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Long Life

"Longevity Through Technology, Research, and Education"

Volume 54 Number 02
(2023)

And More!!

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(586) 791-5961 • email: info@cryonics.org

Everything shown just below……and more besides!!

LONG LIFE

A publication of the Immortalist Society

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On the cover *is a beautiful photo of the moon peeking out during the daytime behind some landscape. This image was obtained through the NASA website*

ONLINE PDF HYPERLINK COMPATIBILITY----*Since different browser configurations handle PDF links differently, if you have trouble opening any hyperlink(s) in the magazine, try these steps: First try to copy and paste (or manually type) the hyperlink or e-mail address given) into your browser and/or your e-mail program's address field. Second, try to download the PDF file to your desktop and then open the file using Adobe Reader or your preferred PDF viewing program. A third option is to change the PDF viewing settings/extensions on your browser (!!!only advanced browser users should try this!!!). The fourth thing we can recommend you try is to use a different browser (especially if you're using Internet Explorer). We recommend Google Chrome.*

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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.

LONG LIFE

A publication of the

Immortalist Society

24355 Sorrentino Court . Clinton Township MI 48035-3239

President: York W. Porter Vice-President: Debbie Fleming
Secretary: Royse Brown • Treasurer: Leonie Blaney
Director-at-Large: Stephan Beauregard

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Hello Everyone,

No, it isn't true that Dennis Kowalski has had a hex put on him where he is doomed to look like me. It also isn't true that I have been elected to the Cryonics Institute Board of Directors. What is going on is that the Immortalist Society has had a long standing policy that any time a CI Board member is up for re-election that a "time out" is called for them writing for the issue that is going out just before the election. If Dennis is re-elected to the CI Board, his excellent writings will again appear here in the near future...

In the meantime, I thought I'd take this opportunity to discuss with you something that should be at the top of your list in "things to do". I first became interested in cryonics way back in the 1960's. I had heard about cryonics in a sort of oblique way but I really didn't get to tackle the subject until, by lucky happenstance, a copy of Robert Ettinger's wonderful book *The Prospect of Immortality* appeared on the discount rack of a department store that my family frequented way back in the day. Being flat broke, as most thirteen to fourteen year old boys are, I asked my Dad for permission to buy the book (short hand translation, "Dad would you pay for this?") and to my great relief he gave said permission. I took the book home but, to be honest, I didn't read it for several months being, as best as I remember, in the time of year (and of life) where the great outdoors summoned with its attractions of fishing, camping out, playing ball, hanging out with my friends, etc., etc. Later in the year I settled down to actually read what Mr. Ettinger had spent so much time putting together. Like Saul Kent, who is mentioned elsewhere in this magazine, I was hooked by the time I was finished. Ettinger's logic seemed (and still seems today) to be impeccable. While I spent several years wondering if somehow there was an error in Bob Ettinger's thinking I finally became convinced that wasn't the case. As a matter of fact, *The Prospect of Immortality* still reads well after all the decades that have passed.

But, without action, it is still just a book with a wonderful idea. I believe it was Thoreau who said or wrote that it is great to put one's castles in the air but it is necessary to work to put the foundations beneath them. This is where you come in. Numerous persons have put their shoulder to the wheel in taking cryonics from the concept it was to the reality it has become.

Though this field of endeavor is far from a perfectly run one, it remains a fact that real organizations with real facilities exist. New groups are being formed that are trying to make cryonics a working reality in their part of the world. The one thing that should matter, to you, however, is whether you are involved yourself. Just think about what abilities you have and get yourself to make efforts to help, both by becoming a member and then by using your abilities to help improve things. Try to avoid telling yourself "One of these days". Go ahead and get involved in cryonics and start taking action towards setting up your own cryonics arrangements and helping out as soon as you reasonably can.

So, you need cryonics and, yes, cryonics needs you. The folks involved in leadership positions down through the years have, by and large, been very hardworking and very dedicated folks. Most of them have given "well above and beyond the call of duty" in terms of time, effort, and finances. They have done (and are doing) the work involved in cryonics for the same reason the "Father of Cryonics", Robert Ettinger, pursued this topic---just because it is the right thing to do. If you have a talent, get involved in any way that will use that talent. Make your own arrangements for yourself and you family to benefit from this wonderful idea. You'll be glad you did without a doubt!!

.

Sincerely,

York W. Porter
President
Immortalist Society

"May you live as long as you wish
and love as long as you live."

Robert A. Heinlein

Annual Meeting Info for 2023

By: York W. Porter
President, Immortalist Society

The annual general meetings of the Cryonics Institute and the Immortalist Society will occur on Sunday, September 10th, 2023. The meetings, which occur back-to-back with the Cryonics Institute meeting going first, will be held at the Infinity Hall & Sidebar at 16659 E 14 Mile Road at their attractive facility which is located in Fraser, Michigan (USA) 48026. For more information you can go to their website of www.infinityhallsidebar.com or you can call them at 586-879-6157. The CI meeting will begin at 3:00 pm Eastern Time (Eastern Daylight Time). At the end of this meeting the Immortalist Society annual meeting will be held. The combined meetings normally take a grand total of between two to three hours though, of course, this time varies depending on how many speakers there are, the time taken up by each organization's business matters, etc.

People physically attending the meetings should note that there will be tours of the Cryonics Institute facilities located at Sorrentino Court in Clinton Township, Michigan up until a half hour before the annual meeting is to begin. These tours will be held starting at 1:00 p.m. and stopping at 2:30 p.m. local time. The main CI facility is located at 24355 Sorrentino Court, Clinton Township, Michigan 48035 with the newer facility being just a couple of doors down from there. For further info you may contact CI by sending an e-mail to info@cryonics.org or by calling 586-791-5961.

Attendees should note that the annual meetings, coupled with the tours, will take up most of the afternoon. The meeting of the Cryonics Institute will be held first followed by the meeting of the Immortalist Society. A buffet dinner will be held at the conclusion of the two meetings. Please note that both of the meetings are open to the public so feel free to bring along anyone interested. Just so we'll have enough food and seating please contact via the e-mail and/or telephone number given for CI and listed in the previous paragraph immediately above to let us know you'll be there. If you aren't able to do that or simply forget to do so, don't let that stop you! We'll be glad to have you there in any case! Please note there is no charge for the buffet dinner whatsoever and we'd love to see you!

The meetings offer a really excellent opportunity to see the CI facilities, to meet other members from around the world, and to see Officers, Directors, and Staff as well as to learn about the exciting and interesting topic of cryonics! We have gained new members through these meetings but also have gained in many cases strong and long lasting friendships with people
.
Agenda items for the CI AGM will include President's Report, Treasurer's Report, and Investment report as well as any business issues that arise. The winners of the election for CI Board of Directors members will be announced. The Immortalist Society meeting will begin by a welcome from the IS President, followed by a Treasurer's report, a Secretary's report. Cryoprize report, and possibly a research report. All that will be followed by the Old Business and New Business parts of the meeting. The last item of the Immortalist Society is generally an election of IS officers. As is the case in the CI meeting, things are completely open to the public although, of course, voting on motions and in the election of IS officers is restricted to eligible IS members.

For those who come a day early, a social dinner will be held on the evening of Saturday, September 10th at the Infinity Hall & Sidebar. You may contact the Cryonics Institute or the

Infinity Hall & Sidebar for more detail. Please note, however, that this social dinner is not a free event and you will, as at any restaurant, have to pay for your own food and drinks. Parking is, however, free at the facility.

Again, as a reminder, both AGMs are open to the any member of the general public and everyone is more than welcome to attend. For more information, or to RSVP, please feel free send an e-mail to info@cryonics.org or call (586) 791-5961**.** Participation by Zoom is also one possibility for members at a distance. Check with CI and on the CI web page for details.

Vote, Vote, Vote!!

By now, those of you entitled to vote in the Cryonics Institute Board of Directors election should have received your voting forms. You should note that the Cryonics Institute sends out voting materials prior to the election. On the other hand, the Immortalist Society does nominating and vote counting entirely at the end of its annual meeting so you pretty much need to be able to participate in that meeting in person if you wish to participate in the Immortalist Society election.

If you are a CI voting member, however, and are planning on submitting your voting forms but still haven't filled them out, there are a few suggestions and/or points that we'd like to make to you. The first is that voting is, indeed, very important and you needn't think otherwise. At the end of one of the elections of the CI Board of Directors, two candidates, for the first and only time (at least so far), were tied at the end of the vote counting. Even a single vote would have turned the tide in favor of one or the other.

A second point which we wish to make is that due to the somewhat slow and erratic nature of mail service, especially since the COVID pandemic, the Cryonics Institute will accept votes by both e-mail or by fax. The fax number to use is 586-792-7062. The e-mail address is info@cryonics.org. The three options of mail ballot, e-mail ballot, and fax ballot should provide CI voting members worldwide an excellent opportunity to make sure their voice is heard in this very important election. Again, as a caveat for those using regular mail services, please remember to put your votes in the mail in plenty of time for them to reach CI.

The job of being a CI director is, of course, extremely important as the day in, day-out responsibility of running the Cryonics Institute rests in the hands of the Board of Directors. So, please make sure you vote and that you get your vote to CI in time.

As a third matter to discuss, please note that each voting member has a maximum of four total votes to cast. You can cast fewer votes than that if, for some strange reason, you wish to do so but you may not cast more than four in any event. You may cast the maximum of four votes for one candidate, or you may cast one vote apiece for four candidates or two for one candidate and two for another, one vote for one candidate and three for another candidate, etc. Any combination that doesn't exceed four total votes is fine.

Just make sure that the way you mark the voting form is clear. There is such a thing in elections as a "spoiled" vote/ballot. This is a fancy way of saying that your vote in that situation simply won't count. The folks counting the CI ballots try very hard to be as fair and diligent as possible but, sadly, sometimes it just isn't possible to clearly discern what the person wanted done. Frequently this is simply due to a clerical error on the part of the voter and is where the form isn't filled out correctly or where it isn't possible for the folks counting to accurately tell what the voter's intention actually is.

Accidentally casting or indicating more than four votes or voting for more than four candidates is a frequent cause of this problem. Doing so will, of course, mean you have a "spoiled" ballot and none of the votes you've tried to cast will go to support the people you

want to support. That, of course, is the last thing you want to happen in your involvement with this important organization.

One final thing, as regards voting in the Cryonics Institute election is to make sure any form you submit is signed at the appropriate place.

Give things careful thought but, again, make sure you participate in voting in this election if you can at all. Anyone knowledgeable about the actions of all the organizations in cryonics can tell you how important it is to try to get the best people we can to be involved in the leadership of these organizations. Again, make sure that you sign the voting form on the appropriate place and do the other things indicated above. But, in any event, ***vote, vote, vote!!!***

For voting questions, you may e-mail info@cryonics.org or call 586-791-5961. But, whatever you do, please make sure you participate in helping cryonics remain strong and continue to be led by the kinds of people best able to do the job!

Cryonics Institute Candidate's Statements

Below are statements sent out on behalf of the five known candidates for seats on the Board of Directors of the Cryonics Institute. Four persons will be elected.

****

Statement of Candidate Stephan Beauregard

Hi, I'm happy to run for my re-election. I'm 54 years old and interested in cryonics since 1993. I did several realizations for CI & I intend to do more. I also did many interviews and videos about cryonics. I'm always present to share innovative suggestions. I convinced & helped many persons to sign up. I found willing people (worldwide) to help cryonicists no matter the organization. I also translated CI documents and cryonics videos. As I promised before my election in 2014. I set up an official partnership in Canada (pick up the patient, ice bath, perfusion with our VM-1 & shipment to CI). To conclude, no matter your country, you will be able to have me to help. If you want a friendly Director who likes working as a team with familiar values, leadership, positive outlooks, clear goals with results & loyal, vote for me.

Thanks/Merci/Danke/Gracia/Grazie

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*Statement of Candidate Dennis Kowalski

Dennis Kowalski is a retired Fire Fight and a Nationally Registered EMT-Paramedic (NREMT-P). He was certified in advanced cardiac life support (ACLS), advanced pediatric life support (PALS), and as an AHA CPR instructor. He also taught emergency medicine to other emergency responders. His experience in emergency services has made him a vital asset as a CI director and he is eager to share what he has learned as a bridge between conventional emergency medicine and cryonics. Dennis' goals are to see positive growth and stability in CI membership. He'd like to see local support groups formed to promote unity, education and faster cryonics response. He is currently serving as CI's President and has overseen many positive changes. If you like the direction he has taken, please vote to reelect him.

Statement of Candidate Nicolas Lacombe

I care a lot about the long term future, notably about existential risks. I have helped fixed bugs on the CI check-in app. I have worked in the software development industry for 10 years in various roles such as developer, team lead and software architect. I would like to offer my expertise and skills to help CI improve computer security and user experience. I would also like to help CI in any other way I can, which might include things like improving the processes, assessing the quality of CI's protocols (ex: using electron microscopy), helping with membership growth, improving standby/stabilization/transport services, and improving CI's long term sustainability.

Statement of Candidate Steve Luyckx

Steve Luyckx is CI's vice president. He was born in Detroit, Michigan, the fifth of six children. He graduated from Michigan State in 1986 with a B.A. in logistics and a master's degree in finance a few years later. His professional career includes Kraft Foods, Chrysler/Daimler, and Chrysler Financial and in 2009 he became the President of Open Dealer Exchange (providing software in automotive dealers to improve the vehicle purchase process). He first became interested in cryonics when a neighbor friend who was an important influence in his life introduced the topic as a teenager. He has been one of the longest serving board members dating back almost 30 years and has attended every annual meeting since 1988. Steve is also active in financial planning, primarily for friends and family. His corporate and personal finance background has served CI well as he has been generous with his insights and experience as a member of CI's investment committee and "inside auditor" of CI's financial/accounting practices. Steve can be reached by email at sluycks@gmail.com

Statement of Candidate Andrew Zawacki

Andrew has been an employee of the Cryonics Institute for more than thirty eight years. He handles all aspects of running the Cryonics Institute facility, which include day to day operations, and involvement in patient suspensions, pet suspensions, patient care, paying bills and signing legal documents as the corporate secretary. He has served as a director of the Cryonics Institute for fifteen years and as the corporate secretary for eleven years.

Saul Kent's Last Journey

By Aschwin de Wolf

(Introduction by York W. Porter, President, Immortalist Society)

Saul Kent was a long time stalwart in the field of cryonics. In May of this year, Saul was placed under the care of the Alcor Life Extension Foundation. I had the privilege of meeting Saul, albeit extremely briefly, on only a couple of occasions but his status within cryonics was

well-known. The initial information that I received from others about Saul was that as a young man he spent a fair amount of time on the beach. One day, decades and decades ago, while enjoying the soothing sound of the ocean, he read Robert Ettinger's seminal book on the topic of cryonics from cover to cover. The response he had was, to put it mildly, life changing for him. He said he became thoroughly convinced by the end of his reading that Ettinger was without a doubt correct. Saul then devoted much of his life and, having become quite successful in a joint venture with his business partner, Bill Faloon, he (as well as Bill) ultimately poured substantial financial resources into Ettinger's world changing concept. Fighting battles in the court of public opinion, as well as real courtroom battles on top of that, the team of Saul Kent and Bill Faloon continued to support cryonics fully and completely in every way they could. .Bill Faloon continues to do so to this day and will, I'm sure, continue that wide-ranging for the foreseeable future to the maximum degree he can.

Saul was, like many cryonicists, a very strong willed person. He was involved in numerous endeavors in cryonics down through the decades and always approached things with the basic thought (and, some say, single mindedness) of how could things be done better.

Doing so wound up resulting in him in having his share of strong opponents and vocal detractors (as well as folks of the very opposite persuasion). That is to be expected and is basically inevitable in any effort that involves very intelligent people who are dealing with an extremely important topic like cryonics. Down through my almost fifty years of working in the health care industry in the four small rural Kentucky hospitals that I have been privileged to have worked in, for example, I can give you story after story of folks "locking horns" on both sides of any issue with strong feelings and beliefs over how things should or could be done. No fisticuffs or firearms have ever been used but, looking back on a few incidents I can recall, it is only a wonder that they weren't. I can tell you, however, that in virtually every case I can think of, save perhaps one or two, the dispute was fundamentally based on how things should be done for the betterment of the benefit of the patients under the care of the folks involved in the dispute. As the saying goes, when mistakes were made it was because someone's head and not their heart was in the wrong place. Sometimes it involved more than just a single someone. In many cases then and now, as in cryonics, it wasn't and isn't always possible to tell with exactitude just what the best course of action was or is. The best that could and can be done is to realize that well-intentioned people were making their best efforts to make things better and because of the imperfect knowledge of human disease processes that we have at this point in history, it wasn't possible to go at things like the situation was just a mathematical equation that could ultimate be solved with the QED of finished problems.

I think, from my knowledge of him through others that personally knew him, that would sum up Saul's efforts in cryonics. They were always based on a sincere desire and intent to try to make things better while working in a field in which it's sometimes impossible to say with certainty what the best course of action is. In the article that follows, our friend and regular contributor, Aschwin de Wolf, who is working on research commissioned by the Immortalist Society and the American Cryonics Society, gives his impressions of Saul and some of the impact that Saul has had. The following article from Aschwin begins immediately below and is from the website www.biostasis.com and is reprinted by permission.

It's hard to imagine the world of cryonics without Saul Kent. Saul was there in most of my cryonics involvement over the years, ranging from his role as Suspended Animation's CEO to being on the Editorial Board of Alcor's Cryonics Magazine. He was there when I was first hired in cryonics in 2004, started my own company in 2008, and he was still there in the background when I was tasked with creating Biostasis Technologies to accelerate progress in the field.

Much has been said about Saul's contributions to the field of mainstream organ cryopreservation and recruiting scientific and medical talent to the field of cryonics already. I will confine myself to a few observations that pertain to areas where Saul and I interacted.

(Saul Kent)

Aside from his signature Hawaiian-style attire, I remember Saul for his seamless ability to alter between strategic level decision making and addressing (seemingly) trivial minutiae. Saul was not the kind of person who would just field a few questions from management, but was actually involved in day-to-day correspondence as well. I also remember his patience when it came to making big decisions. Saul was meticulous and "slow" when we were impatient to pursue revolutionary changes, a trait that I only later came to appreciate.

As a former magazine Editor and writer himself, Saul was one of the strongest advocates of retaining a high-quality paper publication for Alcor. In fact, when Alcor decided to switch the magazine from a paper publication to an electronic publication, he started calling random Alcor members to understand how it had affected readership. When he learned that many members appreciated an actual paper publication in the mail, he had Life Extension Foundation financially support the printing and distribution of Cryonics magazine for several years, for which I was very grateful.

Towards the end of his life, though, Saul mostly retreated towards the role of "decision maker of last resort" instead of the determined operator he was known for most of his life.
Saul's visit to our small cryobiology start-up lab in Salem, Oregon might have been one of his last pro-active trips he made to support a new research company in the field. In June 2009 I told him how our "cryobiology under ischemic conditions" research distinguished us from other cryonics-associated research programs and he wrote me: "I think research under realistic conditions is very important and I am glad to see that you are doing it… A typical argument is that the cryonics organizations should be doing this type of research, but the problem is that they are not doing any research at all and have little prospect of doing any in the foreseeable future."

It was two years later in July 2011 that Saul flew on his own to Portland airport and rented a car to visit our lab. Chana and I prepared for Saul's visit with a mixture of excitement and anxiety. We knew that Saul was enthusiastic about our research to understand the effects of ischemia on brain cryoprotection, and also supported our ambitious plans to do whole-brain viability recovery after cryopreservation. On the other hand, our lab literally consisted of one small room with basic equipment and supplies at a dental office. At that point, we were not drawing any salary and putting in long hours in the weekends and evenings (and sometimes even overnight).

This meeting resulted in Saul's decision to solicit a research proposal from us to fund our operations, provide some compensation for us, and (eventually) relocate the lab to Portland (Saul admitted that Salem was a rather long and impractical commute after doing his own drive). Since 2012 Saul and his business partner Bill Faloon have been reliable financial supporters of Advanced Neural Biosciences.

(Advanced Neural Biosciences lab in Salem Oregon, 2010)

Saul's achievements forced the cryonics community to face some difficult topics. How do we attract and nurture talent in cryonics but avoid the capture of our organizations by non-

cryonicists? What are the consequences of employing our best scientists in independent labs and (thus) limit their participation in daily cryonics operations? How much time and money do we spend on technical projects before we pull the plug?

It's easy to ponder such questions without recognizing that it was Saul's commercial success and unwavering determination that made such questions possible at all.

I'd like to imagine Saul's visit to our small lab in Salem, Oregon as Saul's "last journey." But the real last journey for Saul has started now as we maintain him as a patient and build the capabilities for his revival and rejuvenation.

Afterword by York W. Porter, President, Immortalist Society

First, our deep thanks to Aschwin de Wolf for his portrayal of Saul as written just above. For those interested in more information about Saul Kent, you can check out the website of www.biostasis.com and read several articles there. Further, you are encouraged to subscribe to the newsletter option that is offered on the website. While there are paid subscription options, there is also a free subscription available. As is the case with all ethical websites, you can cancel any subscription at any time for any reason.

Unifying the Movement

By:

Saul Kent

(Introduction by York W. Porter, President, Immortalist Society)

Saul Kent, as mentioned above, was a long time stalwart in the field of cryonics. One of the early topics involving cryonics in general was a belief held by many, including yours truly at the time, that we would benefit by the development of an umbrella type organization that could, in theory, make things more efficient and more standardized. In the flower of my youth, I thought this was a great idea. It may still be so but with the passage of the decades, my position has changed significantly. While I think it may be helpful to have organizations (such as the Immortalist Society) working to develop principles of well thought out standards of care and operations, however generalized those principles and standards may be, I think the "one size fits all" thinking I engaged in back in the days of my youth is probably not reasonably achievable. Still, though, "back in the day" it seemed like a very good thing to try to accomplish.

In the following article from the August 1976 edition of this publication, Saul Kent tackles the topic with intelligence and determination. Saul's writing begins immediately below.

For years there's been talk of unifying all cryonics societies by forming a national or international cryonics organization. Several formidable obstacles have stood in the way of such a development.

First is the matter of how the organization would be funded. The existing cryonics societies are small and low budgeted, with little to spare for such a project.

Second is the matter of who would do the work and where the organization would be located. The existing cryonics societies depend on volunteer labor and it's hard to envision any of their members taking on such a project.

Finally is getting the existing societies to agree on the scope and powers of the new organization. Conflicts in this area have arisen in the past and can be expected to do so again.

There is, however, a unifying element in the cryonics movement that should be strengthened—namely, *The Immortalist*, *(Editor's note: Long Life magazine was known by that name earlier in its history)* which currently serves as the movement's publication without official sanction as such. I therefore propose the following changes.

1. Designation of *The Immortalist* as the official publication of all cryonics societies and cryonics adherents throughout the world.

2. Establishment of a standard rate for all subscribers of $9/year. At present, members and associate members of the Cryonics Society of Michigan (*(Editor's note: Cryonics Society of Michigan was the early name of the Immortalist Society)* receive *The Immortalist* as part of their membership with the publication being funded by CSM; members of other cryonics societies pay reduced rates (which are as low as $2/year in some cases) to receive the newsletter; while most others pay $25/year Lowering of the subscription rate to $9/year will certainly lead to more non-members subscribing, and cryonicists should be willing to pay at least as much as non-members for *The Immortalist*.

3. Signing an agreement by all cryonics societies that all their members will subscribe to *The Immortalist*, with $9/year automatically taken from each member's dues for that purpose. Further support for the newsletter would be in the form of paid advertisements. In return, *The Immortalist* would agree to print all news and editorials from all cryonics societies.

4. Establishment of financial independence for *The Immortalist*. If all subscriptions at $9/year per subscriber are used to fund *The Immortalist*, its yearly spending budget would be higher than it is today. The extra money could be used to improve the quality of the newsletter and to increase advertising.

5. Establishment of editorial autonomy for *The Immortalist*, except for clearly designated statements by societies or individuals.

In my opinion, these changes would enhance the stature of *The Immortalist*, lead to more subscribers as well as a better publication, and improve the image of the movement.

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ACS' Assessment of the Cryonics Institute for 2022

By: York W. Porter

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Member of the Board of Governors of the, American Cryonics Society (ACS)

Introduction:

The cryonics community, quite understandably, desires that every effort is made to insure that individuals who are quite helpless and who are under the care of any cryonics provider are kept in as safe of a manner as is reasonably possible. Cryonics patients are, of course, unable to directly speak and act for themselves and/or interact with the organizations that are looking after them. This situation is no different than that faced by individuals undergoing surgical procedures. These individuals, in the overwhelming majority of cases, are in a state of total unconsciousness and are unable to do anything for themselves. The only reasonable method then to try to protect them (as well as cryonics patients) is to provide as many "checks and balances" as can be practically implemented with the people and resources available. Checks and balances, of course, are necessary in any organization or endeavor that is trying to survive over a lengthy and, perhaps, indeterminate period of time. They apply well, of course, in the efforts to make cryonics successful.

It should be noted that while the initial procedures of cryonics may be, time wise relatively brief, consisting of perhaps just a few hours or just a few days, the long term storage at cryogenic temperatures (said storage which might be termed "cryostorage") may be such that extremely long time periods of years can occur. This fact results in the need to reasonably insure that long-term cryostorage occurs in a stable and

minimally damaging way. On top of that, the initial procedures involved in cryonics need to be done in as much of a professional way as can be reasonably expected given the resources and personnel available at the time.

While there may be many ways to try to achieve this, one method would be to try to engage in periodic assessments of the individual cryonics providers. Among other aspects of its operations, the American Cryonics Society (ACS) has as one of its purposes efforts at trying to insure that quality cryonics care of past, present, and future ACS members is going on. This particular purpose is central to the desire of ACS to assess services that are offered by any organizations that engage in or may engage in the care of ACS members at any point in the provision of the cryonics process. ACS has done that in the past and will continue to do so for the indefinite future.

A method that readily comes to mind that should help insure that quality services are provided is to conduct an annual assessment of the relevant cryonics agencies. Those efforts are more or less identical to the situation that exists in modern health care. Outside agencies conduct periodic assessments of hospitals and other health care facilities and report back their findings to those facilities and to the public at large. In a like manner, ACS efforts to take an "independent look" at the facility and services of any particular provider should be viewed as a help to the cryonics organization in its attempt to maintain quality control. All cryonics providers, just like hospitals, etc., are very cognizant of quality control and providing quality services. They actively want to provide services to cryonics patients in as well-done manner as they realistically can. Their efforts coupled with the efforts of the American Cryonics Society, should be looked at, then, as a professional partnership, so to speak, with both sides helping to maintain quality patient care.

As in any professional endeavor involving technical expertise of various sorts, the more individuals looking at a situation with the attitude of trying to avert problems, the less likely it is that those problems will arise to begin with. If they do arise, in spite of the efforts to head them off, the greater the chance is that those problems will be minimal. It is also true that they will be more readily attended to by the combined efforts of the people involved in trying to avert them from the very start.

In the case of ACS, there is the intention to have annual visits (and more often if it seems warranted) of organizations and facilities as needed on behalf of ACS members for the purposes just listed. ACS also has an interest in ways to continually improve the ACS assessment regimen and make it more effective. It is ACS' firm belief that such work, along with the natural internal efforts carried out by cryonics services providers, will help maximize the outcome where no cryonics patients are placed in significant jeopardy.

It should be noted for the record that due to the COVID pandemic, there was an inability to do any on-site assessment during the year of 2020. Since then, however, the assessment regiment has resumed and ACS will continue to put forth its best efforts in insuring that annual assessments are carried out whenever possible.

Some Particulars of the Cryonics Institute Examination

During the 2022 meeting weekend, as a representative of the American Cryonics Society, this writer conducted the 2022 assessment of the Cryonics Institute (CI). For years, CI has been located at 24355 Sorrentino Court in Clinton Township, Michigan. (An additional facility is two doors down from the building that serves as CI's headquarters and primary place of business. It will be reviewed in future assessments as it was in the process of being brought up to full standards at the time of the 2022 assessment).

It should be noted that this writer has become, as a long time suspension member of CI, well aware of the methodology of CI's operation as well as its physical plant functioning and layout. Further this writer has been well acquainted with many of the principal individuals in CI for decades. He has an easy familiarity, in

particular, with Mr. Andrew Zawacki. Mr. Zawacki serves as one of the main full time employees of CI and also serves on the CI board as its Chief Operations Officer. Further, Mr. Zawacki serves as the CI Board of Directors Secretary. This writer has been a CI member for over 25 years now (and have served as an Immortalist Society officer for several years as well) and has been in and around the CI facility on numerous occasions.

CI Physical Plant

The main CI physical plant measures approximately 60 feet wide by about a hundred feet long. In addition to this roughly six thousand square foot space, there is an additional area at the front of the building. This area is a smaller and rectangular shaped space that is about a thousand square feet or so. It forms an offset at the front of the main part of the building. Purchased in 1994, the main facility replaced a much smaller facility located in another geographical area of the Detroit region. That smaller facility, while serving its initial purpose, finally simply outgrew its usefulness. The present main facility, which has allowed CI to operate well for the past roughly 30 years, is located in a small industrial park in Clinton Township, Michigan.

CI has had a policy of having no long standing debt. The present main facility was purchased outright. The building's exterior, while somewhat utilitarian, is extremely well maintained and is quite neat and orderly in its appearance. In a well-known study of educational achievement, it was noted that the appearance of a school lets people know that a serious endeavor is being undertaken. The same is true of any other organization and the well maintained look of the CI facility gives a good impression of seriousness of purpose and professionalism in action by the CI staff.

The parking lot has a concrete surface that was placed as the upgrade from a deteriorated asphalt surface of several years ago. The concrete surface was in excellent condition at the time of the 2022 assessment, as it has been for several years. The parking available offers ample space for both workers and visitors. The well paved roads leading to the facility offer easy access for fire, EMS, and police personnel. This should make for a reasonably rapid response time should those personnel ever be needed which, as of the 2022 assessment date has not been necessary.

The actual CI office area, located at the front of the building, has ample office furniture along with a rest area/privacy room, along with a room used for numerous filing cabinets. The associated coat closet/utility closet is readily available along with a rest room facility for use by both staff and visitors. (It should be noted that a second handicapped accessible rest room is located just outside the office area in a region primarily occupied by cryostats as mentioned below).

The flooring in the office region is quite substantial and should offer years and years of service. As mentioned above, from education to medical work to many more fields of human endeavor, the appearance of a building is important. The appearance of the CI facility gives, in this assessor's opinion, the clear message that the work being done at CI is quite serious and the people involved in the effort are carrying it out in a quite serious manner.

In this examiner's opinion, the general appearance of the CI physical plant is a credit to the efforts of all the past Presidents of the Cryonics Institute, from Robert Ettinger to Andrea Foote to Ben Best to the latest President of the Cryonics Institute, Dennis Kowalski, as well as all the too-many-to-mention members of the Board of Directors that have served down through the past decades of CI's existence. From its earliest days the efforts at CI have been focused on the quest for constant improvement and it frankly shows in the appearance of the main facility.

A door that is at the end of a short hallway in the office area serves as the entrance leading from the office area to the region where the cylindrical devices (called "cryostats") which store cryonics patients are located. A room located just to the right, as one goes into the cryostat area is used

as the so-called "perfusion room" where patients are initially prepared for the procedures associated with cryonics. As in the rest of the facility as a whole, the perfusion area is well organized and well supplied to carry out this essential part of the cryonics process. The room is arranged in such a way that allows for easy access to any materials and/or equipment needed.

Sprinkler System Piping/Fire Extinguishers

Located in the perfusion area are the entrance and supply pipes related to an automatic sprinkler system that exists in the building. It should be noted that this system was initially paid for, in large part, by the American Cryonics Society. All piping and valve arrangements and equipment seemed to be well maintained and in effective working order. This development, though going back several years, was a major improvement in the facility in this inspector's opinion and represents, in a real sense, what can be accomplished through the concept of "professional partnership" as mentioned above, especially in these crucial areas of "quality" coupled at the same time with "safety".

In the case of lesser problems involving fire, individual hand held fire extinguishers are located in various locations throughout the building and all appeared to be in good operating condition.

Former Member Meeting Room/Board Room

Just past the perfusion room and also on the right side of the building as one looks from the front, is a large room that had served in the past as both an area for member meetings and for storage of some books and other materials. The room now serves as both a meeting and conference room for small groups of people. It also can function as a "memorial room" where families may gather during visitation times after their loved one has been placed under the care of CI. Among a functional and attractive set of table and chairs, it also has a large screen television where, at times, photos of some of the patients under the care of CI have been displayed which serves to emphasize the importance of cryonics and helps humanize CI and cryonics in general.

Cryostat Region/Auxiliary Facility

The largest area in the CI main building is the area that contains the cryostats that hold actual cryonics patients. This region is well maintained and lit and gives an excellent impression to visitors of the seriousness of the CI mission. So called catwalks are noted that are used when employees need to periodically fill the cryostats with liquid nitrogen. It should be noted that the cryostats are not dependent on electricity to operate but, instead, act like giant thermos bottles that keep patients at cryogenic temperatures by the gradual evaporation of liquid nitrogen.

In terms of limitations of space for patient storage, at the 2022 assessment, the Cryonics Institute had purchased another building in the same industrial park as the main facility. That building, however, was in the process of being renovated to make it suitable for cryonics operations. An assessment of it should appear in the next ACS assessment report. The need to acquire a new facility shows that cryonics, while not progressing as fast as was initially anticipated in its launching in the mid 1960's, is gradually and inexorably growing in adherents.

Work Area/Attic

In the very back of the CI facility is a general utilitarian work area. Also in this general region is an attic area that exists for storage of various supplies and materials. The work area is also well stocked with tools and supplies that are needed from time to time by CI personnel.

Bulk Storage Tank/Cryostat Refilling

At the very back of the CI facility's exterior, accessible through an outside door located on the back left of the facility, there is a relatively large bulk storage tank that contains liquid nitrogen to supply the cryostats containing patients. Dual chain link fencing is present which encloses the bulk tank. Locks secure both gates

of the fencing. A piping system which goes through the back wall of the CI facility allows liquid nitrogen to be withdrawn from the large bulk tank. Considerable financial savings have resulted from this set-up over the smaller volume liquid nitrogen delivery methods that CI was forced to use in its earlier days.

The bulk tank would serve, In the event of a short-term increased need for additional liquid nitrogen, as a "reserve" of liquid nitrogen. This could be quite useful in case supplies were to be delayed in being received and/or if there was a sudden influx of new patients.

At present, periodic refills of the large bulk tank are made by tanker truck as needed. This provides a basic assurance that an adequate supply of liquid nitrogen is always on hand. At the time of the 2022 assessment, the large bulk tank appeared to be in excellent condition. The supply piping leading from the bulk tank appeared to be the same as well as the nozzle and hose system that is used inside the building to refill cryostats. All appeared to be in good working order. The metal "catwalk" seemed to be sturdy with no signs of corrosion. No problems were noted that might seem to interfere with the ability to regularly and adequately refill patient cryostats.

It should be noted that at no time in CI's history have there been any significant interruption in adequate liquid nitrogen deliveries. Further no patients have ever been subjected to any period of decreased liquid nitrogen coverage at any time in CI's history. (The lack of ready availability/purchase of liquid nitrogen was a factor in the one major disaster in cryonics that occurred several decades ago). Liquid nitrogen invoices examined as part of the assessment process appeared to be commensurate with the number of patient's the Cryonics Institute has under its care and supervision.

Cryostat Construction/Operation

Early in its history, the Cryonics Institute "in house" construction of cryostats was somewhat utilized. At this point in time, however, and for many years, an outside company has been utilized to construct cryostats to specifications provided by CI. No major failures of any kind have been noted with any cryostats utilized by CI. All units utilized by CI have also been extremely reliable. All of the cryostats in use at the CI facility showed no visible signs of leaks/malfunctions/damage at the time of the ACS assessment.

The newer cryostats utilized by CI and built by the outside company mentioned immediately above are of fiberglass construction. Any defects or other problems that occur should be amenable to repair efforts as opposed to the need to replace them. An important fact concerning CI's operation is that monetary savings over initial estimates have occurred in the use of CI's cryostats. The liquid nitrogen usage per patient has been much less than initially planned for. The cryostats have been more efficient in their consumption of liquid nitrogen than was originally believed would be the case. Significant monetary savings for CI have occurred because of that.

Emergency Electrical Power Available

It should be noted that, as mentioned above, the cryostats are basically like large thermos bottles and do not require the use of electricity in their day-to-day operation. It should be further noted that the liquid nitrogen they contain does not actively "boil" inside the cryostats in the manner water does in a pan on a red-hot stove eye. It instead basically slowly evaporates whereupon it is replaced as needed by CI workers. Regular checks are made CI personnel on a regular basis in order to make sure that levels of liquid nitrogen in the cryostats are always properly maintained.

In spite of the fact that the cryostats themselves do not require electrical power, there are devices in the general region of the cryostat area that do need some limited electrical power. One such device is the so-called "cool down box". This is a computer-controlled device, that can also be operated under manual control if need be in the case of a computer failure. The box is used as patients are slowly exposed to lower and lower temperatures until the ultra-cold temperature of

liquid nitrogen is reached. The cool down box appeared to be in good appearance and working order at the time of the annual ACS examination A 10 kW generator is on site and available to provide that electrical power in case of failure of the main source of electricity coming into the building. This should be sufficient to run any necessary electrically powered devices such as the cool down box and a few lights, computers, and so forth.

Personnel and Human Resources

The Cryonics Institute has some full time employees and has other individuals, both paid and unpaid, who are available on an "as needed" basis. The primary full time employee is Mr. Andrew Zawacki who has been with the organization since around 1985. Mr. Zawacki has been a tremendous resource, in this writer's opinion, in the operations and management of the Cryonics Institute. Mr. Zawacki serves not only as the principal full time employee for the organization but also serves in a position as a member of the Board of Directors. Individuals with backgrounds in mortuary science both serve as employees and in standby capacities on behalf of CI. Other individuals have skills in areas that are quite useful to the Cryonics Institute. This includes practical skills that will be helpful in the conversion of the auxiliary facility to a state of readiness for day-to-day use.

Several members of the CI Board of Directors have skills that can be utilized (and occasionally are utilized) in areas of their expertise. Two of the individuals on the Board of Directors have, for instance, formal training as attorneys. An individual on the Board is a CPA. Two other non-CPA individuals have extensive experience in the world of finance and business. CI also has individuals in its membership, both voting membership and non-voting membership, that range from extensive experience in healthcare and other areas in which CI may need advice and/or expertise. At present, for example, CI's President, Mr. Dennis Kowalski, is a Nationally Certified Paramedic which gives him great ability to interface with health care organizations as well as both professional and local standby organizations and group.

CI has had a general policy through its history of not hesitating to turn to individuals outside of its ranks, for any help needed or just because they offer additional potential of helping CI carry out its intended purposes. Bookkeeping is done, for instance, by an individual who is a CPA, providing a further safeguard in CI financial operations.

Governance of CI

The Cryonics Institute functions as a non-profit Michigan corporation. Its assets are completely owned by the members collectively and are utilized solely on behalf of the benefit of those members under the provisions of the Michigan Nonprofit Corporation Act.

Day in, day out operation of CI is done by a 12 person elected Board of Directors. Voting members (the requirements of which are outlined in the Bylaws of CI) presently vote to seat four other voting members on the 12 person Board on an annual basis. Voting members, among other requirements, must have suspension contracts that are properly filled out and fully funded at the time of casting their vote for members of the Board. This safety provision helps make sure that individuals both voting for and serving on the Board of Directors are fully vested in the best interests of CI since they themselves will be under the care of CI at some point in time in the future.

So called "cumulative voting" is a pretty common method of electing Board of Directors members in many corporations. What happens in this method is that each voting member may cast a number of votes that is equal to the number of Board of Directors' positions that are up for election. .As four members of the CI Board of Directors are elected each year that means that four total votes are available for each voting member to use in each annual election. Those four votes can then be cast in any combination the voter wishes. All four votes can be cast for one candidate or votes may be split up by, for example, casting one vote for one candidate and three votes for another. Voters can also cast two votes for one candidate and two votes for another. They can cast one vote apiece for each

of four different candidates, etc. As long as the voter doesn't cast over a total of four votes then the votes will count as designated. After the votes are counted, the four individual candidates receiving the top four numbers of votes become the new Board Members.

Each elected CI Board Member serves a three-year term until their seat is up for re-election again, thus the voting membership is able to keep good control of the Board by electing one third of its membership per year. One problem that cumulative voting helps to deal with is the so-called problem of the "tyranny of the majority". Even in elections involving quite democratic processes, quite sadly "might" doesn't always make "right". Even in the case of a majority winning by just over fifty percent, they can take actions that may even be detrimental to an organization as long as they can continue to maintain their ultra-slim majority.

Cumulative voting can help to maintain significant minority voting blocs' ability to retain some say so in the operation of a group. It can help to insure that a minority viewpoint can be represented on the Board of Directors even in the face of substantial opposition to that viewpoint and the candidate that represents it.

By working together, using cumulative voting, a relatively small group of voters, percentage wise, can insure that at least one seat on the Board of Directors is occupied by someone that agrees with and is sympathetic to their viewpoint. In the case of the Cryonics Institute, any group of twenty percent of the voting members in any election can cast all of their four votes apiece for one particular candidate. It only then takes a single additional voting member casting just one of their four votes for that same candidate, to insure that candidate's election to a position on the CI Board of Directors.

This small, yet determined group of voters can make sure, through their cooperative efforts, that someone they prefer is sitting on the Board for a three year time period. By repeating this strategy in each of the following two years, they can make sure that at least three board members of their choosing will sit on the Board of Directors of the Cryonics Institute. By using this "bloc voting plus one" methodology as just mentioned in each election, this minority group of voters can make sure that three persons privy to any documents, actions, Board minutes, etc. that the organization possesses and/or has engaged in are able to be subject to this "watchdog" group of CI Board members. This same group of, granted minority number of Board members can, of course, act as a tremendous resource for the membership that elected them but also for the membership as a whole. One easy way to do this is through their ability to engage in direct and active participation in the Board meetings.

In a sample of various actions they can take, they can argue for a particular position, they can make motions at Board meetings and they can look at organization expenditures to help insure that only proper and authorized disbursements are made. They can inspect the organization's facility and operational records and actions, consult with CI's legal counsel as well as, if need be, outside legal counsel and experts, etc. This can help to make sure that a so-called "dictatorship of the majority" would be an extremely difficult thing to carry out. It also works, however, to help keep a vocal but mainly annoying minority (say a single individual mainly bent on stirring up trouble) from gaining access to Board level power through the need to have at least a considerable level of support (in the case of CI, one vote over twenty percent) in order to assure their securing a position on the Board.

Finally, this voting bloc of three Board members utilized in the example above, can participate vigorously in the annual membership meeting bring both information and influence to the voting members of the corporation.

Officers of the Corporation

It should be noted that after the election of the members/seats of the Board of Directors are is over and those seats are filled, the itself then determines which of its members shall serve in the officers of President, Vice-President, Secretary, Treasurer, and Contract Officer of CI. The Board may establish other offices but these

offices must be approved by the voting members at the next annual meeting.

The annual election of officers for CI offers the possibility of a partial or entirely new slate of Board Officers and potentially an entirely new direction for CI if need be.

Ability of Board to Assign Presidential Duties

While the President of the organization holds within limits more or less CEO status and authority, they are still in a position where they must be quite cognizant of the wishes of the majority of the Board of Directors. This puts them in the position of trying to insure they are moving as well in accordance with the wishes and desires of a relatively wide number of members of the organization.

As an additional safeguard on a President attaining too much power, the Board of Directors may also assign the President specific duties as specified by the Board. This "safety-valve" serves in a fashion to prevent any one individual who holds the office of Board President from abusing their authority.

Further Checks and Balances

The ultimate check and balance that exists in CI, as in any democratically run organization, is the power of the membership as a whole. As long as the membership doesn't totally abdicate its sense of responsibility and authority for the operation of their organization, the prospect of the operation of things in a dictatorial fashion would seem to have short lived prospects. In any organization, of course, a strong willed and forceful individual might be able to arise but the CI bylaws and the proper implementation of them by a thoughtful and concerned voting membership would tend to minimize that prospect and should enable adequate resistance to that forceful individual to arise. The bloc voting strategy previously mentioned would be one such method of resistance.

A further example of "checks and balances" to prevent one person from gaining excessive authority is characterized by the fact that removal of members of the Board of Directors may occur without cause by a majority vote of the Voting membership of the corporation at any meeting of the corporation (subject, of course, to any applicable provisions within the Michigan Nonprofit Corporation Act). An additional check and balance is that, it only takes five percent of the membership (or five members, whichever is greater) to stop new or non-customary action by the Board of Directors or of the corporation's officers.

In the case of such opposition by such a relatively low number of members, a special meeting of the membership must be called which, in and of itself, could slow down any deleterious action on behalf of the Board. Further, the special meeting must have a quorum of members present and until that happens or until a petition is signed by a majority of voting members supporting the Board's action, that action is delayed.

As a further check and balance, two members of the Board of Directors may also delay the action of the Board under the same conditions as just mentioned. This is a very strong "check and balance" power given by this particular part of the CI bylaws as it gives a great deal of "stopping" power to any minority group utilizing strategic voting under the cumulative voting procedures as outlined above. In the event of this particular provision of the bylaws, they would only have to be successful in two elections out of three to maintain this powerful ability as they would be able to elect two members of the Board. Those two members of the Board could then utilize this delay power.

In either the event of five members of the organization petitioning for the delay or in the case of two Board members doing the same, any new or non-customary action of the Board or the Board's officers is then "suspended" until either a majority of a quorum, at a membership meeting, votes to confirm a Board/corporation officer(s) action or until a petition representing the majority of the members is presented to do the same.

The membership also has tremendous power over the Board of Directors and any actions taken by them or by the Officers of the corporation, even between elections, by the ability of the membership to pass corporate resolutions that can control how the organization must be run. Corporate resolutions may be thought as "standing rules" of the operation of the corporation. They may be passed by a simple majority of a quorum present at a meeting. They may also be brought into effect by a petition signed by two-thirds of the voting membership. As long as these corporate resolutions/standing rules are consistent with local and/or state and/or federal statutes and regulations, they would be binding on the operations of the corporation and the decisions of the Board of Directors/Officers.

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A further check on excessive power trying to be exerted by a small group and an additional mechanism that keeps democracy at the forefront is shown by the ability of only ten percent of the members (or ten members, whichever is more), to sign and send a petition that would result in a special meeting of the membership. As a further ability of significantly disgruntled members to take action, a majority of the Board of Directors may do the same.

Please keep in mind that if a special meeting is called, as in any meeting, thirty days' notice must be given to the membership. This is the case whether the meeting is called by the Board or by some of the members. Proxies, either general or specific, may be used in any meeting of CI, members, whether a special or regular meeting, and whether that meeting is called by the members as outlined above or by the Board of Directors. (Please note that Board members may also utilize proxies in Board meetings).

As can be noted with ease, there is an abundance of safeguards and mechanisms that allow total member control within the Cryonics Institute. There is nothing, of course, that can provide total confidence of the proper running of an organization unless well intentioned and well informed members take an active role in their organization. Well-meaning and informed members may have to be quite assertive in the face of what could possibly be tremendous opposition by persons determined to have things run the way they want it run regardless of the deleterious consequences.that way might entail. The courage of one's convictions among members and/or people in positions of leadership is always going to be necessary in any organization or governmental unit to help prevent improper action from possibly happening.

Ideally, of course, both an involved, informed and well-intentioned membership with similarly acting and knowledgeable Board of Directors maximize the probability of proper running of an organization. The procedures outlined above give CI members the ability to be the final arbiters of CI actions and should serve to keep CI "on track" in its life-saving mission of implementing cryonics, both now and for the quite foreseeable future..

Financial Matters

Financial matters are frequently the cause of the failure of organizations, even those of long standing existence. One of the aids CI has in the present situation involves the fact that three individuals currently serving on the Board of Directors have work experience and/or training in the field of organizational and/or professional finances. This fact greatly decreases (though, of course, cannot totally prevent) this problem from occurring.

An example of "self-checking" is the fact that one of these individuals, from time to time, goes to the CI facility for an informal "audit" of CI financial operations. These internal audits have, to date, found no irregularities. Another help in maintaining CI financial stability is that a regularly occurring event is that financial statements are provided to members at annual meetings and is available on request for those that haven't been able to attend.

The financial statements just mentioned are prepared by an individual with an extensive background in auditing and financial matters. This action helps provide an additional level of safety to CI and the individuals under its care.

The public nature of these statements also allows non-board members with financial expertise to evaluate the financial health of CI. One such member, located in Florida and who has a significant background in finance, has assured this writer that he looks at the statements quite carefully as they come out and that they gave him good information that CI is being run in a responsible financial matter. There are no doubt other members of CI who do the same and, thus far, no one has raised, to this writer's knowledge, any significant concerns

These financial statements are placed, from time to time on both the websites of the Cryonics Institute and the Immortalist Society. Further, the Immortalist Society does try to place both its own financial statement, as well as the financial statement of CI, from time to time, within the pages of its magazine. A printed written record published independently of CI helps to maintain a checkable and public record of CI's financial activities. The financial statements and records may not be changed after their initial presentation without it being very likely that it would be quite noticeable to anyone double-checking such figures from the initial ones to the new ones presented.

The provision of that record on both CI and IS websites has the additional advantage of allowing the information to be readily available to numerous interested persons, both members and non-members worldwide who may have financial expertise themselves. It basically makes it possible for anyone on the Internet to look at CI finances with a critical eye to errors and/or potential problems.

Legal Help

For many years David Ettinger, who is Robert Ettinger's son, has served as the CI Board's legal counsel. Being well familiar with both Michigan law and also being intimately knowledgeable about the operations of CI and the challenges it has faced over the years, Mr. Ettinger serves as a great asset to helping make sure CI is both operated according to all statutes and regulations as well as CI acting proactively to avoid the damaging effects of a lawsuit. Mr. Ettinger has been involved in cryonics since his youth and has worked in a legal firm for many years now.

Two individuals on the CI Board of Directors also graduated from law school and practiced for a while in the State of Michigan. Though both these persons now work in areas other than the direct practice of law, their expertise is, nevertheless, available to the CI Board in helping deal with legal matters and helping to avoid potential litigation.

It is of particular note that litigation can be a major problem in terms of expense, time, and disruption of any organization's operations. At times the results of litigation can even threaten the very existence of an organization. The combination of having a trained and experienced attorney as the CI Board's attorney, coupled with the two individuals with legal training sitting on the Board of Directors of CI is, in this writer's opinion, a tremendous asset in making sure CI has continued to survive and prosper.

Internal Quality Controls

The Cryonics Institute works with its own employees in trying to insure that internal inspections and quality control are at the forefront. This is analogous to what exists in, for example, hospitals work where all hospitals spend a great deal of effort trying to make sure that the actions taken by their employees are carried out both correctly and in a safe manner. Doing this in the case of CI reaps benefits for both the employees and, equally important, the individuals who are under the care of CI. The combination of high internal standards coupled with a periodic outside look by organizations and/or individuals who are independent of CI increases the likelihood of both quality performance and also increases the likelihood that when problems arise, they will be addressed in a prompt and effective manner.

Some Specific Security and Safety Measures

Electronic surveillance measures are provided for CI through a professional security company. This consists of an alarm system plus numerous

cameras placed throughout the CI campus. These measures decrease the possibility of break-ins and/or disruptions to the daily operations of CI. Through the system, images from the security cameras are readily accessible at any time to CI employees with a cell phone app.

Acting as a relatively simple but effective deterrent are several stickers that exist in various places that announce the existence of security measures. These stickers are an inexpensive yet useful method to let possible intruders know up front that the use of electronic security measures are in place. This can easily lead to a decision by a possible intruder that the attempt shouldn't be made in the first place.

Air quality in the building is helped to be protected by a system that measures air quality in the building. This is a concern due to the constantly, but slowly, evaporating cryostats.

In terms of vital information of CI's patients, it can be noted that patient records are securely kept in confidential and fire resistant areas in multiple locations both inside and outside of the CI building.

Should help/intervention of the local fire department become a necessity, the local fire station is located at 21250 Fifteen Mile Road. This is about two and a half miles away from the CI facility and simply dialing 911 should bring their help in a relatively brief time frame.

Police protection is provided by the Clinton Township Police Department. Their headquarters is about four miles away from the CI facility but, of course, officers are on active patrol at any one time period.

For non-destructive first responders, CI uses the KNOX-BOX® Rapid Entry System. This system allows rapid access of the building in case first responders (fire/police/etc.) need in the facility quickly. Delay can mean disaster in an emergency situation and this system helps to avert that possibility. (For more details on this system, you can go to www.knoxbox.com).

Both regular landline telephones and wireless cellular telephones are used and are available at all times for both routine and emergency use

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Conclusions:

The Cryonics Institute is one of the longest existing providers of cryonics services in the world. The bylaws are, generally speaking, well written and they provide numerous checks and balances on activities that might be taken to purposefully or inadvertently be deleterious to the organization. These checks and balances provide a methodology that can result in effective oversight by CI members and by its Board of Directors. It is always necessary and helpful for members and officers, of course, to stay in a state of "due diligence" but the governing rules are in place for them to do so.

Both the bylaws of the organization and Michigan law serve to be of considerable aid in trying to maintain long standing and ethical operation of CI in the interests of serving its members and the individuals that are in cryostats under the care of CI. The fact that the Board of Directors as well as CI members as well as other individuals have a wealth of expertise in various areas acts as a way of strengthening the operations of CI. Members, though, always need to be reminded that the ultimate fate of the organization rests in their hands. They should always become as actively involved in a constructive fashion as is reasonably possible. This means staying abreast of happenings with the organization as well as making sure that when criticism is offered there is also an effort to include one or more solutions to any noted problem if possible.

The physical plant that CI uses is both well maintained and secure and is reasonably near both fire and police assistance. Electronic security measures are in place as well as prominent stickers announcing their existence which serve to deter intruders. Due to the proximity of both police and fire department personnel and equipment, emergency assistance should arrive very shortly after any needed help is summoned. As of this last

inspection period, to this writer's knowledge, that has not been necessary
.
A mechanical ventilation exists with monitoring of safe air levels in the building that helps to keep the building inhabitable for workers and visitors. A sprinkler system is in place that was paid for in large part by the financial assistance enabled by a trust supervised by the American Cryonics Society. As a supplement to the sprinkler system, hand held fire extinguishers exist in the building as well. As mentioned, in the event of need, fire department resources are relatively close by and should be arriving in a few short minutes after any notice is provided to them. Essential records of CI patients are duplicated and kept in multiple secure locations. All cryostats have resulted, in the aggregate, to a savings in expected operational costs due to lower than expected consumption of liquid nitrogen. Further, the cryostats have proven themselves to be very reliable.

On the financial side, CI seems to be managing its monies in a way that should both be considered reasonably prudent and with regular notice that should alert the Board and/or diligent members of potential problems. With the recent addition of another facility that is only a very short walk away, space for any reasonable number of patient inflows seems to be quite secure for the foreseeable future.

In closing, one should note that it isn't possible for any inspection regimen to be able to totally guarantee proper operations of any organization. As mentioned above, constructive member involvement, both by so-called "regular members" and members of the Board of Directors are also needed to help in keeping an organization on the "straight and narrow". During years of ACS assessments, however, the Cryonics Institute seems to continue to function in a well thought out and rational manner. This adds to a reasonable expectation of its continued operation and the continued safety of the individuals it cares for.

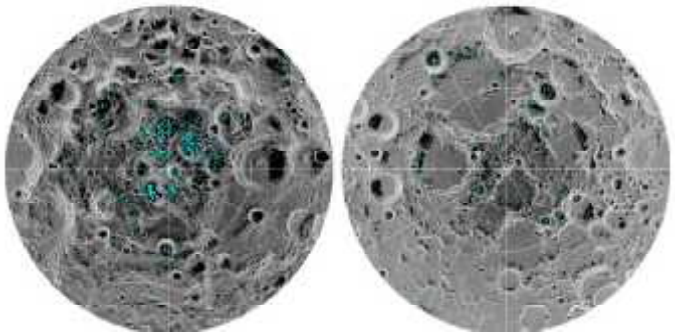
There are, of course, extreme (and extremely unlikely) natural and man-made disasters for which one cannot be fully prepared for (i.e., the "Supervolcano" of Yellowstone Park erupting, the possibility of a giant asteroid hitting the planet Earth,, total anarchy breaking out all over the planet, etc.). There is no reasonable amount of human effort, at present, which can eliminate those devastating but extremely unlikely possibilities.

Within its manpower and financial resources, however, and with what has been thus far diligent and hardworking leadership, CI continues to successfully deal with any reasonable and manageable threats to its continued existence and to its patient's safety. If CI, as has been the case over the past few decades, continues to gather more patients, manpower and financial resources over the coming decades, it is only rational to expect that CI will continue to improve it's expect those efforts will be redoubled and that CI will continue to improve its operations in terms of providing better service to its members and more safety to people that have entrusted themselves to CI's care.

In summing up this assessment, CI's operations 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, seem to be quite excellent given the information provided above.

Cryonics On the Moon: Afterthoughts

By
Jim Yount
American Cryonics Society



Ice Discovered At the Moon's Poles

(The image above shows the distribution of surface ice at the Moon's South Pole (left) and North Pole (right), detected by NASA's Moon Mineralogy Mapper Instrument. Blue represents the ice locations, plotted over an image of the lunar surface, where the gray scale corresponds to the surface temperature (darker representing colder areas and lighter shades indicating warmer areas. The ice is concentrated at the darkest and coldest locations, in the shadows of craters. This is the first time scientists have directly observed definitive evidence of water ice on the Moon's surface.)

Last issue, we presented the idea of Jenkan Thanga on building an underground cold-care facility on the moon. Professor Thanga proposed using lunar lava tubes (caves and tunnels created by past volcanic action) to protect seeds and perhaps cell samples from animals against the possibility of those species being destroyed by man-made or natural disasters on Earth

We contrasted Thanga's ideas with those of science writer Paul D. Spudis who suggested that a crater near the moon's North or South Pole could be "capped" with lunar regolith (dirt and small stones). The hollow beneath the cap could serve as space for a human colony.

Since the ambient temperature of such a crater is below that of liquid nitrogen, a cold-care facility for seeds, cell samples, or cryonics patients could be maintained "passively." That is, without liquid nitrogen.

Solar panels could be located on nearby high ground or even atop human (or robot) built towers to provide a constant stream of electricity to warm any habitable part of the capped crater or power any monitoring equipment we need.

The price of transporting material from the Earth is going down thanks to commercial rocket companies such as Space-X, Blue Origin, and Virgin Galactic. Provided a small cargo of cryopreserved human and companion animals could be combined with much bigger payloads, the transportation price of a whole body, even by today's best pricing, could be affordable for many cryonicists.

A headline from an Aug. 20, 2018, article released by NASA is "Ice Confirmed at the Moon's Poles"[1]. The South Pole appears to have much more ice than the north. This fact seems to have spurred a race to the moon's South Pole. On August 10 of this year, Russia launched its Luna-25 mission to the moon; destination: South Pole. The Russian moon landing is scheduled for August 23. On July 14, 2023, India launched its own moon mission to the lunar South Pole; as of the date of this writing, the probe is circling the moon. India's plans call for a landing on August 23 as well. China plans to send its own rocket to the South Pole, now scheduled for 2024. The United States is shooting for 2025 for a South Pole landing but plans to have astronauts aboard.

This water from ice is quite valuable. Besides providing water for any colony, using solar energy could break down water into hydrogen and oxygen. The hydrogen could be used as rocket fuel, and the oxygen to allow the hydrogen to "burn," thus providing rocket fuel for crafts that explore more far-reaching targets in space. The Moon's low gravity, (1/6 that of the Earth), would allow launches without the great cost in rocket fuel to break away from where the rocket is based.

A cryonics facility should not need much water, so with the real estate of the South Pole in high demand, we might find that the North Pole does us just fine, and at a fraction of the price!

Many cryonicists are interested in space exploration and have considered cryonics facilities out of this world. On the other hand,

most cryonicists likely have dismissed the notion of being an outer space cryonaut as simply not presently practical. I talked to a fair number of other cryonicists about the cryonics on the moon article. A many of my cryo-buddies were more interested in the space-shield concept, where frozen folks are maintained at sub-liquid nitrogen temperatures with nothing more to keep them cold being in the shadow of a shield (see accompanying article). The reaction of many people I talked to was, "OK, that is interesting; now let's get back to practical ways we can best cryopreserve our members here on earth in the here and now."

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1 Tabor, Abigail. "Ice Confirmed at the Moon's Poles." *NASA*, 17 Aug. 2018, www.nasa.gov/feature/ames/ice-confirmed-at-the-moon-s-poles.

Afterword by York W. Porter, President, Immortalist Society:

Jim Yount's exposition in both this issue and in the previous issue brings up a very intriguing point. The real possibility of storing humans in space has been discussed in cryonics before, though perhaps not in as clear of a manner as both in the previous issue and in the two submissions Jim has made here. The drawback, of course, is in terms of cost. That factor can, of course, change over time plus, as Jim notes in his article below, once storage of a patient is done, there is very little to no cost in their long term maintenance. No liquid nitrogen truck to show up, etc. The figures Jim uses in his next article, which begins immediately below, while still relatively high, represent a big improvement over past history. A round figure that used to be used for space exploration was that it takes ten thousand dollars per pound to place an object into earth orbit. Since this figure is an old one, to arrive at a comparison with today's cost one would have to use a multiplier which would result, of course, in a much higher figure

In one part of Jim's article, the figures used show that things are down to a little over a thousand dollars per pound of payload. That is still a great big bunch of money but also a great improvement over the early years. Space is, surprisingly, relatively close. Observing a picture of the earth, one readily realizes that the atmosphere is basically sort of like the skin of an onion, very thin and not very formidable.

Of course this doesn't mean the problem will be solved overnight, if at all. It does mean that, as in numerous other examples of human development of technology, you never know how fast things will develop. A trip, for example, from the continental United States to, say, Australia is still somewhat expensive but it is within reach of the average person, especially if it is a "have to" case. The distance from the United States to Australia far exceeds that necessary to get to low earth orbit. The problem is simply that the direction of travel for orbit is up instead of horizontal. Again, not an easy thing to do and very expensive even in today's currency but the comparison just given leaves one with hopes for the future, just like in cryonics in general.

Again, please note that Jim Yount's next interesting article begins immediately below and is entitled Umbrella in the Sky. The James Webb Telescope he refers to is a high tech infrared telescope that was launched on December 15, 2021. It's improved sensitivity and instrumentation is supposed to allow it to see objects that its vaunted predecessor, the Hubble Space Telescope, would not be able to detect and/or visualize very well if at all

LaGrange points may be thought of as "balance points", so to speak, where the centrifugal forces and gravitational forces between two massive orbiting bodies and a much smaller body or object are sort of evened out. This means an object "parked" in one of the of LaGrange points needs much less "course corrections" in order to keep itself in the desired orbital position. This is a major advantage since, for instance, objects in relatively low orbits around the earth require periodic thruster burns to maintain their position which are, of course, costly in terms of the need to store fuel onboard. In the case of low enough orbits around the earth, even atmospheric drag, small though it is because of the rarified and almost non-existent atmosphere at close enough distances to the earth, can cause ultimate orbital decay of a device such as the now retired Space Shuttle or the still functioning International Space Station. LaGrange points are a big help if they can be used.

There are, for instance, 5 LaGrange points (labeled L1 through L5) involving the sun-earth and 5 different ones (also labeled L1 through L5) for the moon-earth system.

Umbrella In the Sky

James Webb Telescope Heat Shield Points Way To Keep Cryonauts Cold In Space

By:

Jim Yount
American Cryonics Society

Cryonicists, one and all, look for advantages. We want to be cryopreserved but would prefer never to die. If cryopreserved, then we want it to happen with the least delay and with the best possible technology applied. We would like to go to our promised land, the future, with a buck or two, preferably a million or two in our frozen pockets. Since we believe *good things come to he who waits*, we want our time spent waiting to be in the safest setting possible.

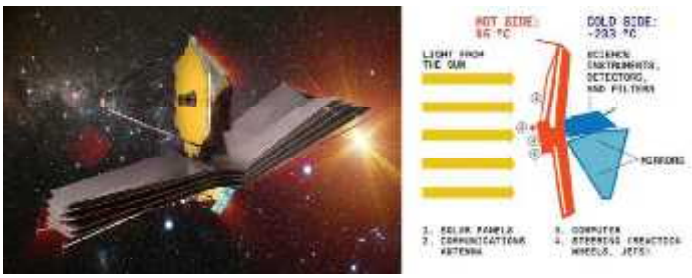
The moon seems to offer that safety, but it is a long way away and even with decreased costs for transportation to the moon from increased space-freight competition, the cost is far from cheap. Using the 2022 cost per pound estimate by Professor Ibrahim Guvens, Ph.D of Virginia Commonwealth University a human head to make the trip, when bundled with a much larger payload would cost $500,000 with a whole-body flying the estimate goes up to about $9 ¼ million (details in chart below).

Interestingly, if we start with the cost to put a pound of material in Low Earth Orbit (LEO) and apply that cost per pound to the Earth to Moon freight-run we project the following costs:
:

Brain = $8,134; Head = $26,690; and Body = $406,688.

In this article we present further information and cost calculations for cryonics cold storage with various out-of-this-world possibilities. Even a Cryonics Facility in Low Earth Orbit is a possibility with an Umbrella in the Sky.

The Sunshield of the James Web telescope is like the 1985 McDLT Burger: the hot side stays hot and the cool side stays cool.



The James Webb telescope orbits the sun in the "L2 Position", in tandem with the Earth and the Moon. The sun shield technology is relatively simple. It uses four layers of insulated material wrapped in reflective aluminum with the layers separated from each other by a few inches so the heat can "bleed" into space. The shielded telescope is at -233 degrees centigrade, well below the temperature of liquid nitrogen. Cryonicist and Space Enthusiast Alan Cullers remarked that he could build the Sunshield largely from common materials he could buy off the shelf at Home Depot, though the materials would likely not be to NASA's high standards.

This same passive technology of employing a sun shield could be used to keep patients cold in earth orbit, solar orbit including L4 and L5 Lagrange points, or many other places. However, a Cryonics Facility in LEO might need an additional heat shield to block out solar radiation reflected into space by the Earth itself. Another problem with keeping frozen human in space near earth is that such a Facility would make a very fine target for any hostile nation with advanced technical capabilities.

Further out in space? Mars, moons of outer planets? Asteroids? Kuiper Belt?

Cost of Putting a Cryonics Patient into Space

Patient in space plus sunshield equals one very cold cryonaut. The major cost of getting the patient into space depends upon the destination. For example, if the patient is bound for a Low Earth Orbit (LEO) space station there is no need for an expensive Moon-lander. In our introduction we presented two very disparate cost estimates. We will explore those guesses further.

The cost of delivering a one-pound package to the moon, then *returning to earth with the same pound package* is $100,000. So stated Ibrahim Guvens, Ph.D, in 2022. The professor is from the College of Engineering of Virginia Commonwealth University. Apparently, this cost is for one pound of a many-ton payload, so to get this price we would likely need to have our small biological packages shipped along with some large tonnage.

Applying Prof. Guvens Transport Costs

Since Guvens costs are for a pound of material flying to the moon and then returning to Earth, we divided those cost in half as an estimate for material staying on the moon to arrive at the cost of $50,000 per pound. This assumes the rockets return-trip has *paying freight*.

	Brain	Head	Whole Body
Weight	3 lbs	8 lbs	150 lbs
Container Weight	.75 lbs	2 lbs	37.5 lbs
Combined Weight	3.75 lbs	10 LBS	187.5 LBS
TOTAL COST	$375,000	$1,000,000	$18,570,000

(*assume mass X 25% as container weight)

Transport Cost to Low Earth Orbit (LEO)

A conference paper of July 2018 by Harry W. Jones from NASA Ames Research Center stated that "The SpaceX Falcon 9 has an advertised cost of delivery to Low Earth Orbit of $1,234 per pound ($2,720/kg.)," adding that "the cost to launch to Low Earth Orbit for the Space Shuttle was $24,716 per pound."

At $1,234 per pound the cost to lift a Brain, Head, and Whole Body to Low Earth Orbit would be Brain = $4,628; Head = $12,340; and Body = $231,375. *See Delta V chart below*.

A cryonics facility, to accompany a retirement community, either on the Moon or in an L-5 colony, would allow elderly Earth people, or those likely to deanimate soon, to travel from Earth to be near a "High Frontier" facility.

Transport Cost to L4 or L5 Lagrange Points

According to our Delta V chart below the rocket fuel cost for transportation to either the L4 or L5 Lagrange points should be about the same as the cost to transport to lunar orbit. However, there would likely be a considerable cost saving for L4 or L5 bound cryonauts since there would be no need for the expensive lunar lander.

Rocket fuel cost to various points in space or on the moon can be approximated by comparing delta-v requirements for various space ship trips. Wikipedia describes Delta-V as ". . . the impulse per unit of spacecraft mass that is needed to perform a maneuver such as launching from or landing on a planet or moon, or an in-space change in velocity . . ." Using NASA's Harry Jones 1918 cost estimate for one pound to make a one-way trip to Low Earth Orbit of $1,234 and Delta-V estimates to various destinations in space we get arrive at the following travel cost estimates:

Transportation Cost to Space Based on Delta V

Earth to LEO

Delta V	7,800
Cost to Destination Of One Pound	$1,234
Brain (3.75 lb)	$4,628
Head (10.41 lb)	$12,340
Body (187.5 lb)	$231,375

LEO to Lunar Orbit

Delta V	4,040
Cost to Destination Of One Pound	$639.17
Brain (3.75 lb)	$2,397
Head (10.41 lb)	$6,392
Body (187.5 lb)	$119,844

Lunar Orbit to Lunar Surface

Delta V	1,870
Cost to Destination Of One Pound	$295.85
Brain (3.75 lb)	$1,109
Head (10.41 lb)	$2,959
Body (187.5 lb)	$55,472

Earth to Lunar Surface

Delta V	13,710
Cost to Destination Of One Pound	$2,169
Brain (3.75 lb)	$8,134
Head (10.41 lb)	$26,690
Body (187.5 lb)	$406,688

Earth to L4 or L5

Delta V	11,800
Cost to Destination Of One Pound	$1,867
Brain (3.75 lb)	$7,001
Head (10.41 lb)	$19,435
Body (187.5 lb)	$406,688

* All calculations based on $1,234 Earth to LEO per 2018 paper by H.W. Jones of NASA Ames. Cost per 1,000 Delta would be $158.28 for Earth to LEO. We assume this cost can be applied to other flights.

*Assume package/container weight of +25% of brain/head/body

More about parking our patients at the L4 or L5 points in Space

The earth's atmosphere is very thin in Low Earth Orbit and even thinner in High Earth Orbit. Over time, this sprinkling of atmospheric molecules causing a drag on any orbiting space station or satellite, unless corrected, the drag will result in decay of the orbit and the satellite will return to earth, sometimes in a very unwelcome way.

One of the problems with parking our patients under a sun shield in either Low Earth Orbit or High Earth Orbit is the need to make periodic corrections to the sun-shielded space station containing our patients. The correcting process is called "orbital station-keeping" and requires the use of both energy and reaction mass through thruster burns. That is, in order to keep the station in a constant orbit, every once in a while a small rocket blast puts the space station back on proper course.

Perhaps the most efficient rocket motor for orbital station-keeping are ion thrusters that throw out an ionized particles stream at very high velocity, thus the "reaction mass" needs are less than most other means of propulsion, just the same, even this highly efficient means of orbital station keeping would require that the reaction mass be periodically replenished by servicing trips to the space station from spaceships, a problem not present with moon-based cold storage.

One strategy to avoid most of the cost and bother of orbital station keeping is to park our cargo of frozen folks at L4 or L5 Lagrange points in space where gravity of the Earth, Moon, and Sun provide a stable orbital location. At L4 or L5 the need for orbital station keeping would be greatly reduced which is why physicist Gerard O'Neil chose the L5 parking spot as the suggested location for a large space-colony sized space station. Interestingly, cryonicist Keith Henson was the co-founder of the "L5 Society" which did much to expand and publicize O'Neil's work.

If colonies are established at the L4 and L5 points, the prospect of using them as a waiting place for our patients (freeze-wait-reanimate) might be enhanced since they could be stored in or near a colony. People and/or robots would be near-by for any possible servicing needs. However, the presence of a colony may mean that our patients would be near a possible target should space-wars become a reality. A space colony as a destination for retirees from the earth would be handy if a cryopreservation facility was part of the colony.

Slow Boat to Ganymede

Sail on, and on, and on . . .

This whimsical two-master is suggestive of the adventurous voyages of the 14th century. Once in orbit with a sun shield in place, a very slow and relatively cheap voyage could begin with ion propulsion, a cargo of cryonauts, and "a star to

steer her by." We might even give the old ions a rest by hoisting up a solar sail!

The sailing ship image presents a final way to keep cold guys cold: just keep sailing on. A lot of the expense of space travel is getting into space in the first place. Once we are free of Earth's gravity, it may well be about as cheap to just keep traveling as to squabble with the Russians, the Chinese, the Indians, and American environmentalist for a place on the moon; or elbow room at L4 or L5.

A robot driven ship with frozen folks minding their time could do the grand tour of the solar system and back again as often as is needed as technology "catches up." If we found we were not even welcome in our very own solar system we could take a leaf out of Robert Heinlein's Time Enough for Love and seek greener pastures where the stardust blooms and blows. When the time is right, some of our earthbound friends can fetch us back, we can turn the old space-buggy around and head for home, or perhaps our robot friends aboard can be remotely programmed from Earth or nearby planets to reanimate the likes of you and me.

It's About Time, It's About Space

How soon will we be able to reanimate? For any particular patient, if we judge that it will take a very long time, say 200 years, before reanimation may be possible, then spending a lot of money to get the subject to a location with a very low ambient temperature where the trip costs a lot may be a good decision.

If, in our best judgment, there is a good chance that the patient will be in cold-care for a fairly short time, say 50-75 years then keeping the patient on earth is likely best.

Patients Now in Dewars on Earth

For those who are now waiting in liquid nitrogen on Earth, the risk of damage from rocket transportation to the moon or elsewhere away from the Earth may be too great. As the late Jerry Lee Lewis put it, there would be "a whole lot of shakin' goin' on."

If initial cryopreservation occurs on Earth, the subject could be cooled down to an intermediate temperature, such as that of dry ice, and later flown to the Moon, LEO, L4 or L5 facilities for long-term cold storage.

The Legacy Continues

Robert Ettinger on The Society of Mind

Introduction by York W. Porter, Immortalist Society President

Robert Ettinger, as I've written before, was one of the smartest and one of the best persons I've ever had the privilege to know. Bob's development of cryonics still fills me with awe as I realize more and more with the passing of the years that I would have never thought of this life-saving concept in a thousand years. He not only thought it up in the space of one human lifespan but he pursued it in a determined and ethical way that is ultimately leading us to success, albeit slower than we would all like it.. As I told him one time, if we are able to make his idea a complete success, we will all owe him a debt we'll never be able to repay. He simply smiled in his usual modest way whenever someone was trying to heap accolades upon him, deserved or not.

One of the topics which he had to tackle is what cryonics means in terms of its real life applications. Some topics, like the development of prosthetic limbs, don't seem to present very much of in-depth dilemmas in terms of their effect on philosophical questions. If a person has had the misfortune of losing a limb and one can replace that limb with some sort of device that, however far from the original item, allows that person to function in a more acceptable way then so much the better.

When one gets, however, into such questions as whether artificial neurons and their probable development at some point in the future are going to result in a situation where the person whom they are placed in no longer exists in any sort of real and meaningful sense of the word, well, that's a different matter entirely.

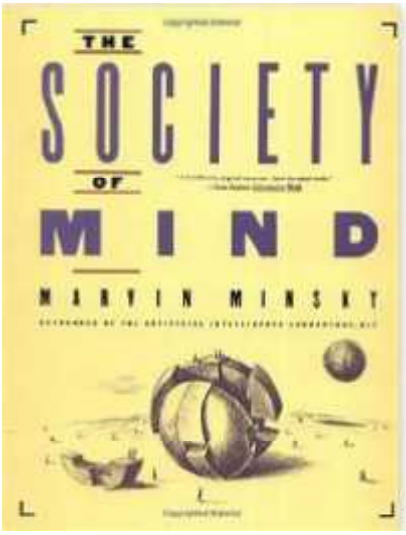
My pathetically underpowered brain wrestles with those issues with more confusion than anything else most of the time. I have settled on a simplistic statement that our identity can be summed up by stating that we are, fundamentally, physical objects in the universe and we have certain properties which basically define who we are. (I won't bore you to death with the details).

Still I wonder if I'm in error somehow and these types of waters run very deep, philosophically speaking. Far greater minds than mine (which, yes, isn't saying a whole lot) have wrestled with the problem of identity down through the centuries. I doubt that my "two watt mind trying to do a ten watt job" is going to add very much to the discussion.

But folks like Robert Ettinger and others, with far more brain power than I will ever have, seem to help light the way. In the article that follows, Bob writes about another fellow with a high IQ and with the credentials to match it. I'm writing of Marvin Minsky, who entered the faculty of the Massachusetts Institute of Technology in 1958 and remained there until his death in 2016. Among his numerous achievements that are, frankly, too many to get into here, is his authorship of a wonderful book entitled The Society of Mind. Please note that the passage from Mr. Minsky's book has been lightly edited.

Robert Ettinger's comments on this intriguing and interesting book follow immediately below. In his review of a fellow MENSA level thinker, Mr. Ettinger doesn't mince words when he disagrees with Dr. Minsky or when he agrees.

The Society of Mind



Review by Robert Ettinger

The book of above title by M.I.T.'s Artificial Intelligence guru Marvin Minsky (Simon & Schuster) is a couple of years old, and has been reviewed fairly widely (and usually rather favorably). Still, now that I have finally gotten around to it, it may be worth passing on some impressions.

It is entirely nontechnical, without even any references—just a bibliography mingled with a glossary. The author even says it is just a compilation of speculations about the functioning of some aspects of the brain. To anyone looking for enlightenment about consciousness or identity it is totally disappointing. It includes what seem to me to be a few clear-cut mistakes. All this is the downside.

On the upside, it includes a lot stimulating suggestions, mostly stemming from the melding of Minsky's interests of computer math and psychology, with many common-sense insights. Douglas Hofstadter has called it "…a stunning collage of staccato images, filled to the brim with witty insights and telling aphorisms." That's a bit effusive, but not unpardonable.

Let's look first at some of the apparent mistakes, beginning with "Fredkin's Paradox" which the author approvingly notes.

"The more equally attractive two alternatives seem, the harder it can be to choose between them—no matter that, to the same degree, the choice can only matter less."

Balderdash. Admittedly, a fussy diner might hesitate between steak and lobster, but not for too long, and nothing hangs in the balance. In the real world, the choice might be between war and peace, with enormous possible consequences either way; or the voters might have to choose between two political parties, each with its peculiar attractions and repulsions; or a company might have to choose between two takeover suitors, each with something different to offer. What makes the choice hard is that the balance is unclear but a great deal is at stake.

A more important obfuscation occurs more than once in his discussions of consciousness. At one point, he says: "consciousness is what happens in our minds right at the present time." Elsewhere he says, "…"consciousness" consists of little more than menu lists that flash, from time to time, on mental screens that other systems use.

The difficulty is that he confuses awareness with the content of consciousness. The "display" is the content, and consciousness is more than a screen. Perhaps the most important problem in biology is the nature of consciousness and any substrate—what I have called the self-circuit. Consciousness is that aspect of brain which allows the subjective condition—i.e., feeling and observation. On this point Minsky has nothing to say.

A minor but strangely crude error occurs in this passage**:**

28.5 OVERLAPPING MINDS

Consider the popular idea that a person is capable of two kinds of thinking at once—a "right brain" kind and a "left brain" kind—as though there were two different individuals inside each human brain. This raises some odd questions, since there are many other ways to draw imaginary boundaries through brains.

If you agree that each person has both a left brain mind and right brain mind, then you must also agree that each person also has a front-brain mind and a back brain mind! Can a single large mind contain so many smaller ones, with overlapping boundaries? It makes sense to think of part of a structure as being a "thing" in its own right only when the relationships among parts of that structure have some significant type of coherency. Before you'd say that a certain arbitrary section of brain contains a mind, you'd want to have some evidence that what happens inside that boundary is something you would consider to be a mind.

****

The point is that the lines are not equally imaginary. There is a fairly well defined physical boundary between left and right hemispheres, and animals (including people) can live and function with only one hemisphere of the cortex; this is not true of "front brain: and rear brain. Minsky must certainly be aware of the many split-brain experiments, so this gaffe is puzzling.

The problem of identity is touched upon briefly here and there, but many aspects are omitted and there does not seem to be any real contribution. He seems to feel that a repaired or duplicated mind, meat or metal, would be "you" if the duplication of function is reasonably close. He says, "…the real question is not what we mean by 'you' but what we mean by 'same'". But this is clear wrong: we need both questions—otherwise I would have to worry about how closely, for instance, my hair was duplicated and other trivialities."

The good stuff consists primarily of representations of systems and subsystems in the brain, and their interrelationships and schemes of interaction: many tiny automata, acting together in hierarchies, produce an emergency mind.

There are also some shrewd observations on certain stubborn antiscientific misunderstandings. One example concerns the "revelations" people sometimes think they experience---visions of astounding clarity that sweep away all doubt, even though coherent details cannot be produced. This is sometimes the result of "solving" a problem by changing the rules of thought, or pathways in the brain, to banish troublesome doubts and contradictions.

Another is a quotation from W.H. Auden: "We are all here on earth to help others. What I can't figure out is what the others are here for."

Again, he does a splendid job on the myth of "free will" by explaining that (according to modern views) events—including mental events—result either from cause (deterministically, on the classical level) or else by random chance (according to the rules of quantum mechanics) and that neither of these gives any comfort to human dignity. But he does less well in reconciling the basic lack of free will with human responsibility and dignity.

Another oldie but fairly-goodie is the warning about the danger of self-knowledge: "If we could deliberately seize control of our pleasure systems, we could reproduce the pleasure of success without the need for any actual accomplishment. And that would be the end of everything". This well-worn science fiction theme has some substance, but only some: after all, masturbation has not replaced copulation.

Then there is an interesting speculation about the difference between a feeling of virtue vs. a mere feeling of success. "When we maintain our standards, we feel virtuous rather than merely successful." Plausibly, value systems (as opposed to simple criteria of useful action) are related to the love or rejection of parents.

Finally (since we have to stop somewhere) there is his "investment principle" which tends to explain the obduracy of old ideas vs. new. "Our oldest ideas have unfair advantages over those that come later. The earlier we learn a skill, the more methods we can acquire for using it. Each new idea must then compete against the large mass of skills the old ideas have accumulated." If you can't beat them, try to find some way to join them, or appear to.

Final Thoughts

Mr. Dickens the Hero

By:

York W. Porter
President
Immortalist Society

Charles Dickens is a writer that most people are familiar with. Written way back in 1843, *A Christmas Carol*, if nothing else, with the introduction of characters such as Ebenezer Scrooge and Tiny Tim, is well celebrated with anyone that even has a cursory knowledge of Dickens' works.

The real Charles Dickens is something else than fiction, of course, as is the case with any famous author or actor. Charles John Huffam Dickens was born on the 7th day of February in 1812. His father was a person who was ultimately thrown into so-called "Debtor's Prison" when Dickens was still a relatively young child. Debtor's prisons were common in the Western part of Europe until about the middle of the nineteenth century. An individual sent there had to remain until they had either made arrangements to pay their debt or until they had worked off their debt, including the cost of their incarceration. For Charles Dickens this ultimately meant leaving school at the age of twelve to help support the family.

After leaving school, Dickens was forced to work in a boot blacking factory. Dickens was to remain there for three long years, in conditions that were oppressive and discouraging. Working ten hours a day pasting labels on containers of boot blacking and spending Sundays at the debtors' prison where his parents and younger siblings lived (as this was the custom of the times) could easily be seen to have this effect on Dickens. All in all it was a miserable existence for the person who would ultimately become one of the most famous authors in the history of the world.

Dickens, pictured at left in about the year 1858, was finally able to get into a situation where it was possible for him to leave his terrible job and return to school. He finally managed to begin his professional work in journalism. His output in that field seems, to me at least, to put everyone else to shame. He ultimately edited a weekly journal for 20 years. He also wrote 15 novels. As if this wasn't enough, in addition, he authored five novellas. His output was even more prodigious as he was able to complete hundreds of short stories and non-fiction articles. He was a lecturer and he gave personal readings of his work extensively as well. Due in part, I am sure, to his rough days in childhood, he was a vigorous advocate for children's rights, for education, and for other social reforms. Even writing this paragraph brings a sense of shame to those of us like me that even nibble around the edges of writing and believing in social reforms. On top of that, I am laboring, if you wish to call it that, with the aid of a computer and word processor. Mr. Dickens, as pictured, labored with nothing more than an ink pen and paper.

But no one's life is perfect, even those who have achieved high status and acclaim. At the age of 18, Dickens fell in love with a young woman by the name of Maria Beadnell. Her parents didn't approve and ended the romance by sending her to Paris to go to school. Dickens worked for the next few years in several areas and finally became engaged in 1834, at the age of 22. He

was married two years later. The marriage would turn out, ultimately, not to be a particularly successful one, even though they had ten children. For whatever the reason or reasons, by 1858, Dickens and his wife were estranged.

Other tragedies occurred during Dicken's life as well. An illustrator friend of his committed suicide, possibly due to getting into an argument with Dickens. In Dicken's later years a lawsuit occurred involving a man on the other side who was a forger and a thief. Around three years after Dicken's marriage, his wife's sister died in Dickens' arms after a brief illness at the age of 17. He was quite heartbroken over this event. There was a trip later in life to America during which his reception was decidedly mixed. As in anyone's life, things were far from perfect.

But his finest hour may have come entirely unexpectedly. On a trip in early June of 1865, 53 year old Dickens was riding on a train that derailed on the South Eastern Railway in England. The derailment was caused, in part, by a flagman who wasn't far enough back from some track that was being repaired on a bridge across a small river. A complicating factor was the misreading of the train schedule by the work crew's supervisor which made him believe no train was expected until later in the day. The locomotive engineer saw the stop flag being waved as he approached the bridge and he blew his whistle for the train's brakes to be applied while he threw the locomotive into reverse. Alas, due to the flagman not being far enough back from the track work, it was too late. The train derailed at about 20 to 30 miles an hour

The car in which Dickens was riding, the 3rd of 14, came to rest askew but landed on the other side of the gap in the tracks along with two other cars and the tender and locomotive. For a moment it was being pulled backward by the cars behind it but the connection finally broke. Some of the passenger cars behind Dickens' fell about ten feet into the water and mud below. The whole incident left Dickens shaken but uninjured. Attending at first to two traveling companions, Dickens climbed out of a window in the train car on to the bridge since it was railway policy to lock the doors of a railway car from the outside. He later wrote of the sight which he beheld that "No imagination can conceive of the ruin…".

Dickens then set about the task of helping those that he could. His first efforts were at aiding those in his train car to get safely out. Once that was done he returned to the car for his brandy flask and for the hat he had been wearing. Climbing down the brickwork of the bridge, he dipped his hat in the river. With the brandy he possessed and with the hat full of water, he began trying to provide comfort to his fellow humans. Some of the people he tried to help were quite sadly too far gone for assistance to be effective and they died shortly after he first came to their aid. Others were undoubtedly helped by the famous author's efforts. One man declared he would have no doubt died if Dickens had not tried to help him. Dickens labored for hour upon hour in his attempts to help his fellow humans. When the crash scene was finally in hand, he rode back to London on one of the special trains sent out to help with the terrible disaster

Dickens ultimately received recognition from the railroad for his heroic and selfless actions that day. He died five years to the day from the disaster having suffered all during that time from what we would now call PTSD. The most important thing, though, was that he had followed the most basic of instincts in humans, the desire to survive and to help others to do so.

(Engraving from the Illustrated London News)

Cryonics is based on just that, the basic desire to survive and to help one's fellow humans, no matter your politics, no matter your religion, and no matter anything else! Join us today!! You'll be very sincerely and very glad that you did!!

Reasons to Join ACS

1) We Have Been In Business A Long Time

We were incorporated in 1969; our first cryopreservations were in 1974. We are a Calilfornia nonprofit corporation formed to advance research into cryonics and cryobiology. Two well-known medical doctors, Dr. M. Coleman Harris and Dr. Grace Talbot, were among our founders that also included Jerry White and Edgar Swank. Jerry and Edgar are in cryopreservation at the CI facility.

2) We Work Closely With The Cryonics Institute (CI)

Starting with our first frozen patients, ACS has maintained funds to keep these patients frozen. This responsibility has required that we focus on a practical approach to managing our resources. By working closely with CI with its ever-increasing "patient load" we are able to keep long-term storage costs down while adding to the funds of both ACS and CI.

3) Initial Preparation By Suspended Animation, Inc. And Other Options

We don't have all the answers. Cryonics depends upon anticipating future technological developments, and taking action NOW to benefit from those breakthroughs. This means there is a speculative aspect to cryonics. We give our members a wide a choice of options which include initial preparation by Suspended Animation, Inc. We also offer less expensive options. See our website for all choices.

4) ACS UtilizesThe Tools Of Risk Management

The ACS program employs the tools and techniques of risk management, such as inspection and verification of good practices at facilities where ACS members are in cryostasis.

Financial planning includes diversification and decentralization to help guard against adverse financial consequences for ACS assets.

5) ACS Sponsors Research

Some research programs of the American Cryonics Society have been very well publicized. The successful cool-down and recovery of Miles the Beagle led to appearances of ACS scientists on Good Morning America, The Sally Jessy Raphael Show, and The Phil Donahue Show.

6) ACS Maintains Its Own Emergency Response

Long-term storage should be centralized but stand-by and emergency response, by its very nature, is local. In that regard we maintain emergency response equipment and responders in the San Francisco Bay Area that can also can be deployed to most locations in the US.

7) ACS Is A Democratic Society

One internal control, absent in some organizations, is the fact that ACS is a democratic organization. That is, our governors are elected from among the members, by the members. A number of procedures have evolved over the years, to help ensure that this electoral procedure is safeguarded.

8) ACS Patients Have Live-Member Sponsors

To ensure that the obligation ACS has to people in suspension continue to be considered, ACS has a program whereby live members act as "Sponsors" on behalf of the people in suspension. Sponsors get reports of suspension facilities housing the patient, and information on

investments used to benefit the continued suspension of that person. Whenever possible, a good friend or relative of the person in suspension is named as a Sponsor. We prefer that the Sponsor also be enrolled in our suspension program.

9) ACS Manages Growth

The strength of a cryonics society is not dependent upon how many people it has in suspension. There must be a reasonable allocation of resources to meet the obligation of those in suspension. Societies who accept underfunded or non-funded patients must then make up that deficit through raising membership dues or by receipt of an endowment. Both of these fund raising methods involve significant risk, with results considerably in doubt.

The American Cryonics Society is not a kingdom built on a house of cards. The balance between those enrolled in our pre-need suspension plan, those in suspension, and the allocation of resources between these two programs is balanced to ensure our survival and prosperity. We are not dependent upon luck, endowments, windfalls, or even growth to sustain us.

10) We Make Use Of Individual Trusts

While other societies have more recently begun using trusts, the American Cryonics Society adopted this technique as its primary recommended funding vehicle in 1982. The individual trust is a mechanism to isolate and manage risk, ensure some oversight, obtain acceptable tax treatment, and address various problems and requirements unique to each individual member.

11) "Freeze-Wait-Reanimate" Is Our Only Purpose

The American Cryonics Society is not a "Utopian" organization. We don't have a political agenda to transform our current political or social structure to make our version of a perfect world. That is far too ambitious an undertaking; and besides, we don't all agree on what political and social changes are desirable. We are a cryonics society: PERIOD. Our program is simple: freeze-wait-reanimate. We support cryonics research, education, and information dissemination. That is what ACS is about. That is *ALL* ACS is about.

Mail: American Cryonics Society - P.O. Box 1509, Cupertino, CA 95015

Website: americancryonics.org

Email: cryonics@americancryonics.org

Phone: (408) 530-9001 •
Toll-free: 1-800-523-2001.

The ACS office is located at 355 W. Olive, STE 210, Sunnyvale, CA 94086. Office hours are irregular and an appointment is required for a personal visit or for an interview.

Options for Safe, Secure and Legal Asset Preservation for Post-Resuscitation Access

The Fourteenth Annual *Young Cryonicists* Gathering

Teens & Twenties PLUS ALUMS 14 2023 /RAADfest science talks 2023:

Getting to Know You - You Getting to Know Each Other

- All While Being Updated on the *Latest Scientific Research*

Thurs-Sun; Sept 7-10, '23 Hyatt Regency Orange County; Garden Grove CA

Scholarships provided by: *Biomedical Research & Longevity Society*

★ ★

Registration Form for *ALL Applicants*

This is *NOT a drop in event*. You *MUST be registered in advance* & already be *fully signed up (a paid contract with a recognized cryonics provider)* for cryo-preservation.

40 Scholarships available on a *first applied first granted* basis to all qualified applicants - so *best apply early*. *Special ALUM invitation*

Name _____

Age _____ Birth date _____

Cryonics Provider _____

Mailing Address _____

e-mail _____ Phone _____

My thoughts on Teens & Twenties: _____

I am a ☐ *T2 (13-30)*; ☐ *T2 ALUM*; ☐ DA; ☐ RIT; ☐ OSSLAP Member/Friend (for free meals)

☐ I wish to register & apply for a full scholarship. [Covers registration fee ($350 - includes meals & refreshments), U.S. airfare (or "up to" $1000 for airfare outside the U.S.; $1350 for Australia), & 4 nights lodging; Thursday, Friday, Saturday, and Sunday_ Airfare covers "up to" one low cost round-trip to T2 from your home address. Side trips are NOT covered.

T2 will run on Friday & Saturday mornings & all day Sunday. RAADfest talks will run Thursday evening & on Friday & Saturday afternoons.

☐ I wish to register & apply for a partial scholarship.

☐ registration ☐ airfare ☐ lodging

☐ I wish to register and can pay my own way. ☐ registration $350

☐ *I am also sending either my "Scholarship Recipient Agreement" or my "Attendee Agreement" if I am a Self Pay applicant.*

Your application will be verified upon receipt of this agreement.

Mail, fax or e-mail to:

Teens & Twenties; c/o *Kathy Markell*; Biomedical Research and Longevity Society
3600 West Commercial Blvd.; Fort Lauderdale FL 33309
Phone: 954-202-7702 FAX: 954-202-7745 e-mail: kmarkell@lifeextension.com

I look forward to "getting to know you." *Cairn Idun* Founder/Director

OSSLAP members who register for RAADfest and choose to also attend the T2 sessions are invited to join us for all of the extra meals not within the RAADfest registration. Please register with this form in advance so that I may order the correct number of meals. All *alums* may also receive scholarships.

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The Fourteenth Annual *Young Cryonicists* Gathering

Teens & Twenties 14 2023: Getting to Know You - You Getting to Know Each Other - All While Being Updated on the *Latest Scientific Research* -

Thurs-Sun; Sept. 7-10, '23 Hyatt Regency Orange County; Garden Grove CA

Host: *Biomedical Research & Longevity Society*

T2 14 2023 / RAADfest 5 2023 New & Returning

Hand Written Attendee Agreement

Attendance to Teens & Twenties is *dependant* upon a *handwritten,* signed, dated and timely receipt of the following agreement. This is meant to accompany your application. Use *black ink only* to copy the following *ENTIRE* statement *in your own handwriting* and *insert your name* where designated. Then *sign and date.* This *unfortunate requirement* is due to just "*one* bad apple" who took advantage of the free hotel room BUT did not attend any of the events. She did, however, show up for free meals. The goal is to discourage abuse. If you think this form of theft is "no big deal," it is best that you also not apply. This gathering is specifically for those who WANT to get to know ALL attendees & who WANT to participate. This is for those who choose to *peacefully* ATTEND T2. The name of this *one* individual will not be revealed. The vast majority of young cryonicists are incredibly mature - more so than the population at large. Yet *any group* can have that one bad element.

STATEMENT: *Only black ink* will be accepted. This is necessary for scanning & copying.

I, _____, understand that my acceptance to attend this gathering for Teens & Twenties is *provisional.* *I commit to* peacefully attend all events *in full* (ON TIME) & will not cause or participate in any disruptions (anything that prevents scheduled and approved activities from proceeding). IF I miss, or am late to, any event, or cause or participate in a disruption, future acceptance and scholarships will be denied. *An exception will be made for events outside of my control (legitimate illness, natural disasters).*

_____ _____

(signature) (date)

It is *insufficient* to simply sign and date this statement/agreement. Remember to *LEGIBLY* copy the entire statement/agreement *in your own handwriting*. *Computer generated handwriting will not be accepted.*

Only those applicants who provide this statement will be allowed to attend. Writing this out helps to prevent anyone from claiming they signed without reading it.

Please send your handwritten agreement to:

Teens & Twenties; c/o *Kathy Markell*; Biomedical Research and Longevity Society;
3600 West Commercial Blvd.; Fort Lauderdale FL 33309
FAX: 954-202-7745 e-mail: kmarkell@lifeextension.com

Thank-you for your cooperation. I know this is unfortunate. One bad apple.....

Options for Safe, Secure and Legal Asset Preservation for Post-Resuscitation Access

The Annual *Young Cryonicists* Gathering

Teens & Twenties: Getting to Know You - You Getting to Know Each Other - All While Being Updated on the *Latest Scientific Research*

Thurs-Sun; Host: *Biomedical Research & Longevity Society - Bill Faloon: Director*

✿ ✿

T2 14 2023 / RAADfest 5 2023 *Self-Pay Attendee* Agreement

Acceptance of a Self-Pay Application to Attend Teens & Twenties is dependent upon a *handwritten,* signed, dated and timely receipt of the following agreement. Applications to attend T2 are not automatically accepted.

Use *only black ink* to copy the *ENTIRE* statement *in your own handwriting* and *insert your name* where designated. Then *sign and date.* This *unfortunate requirement* is due to just "*one* bad apple." This gathering is specifically for those who WANT to get to know ALL attendees & who WANT to attend the entire program. Acceptance is based upon an agreement to *peacefully* and fully attend T2. The name of this *one* individual will not be revealed.

STATEMENT: Only *black ink* will be accepted. This is necessary for scanning and copying.
I, ______________________, understand that my admittance to the Teens & Twenties is *provisional.* If my application to attend Teens & Twenties is accepted, I agree to peacefully attend all events in full (ON TIME) and will not cause or participate in any disruptions (anything that prevents scheduled and approved activities from proceeding). IF I miss or am late to any events, or cause or participate in a disruption, I understand that I will be asked to leave and permanently denied admittance to any future T2 events. *An exception will be made for events outside of my control (i.e. delayed flight, legitimate illness).* As a backup I may wish to pre-arrange wake-up calls with the hotel.

____ ______________________________

(signature) (date)

It is *insufficient* to simply sign and date this statement/agreement. Remember to ***LEGIBLY*** copy the entire statement/agreement *in your own handwriting*. Your application will be confirmed upon timely receipt of this handwritten statement. *This must be supplied prior to consideration for acceptance to attend.* Please include this with your application.

Writing this out helps to prevent anyone from claiming they signed without reading it.

The vast majority of young cryonicists are incredibly mature and intelligent - more so than the population at large. Yet *any group* can have that one bad element.

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