that process, but it does require a little explanation.

Imagine a basketball that is rolling down a hill. If you stop the basketball halfway down the hill and puncture it with a knife it will deflate and stop rolling. If you repair the puncture, inflate the basketball, and set it back where it was, perfectly still, it will start rolling downhill again.

This basketball is a simple machine which spontaneously starts to roll again because it has what's called "potential energy". In the case of the basketball, its potential energy comes from its position on the hill, and Earth's gravity.

The same concept applies to any other machine. If you repair a broken car engine, fill it with gas, and close the starter circuit by turning the key, it will start running. That's because the car battery and the gasoline have chemical potential energy. Potential energy is just another way of saying something has "stored energy that is ready to be used".

Biological systems have chemical potential energy as well. If you accidentally sever one of your fingers from your hand, the cells do not immediately lose their potential to function. Success rates for surgical finger reattachments that are performed within 12 hours of the injury, are around 87%.

A certain species of tree frog in Canada (the wood frog or "Rana Sylvatica"), routinely survives the winter by allowing itself to be frozen in the snow. It stops moving, and lets itself freeze completely solid. It stops breathing… it's heart stops beating, and it has zero brain activity. Its skin and internal organs become hard as a rock. A veterinarian could declare this frog to be clinically dead, and they would be correct.

A few months later when the warm weather returns, the frog thaws out. Soon, its body begins to function, and after a few hours it hops away. These frogs are able to literally come back to life from death after they warm up. They perform this remarkable feat using the chemical potential energy that is stored in their bodies combined with uniquely adapted biological mechanisms.

Through evolution this frog developed the ability to allow its life to stop, to wait out hard times in a preserved state, to resuscitate itself, and to continue its life when conditions are better suited to thrive. This is a process that human scientists are only beginning to investigate.

Of course, we are not frogs. People do not have the ability to pause their life using their biology alone. However, we are beginning to develop this ability using our medical technology. Even today, there exist certain situations where human beings are brought back to life from a cooled or frozen, clinically dead state.

The death of a person or an organism is not instantaneous - it is a physical process that involves various stages, each taking some time to complete. These include: Initial deterioration or injury, organ failure, cardiac arrest, respiratory arrest, oxygen starvation (ischemia), tissue damage (ischemic cascade), cellular death (necrosis), and finally, decomposition.

However, given certain natural or man-made criteria, biological death or clinical death is not always permanent but is sometimes reversible. The phrase "clinical death" is currently defined as the absence of blood circulation and breathing. Nature has developed ways to reanimate various creatures from the dead. In certain favorable situations, doctors can bring human beings (both adults and embryos) back from clinical

death as well. This is known as resuscitation.

The longest that a human being has survived an accidental cardiac arrest, is over three hours. Anna Bagenholm was brought back to life after her heart ceased beating for 3 hours and 20 minutes. She was clinically dead for 40 minutes of that timeframe (with no blood circulation, no breathing, and no CPR).

The longest time that a human life has been completely stopped, and restarted, is 13 years. During those years, these people had no biological or chemical activity of any kind. Laina Beasley of the USA was conceived, grew into a human embryo, and was frozen, as an embryo, in liquid nitrogen. After 13 years in cold storage, she was brought back to normal temperatures and implanted into her mother's uterus. From that point, she developed naturally into a beautiful, healthy baby girl.

The previous stories demonstrate processes that can be difficult to believe or accept, because they challenge how we think about the cycle of life. Biological life, including human life, can sometimes be slowed, or stopped, and restarted years later. Under controlled circumstances, an organism can even die (experience clinical death), and be brought back to life.

I invite you to pause for a moment to reread the previous sentence, and to consider its implications.

Most people think of death as a permanent prospect, a permanent state. However, as we have seen here, death is not always permanent. If dead organisms and people can sometimes be brought back to life through the use of today's technology, then it stands to reason that as technology continues to advance, our collective definition of "irreversible death" could, and probably will, continue to be adjusted over time to reflect current and future medical advances.

This brings up an important question: What kinds of death are truly irreversible? In other words, what kinds of damage could **never** be repaired because of physical laws, no matter how advanced technology gets?

I think this question can be answered most easily by thinking about a much simpler machine than a human being. Let's think about an automobile: A simple, old-fashioned, 1980's era Volkswagen Beetle.

If you have a broken VW Bug and you are a skilled auto mechanic, you can fix almost any kind of problem. You can replace a broken engine, pull out a dent in the body, fix a damaged paint job or replace the passenger seats. Even if you found a badly damaged VW Bug in a junkyard with half its parts missing and the other half terribly rusted, a sufficiently skilled mechanic could restore it to working condition.

In order to repair or rebuild something you must also have sufficient information to know what it is and how it's supposed to be put together - you need to know what it was like before it was broken. To repair a *specific* thing, you need to know more than the general details, you need to know the particular details unique to that object..

If our example VW bug has rusted in the junkyard for a couple of decades, you could still actually gain quite a lot of information from its remains. A skilled forensic team could determine exactly what color the paint was, look at the VIN number to find out what year it was made, and examine the engine to determine the make and model. Once they learned enough about the unknown, rusted-out vehicle, they could match it to blueprints and other data that would allow them to bring the machine back to its original state. They can fix the car, and retain its unique character.

However, if the same VW bug was vaporized, and no other information about it existed, there would be no way to repair it, because you wouldn't even know that it was originally a vehicle, much less a specific kind. You could still build "a" Bug with the matter on hand, but without its specific information, you could never build "that" Bug again.

It is physically possible to repair any material object as long as you have enough information about the previous state or states of the object and sufficient technology to manipulate the matter of the object to bring it into whatever particular state that you desire. For crude manipulations of matter, simple technology is sufficient. When matter is more complex, or damage is more severe, then more advanced technology is needed.

The requirements for physical repair apply equally to both inorganic matter and biological tissue. They also apply equally to organisms (and people) that are considered living or recently dead. As long as we have sufficient information about the neural structures (structures in the brain), information about the biological and cellular structures that make up an individual (the DNA), and sufficiently advanced matter manipulation tools, then it is *physically possible* to repair a person or even recreate tissues or organs that are severely damaged or missing.

Unfortunately, we do not yet have the technology to perform these kinds of life-saving repairs. However, history strongly suggests that human beings will continue to expand their technological capabilities. As long as medical technology keeps advancing, these kinds of "miracles" become more and more technologically feasible.

It may seem that future technology is not very relevant to the present. We are currently mortal creatures. We grow old, and we die. However, the principles outlined in this paper open up an intriguing possibility of extending life: a way of taking advantage of tomorrow's technology, today.

Information is the most important requirement to making a complicated repair. If a human being was able to transport enough of their recently deceased body in a well-preserved state into the future, then it is quite feasible that future technology would be capable of repairing and reviving that person.

Imagine yourself as the rusted, dead VW Bug, the one that sat in a junkyard for two decades. As long as there is enough remaining of the car, sufficient data about

its structure, and the tools and materials required to make repairs, there is an excellent chance that it can be restored. The same is true of your body, including your brain, your organs, and your cells.

The technology to perform massive repairs on humans at a cellular level does not yet exist, although it is getting closer every year. However, the technology to preserve a human body in an unchanging state, for long periods of time (decades or centuries), does exist. It's known as Cryonics, or the freezing of recently deceased human beings in liquid nitrogen.

Cryonic preservation is a well developed technology, which was first proposed in 1962. The first person who was frozen with the intent of future resuscitation was Dr. James Bedford, in 1967. Bedford is still suspended today.

As of this writing, there are about 200 people around the world stored in liquid nitrogen, and some have been preserved for 20, 30, or 40 years. There are also over 2000 people worldwide with contracts to be cryonically preserved, immediately following their legal death.

Although the word "frozen" is commonly used, the most advanced cryopreservation techniques available today employ a process called vitrification, which helps avoid most of the tissue damage that can occur at cryogenic temperatures.

There are systems in place to maintain these recently deceased human beings in liquid nitrogen, year after year. Their bodies never change, and their tissues never decay.

If the technology ever exists to repair human beings on a molecular and cellular level, then it is physically possible that these people, who have been in cryonic suspension all these years, will one day be repaired, resuscitated, and reintegrated into human society.

For such people, it could be like waking up in a foreign land. It seems unlikely that they would be alone, there would need to be people and processes to help them through the transition. Still, it could be nearly as strange and exciting, or nearly as scary, as being born for the first time... all over again.

But why would a person want to be brought back to life after cryonic suspension, only to suffer the deterioration of continued old age? The answer is: There would be no need for them to be old anymore. Their organs and tissues, or even entire bodies, could be repaired or replaced back to a state of youth and good health.

For people who are resuscitated from a suspended state, aging and disease would no longer be the concerns they are today. The same types of advanced medical technology that would be required to repair and resuscitate a human being, would also be fully capable of curing any currently known disease, retarding or stopping the aging process, and restoring a person to youthful health. Advanced tissue regeneration could replace missing body parts, or even provide entirely new bodies. Using the identity information preserved in the brain, rejuvenation techniques could make an elderly person young again with their complete memories intact.

It took the human race 147 years (1864 to 2011), to progress from creating the first gasoline automobile engine, to growing new human organs in the laboratory. It is difficult to predict how long it might take for humanity to achieve effective medical control of their own bodies. However, as long as science and technology continues to advance, it seems likely that we will achieve greater and greater medical sophistication.

A time may arrive when we are no longer in danger of our bodies being damaged by common biological processes. To put it in more general terms, it is likely that we will one day have great control over our physical forms, and our own health.

We don't have to wait until those goals are realized, to maximize our chances of well being, and biological survival. We have the options every day, of applying nutrition, exercise, medical care, self care, and cryonics to help ourselves, and to help those we love.

John Bull *- continued from page 17*

repair) returning them to the cryostat and once-again adding liquid nitrogen. That procedure would not be necessary at the present-day CI facility where back-up cryostats are always kept at the ready so if repair is ever needed, the patients NEVER needs-be warmed to dry-ice temperature.

Most readers know John Bull as the long-time Editor of Long Life Magazine, a tenure of over fifteen years! In 1996 John took over as Editor from Mae Ettinger and was instrumental in turning out a first-class publication that has done much to inform and bring the cryonics community together. The editorship was a difficult task that John readily stepped up to take on. As important as that was, when I think of John, I will remember him for the famous midnight ride! It was gratifying to learn that John's cryopreservation went well and that volunteers helped to bring that about. That is, in a way, pay-back!

Like a lot of cryonicists, I like to do a bit of fantasizing about the future and about the possibility that this grand experiment succeeds and the interesting mix of people who might get together in the future, post-reanimation. Can't you see the people who were frozen passengers on that trip, getting together with John and John and Andy and Dan? Maybe they will decide to repeat the road-trip, but this time with the passengers really sharing in the driving, so John, John, Andy and Dan can just sit back and enjoy the ride!

In the meantime, John Bull my friend, have a good ride into the future. I hope to see you again at the end of the journey!

Robert Ettinger's Legacy

Long Life magazine continues to feature thoughts from the prolific pen of Robert Ettinger, the Father of Cryonics. Ettinger's thought-provoking writings from years past continue to be relevant to today's cryonics movement, giving a glimpse into how far we've come today and where we can go tomorrow. This particular submission is from the September 1986 issue of The Immortalist (which was the former name of Long Life magazine).

In 1994 Robert Ettinger was invited to give a talk about the origins of his book The Prospect of Immortality. He talked about that, as well as other topics such as the early cryonics movement, the present situation as it existed at that time, and other matters. This talk was first published in the Alcor magazine Cryonics (3rd Quarter, 1994). It was transcribed at the time by Dr. R. Michael Perry. It was then republished, slightly edited, in the April 1995 issue of The Immortalist, which was then the name of Long Life magazine.

In this talk Mr. Ettinger gives an excellent review of how cryonics came to be, both in his mind, and in general, and spoke about some problems that faced the field back then, some of which are still present, to some degree, today. The clear headed thinking that dominated Mr. Ettinger's approach to the field he basically founded is also quite noticeable in this speech.

The Past, the Present, the Future, and Everything: Robert Ettinger's Presentation to the 1994 Sixth Annual Venturist Festival

PART ONE

(part two will be published next issue)

"First, on behalf of Mae and myself and the rest of us here, our thanks to Dave Pizer and Trudy---Trudy especially---and to Mike Perry and all the other people of the Venturists and Alcor for their generous hospitality, and of course to Mr. Laughlin for his very kind hospitality. Dave asked me to talk this evening about the genesis of *The Prospect of Immortality*, so I'll talk a little about that. In addition, I'll consider the early cryonics movement, the present situation, the future, recruitment into cryonics, and research.

In 1926 Hugo Gernsback started *Amazing Stories*, essentially the first science fiction magazine in my neighborhood. I was about 8 or 9 at the time. My father bought the magazines and I read them too. I grew up with the understanding that obviously we would one day conquer aging, and would be immortal. And then of course I looked around, and it was apparent that we wouldn't be immortal any time soon, though I never did lose confidence that it would happen one day.

Then in the early thirties there was a science fiction story published by Neil R. Jones, "The Jameson Satellite," about a Professor Jameson, who had arranged to have his body put into earth orbit after he died.

The author mistakenly believed that it would be near absolute zero out there. The professor in the story wanted his body preserved at that temperature indefinitely, so in the story this was done. His body was put into earth orbit, human civilizations rose and fell, and eventually humanity became extinct. However, millions of years later an alien race came by--these were sort of cyborgs, organic brains with mechanical bodies. They had advanced technology, and they found Professor Jameson and revived him--his brain, that is (all you neuros take hope!) They put it into one of their artificial bodies, and he went on living.

Well, it was immediately obvious to me that the author had missed the main point of his own idea. That is, if it made any sense to expect that you might be rescued from frozen storage by aliens after millions of years---why not 100 years from now by our people, and why just for one eccentric, why not everybody? It was obviously the right thing to do but clearly I was in no position to promote it. I just assumed that since it was so obvious people in positions of power, prestige and influence would recognize it sooner or later, and things would be taken care of. But of course that didn't happen.

Then the war came along and I was wounded in Germany just before the Battle of the Bulge. Among other things the war taught me that the so-called survival instinct isn't what it's cracked up to be. I think that lesson has been hammered deeper into my mind ever since. And it even applies to me! I remember one time I was observing: The Germans were retreating. They were over on the next hill or ridge. I walked out into the open to get a better look, and a sniper fired at me. The range was pretty far, and the first round was a few yards off, but if I'd had an ounce of sense, if I'd had any survival instinct, I would have dived for cover, or run for it. But I didn't. I was more interested in showing that son of a bitch that

he couldn't scare me, and I just sauntered off, just slowly walked away, until I was out of his sight. Stupid!--but, a lesson.

A great many things are more important to people than living, at least for all practical purposes. Theoretically, they're not, and under some circumstances they're not. But under other conditions, and in fact, most modern circumstances, the survival instinct is way, way down on the line of priorities.

On the day I was wounded, I was a second lieutenant, directing mortar fire. I had to stand up to see. The rifleman next to me was prone--as of course he should have been--but the same shell that got me through the legs got him through the head and killed him. It was just dumb luck.

I was in the hospital for four years, and of course had time to think. One of the things I thought is that I'd better do something about this freezing business because nobody else seemed to be doing it. I didn't know how to promote it because I had no prestige, no standing anywhere, no important credentials of any kind, so I thought, well, I'll write a science fiction story. And I did.

In 1947 I wrote a story called "The Penultimate Trump". It was about a millionaire that had himself frozen, and so on. The point was that it set forth the primary thesis. It was published in 1948 in a magazine called Startling Stories. And of course it didn't make a ripple.

So, time went by and I still had no credentials or any way of wielding influence. Nevertheless, as I got older, it became clearer that I couldn't wait too long because nobody else was doing it. All these smart people were blind apparently.

So in 1960 I went to a little more effort. I wrote up a 2 or 3 page flyer focused on the insurance aspects of cryonics, because I figured that this would open an immense, new, life insurance market. People would need all this extra insurance to fund their cryonic suspension. I mailed it to several hundred people chosen more or less at random from Who's Who in America, but there was an extremely small response. It became clear that, even though this idea was so simple and so obvious to me, nevertheless it would require at least a book length exposition to make it credible to most people.

So I wrote a little book, the first version of The Prospect of Immortality. I published it myself---it was about sixty pages or so, if I remember correctly. I had a couple hundred copies run off and sent them out to a variety of people, including Fred Pohl, who was then editor of a science fiction magazine, Worlds of Tomorrow. Fred became interested, and had a lot of connections, including a radio program run by Long John Nebel, who was the premier all-night talk show host in New York. Fred went to considerable length to publicize it and to get me invited to Nebel's program and various others. On one of Nebel's shows there was Fred and myself and Nebel and Victor Borge, and this went on all night. There were lots of telephone calls, lots of inquires. Anyhow Fred arranged a lot of talks with speakers and prsentations, and I got invited to a lot of things.

This illustration is from Ettinger's "The Penultimate Trump, written in 1947. The short man on the left has been revived after 320 years of frozen sleep; the tall man in the center is his 14th generation descendant.

And then it came to light that Ev Cooper had also published a book privately, in 1962, which he called Immortality: Physically, Scientifically, Now. (Mike Perry has had that republished.) Ev got in touch with me, and the upshot was that Ev started an organization in Washington called the Life Extension Society. He finally got a few dozen people interested, and started a small newsletter.

A little later, Curtis Henderson, Saul Kent and others started the Cryonics Society of New York--including a young fellow named Karl Werner who coined the word "cryonics": that was the first time that was used. And so on--the movement grew but it grew very slowly; I won't got into a lot of further details.

The way my book got published commercially in 1964--this is the version of the book most people are familiar with--was a little offbeat. I had tried to interest some publishers. One or two of them said it was interesting but it wasn't book length material. In fact I think it was Macmillan that said the book was unique (which I thought a remarkable encomium), but I knew it was long enough. My brother Alan knew a philosophy professor in the northeast somewhere. I wrote to him and he suggested I get in touch with one of his relatives who was a junior editor at Doubleday, a man named Tom McCormack. (He's now President of St. Martin's Press.)

Anyway, he got the book and read it. He thought it was good too, but needed more length. So I added some more to it--not padding---there was really a lot more that should have been said. The expanded version he sent in for scientific evaluation. He wanted it to be stamped kosher on the scientific side, so guess whom he sent it to:

the well-known science and science fiction writer, Isaac Asimov. And Asimov said yes, it's okay, the science is all right, there are no blunders in there, and it might work. So I got a contract with Doubleday.

Of course, the irony is that Asimov was against it, purely on what I suppose he would call ethical grounds: If you had people living indefinitely all the old men would be frozen into positions of power. The young people coming up wouldn't have a chance and besides that, what was important was not any individual life or even the life of humanity, but the growth and advancement of life and intelligence in the abstract. If you want to make that concrete, he was saying in effect that the important thing is if, for example, on some planet of Aldebaran, a million years in the future, a race of giant spiders finds a way to spin more beautiful webs--that is important! Whether you live or die, or humanity lives or dies, isn't important. Go figure.

My own theory is that most people--not all of course--but most who are in positions of power, eminence, influence, prestige or wealth, or are very successful in any way, are poor candidates for recruitment into cryonics. There are several reasons for this. One is, they're just too busy. They've got a million things to do, they've got no time to pay attention, and you just hardly can get their attention. Besides that, they're usually protected by ranks of flunkies. In other words, if some person of influence, the President of the United States, say, were to hear of this, he'd say to one of his flunkies, "Find out if there's anything in it." And the flunky in turn would give the job to some other flunky, who would go off to the head of the chemistry or biology department at some university and ask if there's anything in it. If he said no, then it would be passed back up the chain. Or if he said maybe, well---all the flunkies ever think of is protecting themselves. They would much rather take a chance of failing to say yes to a good idea, than of saying yes to a bad idea.

So that's another aspect of it. Beyond that there's the Adolph Zukor Syndrome.

Adolph Zukor was a movie pioneer. he was immensely wealthy later in life, and one of our people, Bob Brakeman, had an opportunity to meet him socially over a period of several weeks. He talked with him extensively about cryonics---Zukor agreed , "Yes, it's a great idea, perfectly rational, it could work." Well, would he sign up? "No." Why not? "Because my friends and relatives would look at me funny." That's right. He'd rather die than have his acquaintances think he was peculiar. He was more concerned with their continued approbation than with his personal chances of living. So it's not the same for everybody, but all of these things put off various people.

Even so, there was a lot of public interest in cryonics back in the '60s. Some of the people expressing early interests included: Senator Daniel Patrick Moyniham, who was in a TV studio coincidentally with me and sought me out afterward; some prominent Texans including politico Don Yarborough and banker Harlan Lane (who eventually joined Cryonics Institute, after many years); the psychotherapist of A&P heir Huntington Hartford (who failed to persuade Hartford); brassiere salesman Steve Milgrim, who said his friend Leonard Gold would put "a million dollars cash" into cryonics. (Mr. Gold didn't think our advertising should include photos of hardware or surgery: "If you want to sell a laxative, you don't advertise a picture of a toilet."); Jackie Gleason, who was turned off by what he perceived as an antireligious bias in cryonics; Bill Albaugh, one of Ev Cooper's friends, who ran for political office on a cryonics platform, promising more than any other politician in history--and lost; Elvis

The "Amazing" story that inspired cryonics

Robert Ettinger grew up reading Hugo Gernsback's Amazing Stories, and he credited one of those imaginative stories as the inspiration for his concept of cryonics. The Neil R. Jones story *"The Jameson Satellite"* that appeared in the July 1931 issue of *Amazing Stories* had a profound impact on the 12-year old Ettinger, and subsequently the world.

In the story, the immortality-minded Professor Jameson comes up with what sounds like an awfully familiar idea to cryonicists: that advanced future science will be able to find a way to revive or restore a human from what is currently considered irreversible death as long as the body is sufficiently preserved. Considering that in 1931 there was no practical concept of disciplines like nanotechnology, robotics and hyper-advanced computing, we should credit the author for being quite a forward-thinking guy, eight-armed alien robots notwithstanding.

If you've never read this amusing little gem of cryonics history, we recommend you give it a read. It's available online at Project Gutenberg http://www.gutenberg.org/ebooks/26906

Presley's father, according to Bob Brakeman when Elvis died--but too little too late; a Roman Catholic cardinal--and many others I don't recall at the moment. Some of them are still thinking about it, no doubt.

I was on most of the well-known talk shows: I was on Johnny Carson several times, and Mike Douglas, Merv Griffin, and Steve Allen. With Steve Allen I made one of my main mistakes.

Steve invited me to California to be a guest on his television show, and paid my way, and I naively, once I got there, accepted other invitations. I didn't realize that was a no-no. When someone invites you somewhere and pays your expenses to appear on a television show, you don't go on competing shows, or other shows, on the same trip. So he was peeved about that, and who knows, possibly otherwise he might have had a personal interest. He did express such an interest, publicly, in that he had more things to do than he could accomplish in ten lifetimes, that he would certain like to live much longer, and so on, but I gave him this personal offense inadvertently out of ignorance and stupidity, and that wrote him off.

A lot of people were written off, too, for various reasons. Stanley Kubrick, the film director who created the movie, 2001: A Space Odyssey, was one. He happened to see my book, was impressed, bought dozens of copies, gave them to his friends, talked to me, and so on. But some how at the same time, a fellow named Ben Schloss got tangled up with him. Ben was a biochemist turned would-be entrepreneur and businessman, and he was looking to make a buck. He formed some kind of organization, and arranged for me, himself and several cryobiologists to meet with Stanley Kubrick and some of Kubrick's wealthy friends in New York. We did, but that was pretty much a total disaster, partly because the medical people took the position that you should not use unknown methods, even if the patient has no other chance. Besides that Ben Schloss ripped them off, basically. He had set up some kind of "research organization," and he got some money out of Stanley Kubrick, and there was nothing to show for it, so I guess Kubrick got turned off too.

But the biggest disaster of all, probably, happened in 1967 after James Bedford was frozen. There was a big ground-swell of public interest, and seven pages of Life magazine were devoted to the freezing. But just then there were two catastrophes that happened almost simultaneously: the Apollo astronauts were burned up, and there was a huge snow storm in Chicago. What makes the latter relevant is that Life had its main press runs in that city. At the time it had a circulation of around six or seven million. The bulk of those were run off in Chicago and the rest elsewhere. The snow storm held up the presses long enough that they were able to substitute the Apollo catastrophe for our story. Ours got into only one or two million copies and went not to major population centers but elsewhere. There was only a small fraction of the impact that otherwise would have been felt, and it's very conceivable that those disasters cost many millions of lives. Al Rosenfeld was the science editor of Life at the time, and he did a very nice feature article. If it had gotten into all those copies of the magazine, that might have gotten us off the ground right there. It didn't happen, and as a result things went very slowly.

What did I accomplish that other had not? Did I contribute anything new? Very little, but that little was important.

Preserving the body for later revival was not new; the Egyptians had a form of it--and maybe they weren't even too far off, except that they made the small mistake of discarding the brains. Suspended animation by freezing was not a new idea. Reviving frozen bodies was not a new idea. Revival of apparently dead people was not new--and in fact is being practiced in hospitals all over the world. What was new, or at least rarely appreciated, was the combination of concepts and their implications.

1. The relativity of death. Even today, even with CPR reviving thousands yearly, very, very few people--very few physicians even--truly understand that "death" is a prognosis, not a diagnosis. You are "dead" when a doctor decides you will never be revived. Death is not necessarily fatal.

2. The relativity of the "irreversible." Again--almost the same thing in different words--very few truly understand that damage "irreversible" today may be reversible tomorrow. We can not only accept "death" but we can also accept freezing damage without loss of hope.

3. The curability of senescence (as well as all other diseases). Again, very few take seriously the prospect of curing the disease of "old age," even though this prospect is nearly certain. We can not only accept "death" and freezing damage, but also aged patients without them facing reanimation still suffering from senescence.

Put 1,2,3 together and we have a formula for immortality. I didn't put them together persuasively enough to convince many people, but it was enough for a start at least.

END PART 1 - ***watch for part 2 in the next issue of Long Life***

Final Thoughts

York W. Porter - Executive Editor

"Determination"

The Immortalist Society received some very sad news recently when it was announced that John Bull, our long time Vice-President and the previous editor of *Long Life* magazine for many years, was now under the care of the Cryonics Institute. John had some health problems that proved to be just too difficult to overcome. People devoted both to John and to the concept of cryonics became involved early on when it was apparent that cryonics procedures were going to be needed. According to the reports I have read, John's case went extremely well. That is a comfort to all of us who knew him, as well as those who didn't but who are interested in the general idea of cryonics. It shows that, with the passage of enough time, as in any worthwhile endeavor, the efforts in this area continue to get better and better, especially if, as John did, you prepare for things well in advance.

John was a handsome man whose appearance always belied his age. As in an earlier column about another individual now in the care of the Cryonics Institute, I tried to think of one word that I thought would sum up John Bull's life of service to cryonics. I think that word would be "dedication". John had been involved in the cryonics movement for years and years, going back to the early days and the old Cryonics Society of New York. As his daughter, Debbie Fleming, has stated about John, "Cryonics was his life". It showed in his strong dedication to the cause and his working so much on its behalf.

And we were lucky to have him as part of our lives. John worked tirelessly year after year after year after year putting out the Immortalist Society's magazine. For those of us that were on the receiving end of it, John made things look easy, dealing with article after article and page after page in making sure his fellow cryonicists were well informed.

And it decidedly wasn't an easy task. John had to deal with all sorts of matters, from gathering articles from folks like myself who needed a lot of prodding to get things in, to making last minute changes and needed rearrangements of the publication when a pressing matter or article came up. As mentioned above, John worked tirelessly to promote cryonics, the cause essential to both his and his fellow cryonicists lives. All the rest of us had to do was to effortlessly look in the mailbox for the fruits of his tenacious labor.

At various times, regrettably, the relationship between John as the "IS Editor" and myself as the "IS President" would be somewhat strained. This is only to be expected in any situation in which two strong-willed people interact and work, from different perspectives and responsibilities, to make something as good as it can be. Though it wasn't always "smooth sailing" between us, there was no question in my mind of the depth of John's devotion to the Immortalist Society and to the more general cause of cryonics. In spite of whatever frictions we may have had, no one appreciated his efforts more than I did. I also learned a lot about how involved those efforts had to be when I took over in the last year and a half as the Executive Editor of *Long Life*. Again, John made it look easy when it most assuredly is not.

One of the interesting things about John was his long time friendship with Curtis Henderson, another cryonics pioneer. I remember that, years ago, they were tooling around together in an older pickup truck and showed up in such at one of the annual cryonics meetings held in the Detroit region. I kidded both of them that I felt like I should at least make a call and let the state police know that the two of them were "out and about", but that I just didn't have the heart to do it. They both got a good chuckle out of that before firing up the old buggy and rolling together down the highway.

Now both of them are in the care of the Cryonics Institute and the sacred obligation to pick up the torch where they have left it falls on the rest of us. I can assure the friends and families of both these fine men that the torch will stay lit and will continue, as it did in the case of John's tireless efforts, to burn as brightly as we can make it. Our dedication has to at least match John's in his steadfast determination to push Robert Ettinger's world and life changing concept forward. That's a tall order to fill but we'll do our very best to live up to the level of excellence that John had attained.

John has set a wonderful example for the rest of us to follow. I know in each of our day-in, day-out lives it becomes very easy to get wrapped up in the large number of mundane things that we all face. John faced those as well but he also managed to "put first things first" by sitting down on a regular basis and making sure that one of the most important things in cryonics, the spreading of good solid information, wasn't neglected. If you're looking for an example to follow of outstanding dedication to an outstanding cause, you couldn't do better than to follow the one set for years and years by our friend and our colleague, John Bull.

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