I hope everyone is doing well and enjoying their summers wherever they may be. I’m happy to report the Cryonics Institute is still on a very positive growth track. We continue to lead in patient storage as well as membership and while the stock market as a whole had a slight hiccup last December, we are also doing well with our long-term investments. In other news, work continues on our additional facility and it is really coming along. While I would like to see faster growth across all of cryonics, on a whole, I believe CI is on track and continues moving in the right direction.

Many of our members have also risen to the task of checking and double checking their “to do” lists so as to secure the very best chance at an optimal suspension for when that time does come. It is refreshing and encouraging to have our members contacting me, Hillary and Andy to proactively ask what they can do to improve their standby and suspension planning. It is even more uplifting to see people in our community taking an active role both in volunteering time or money to CI, but especially toward putting in time specifically on their own planning.

That being said, unfortunately, this is not always the case and I feel it is important to call attention to a few terrible situations where long time active members put off very vital planning with disastrous results. The following are some examples of mistakes that are not meant to heap blame on those who cannot defend themselves, but instead to serve as a stark warning so that we do not repeat the dire mistakes of those who have come before us. We must learn both from the good and the bad so that we can improve both as individuals and as an organization. I would like to think that despite the tragedies that happened that maybe the loss of these people was not completely in vain if we avoid similar situations in the future.

Case in point, a very active and dedicated cryonicist let his funding lapse. He had been warned about this numerous times by CI personnel. Just two weeks before his death he was, in fact, once again reminded of funding requirements and claimed that he was working on the situation. The member was to our knowledge in good health and of sound mind right up until the end. However, in spite of all the reminders, when he died he did not have funding in place and worse yet he was alone for two days. Apparently, he was not using the CI Emergency Notification app or any other back up method for early emergency notification. This is a vulnerability that we all face but there are steps that can be taken to improve one’s chances. i.e. When alone have someone close do a daily check on you, especially if you are getting older or have had a serious illness or trauma. Or just use the app when alone. The CI app at 99¢ is nearly free to upload if you have an android phone. We are currently working on upgrades for this as well as for apple IOs. While it is imperfect it is certainly better than doing nothing. When the member’s loved one called they expressed that they had no reserve money and therefore they could not afford suspension. As a result of the member being found alone after two days he was also autopsied and it was the member’s next of kin’s wishes to not follow through with cryonic suspension. Could this happen to you? This has happened to other members before so please please please read and understand the 10 worst mistakes in cryonics and don’t let the deaths and mistakes of others be in vain.

Funding through life insurance is one of the best ways to
pay for your suspension, however there are some caveats to keep in mind. Some people start off their cryonics funding with term life with the intention of investing the difference. As they get older premiums go up and either they put off investing the difference or switching to a whole life policy before it is too late. Some run into financial hardships and find a reason to use the invested funding on something else. Some people get frustrated with their insurance companies and cancel their policies without a full understanding of the consequences. The fact is as you get older your premiums go up with term insurance and you may even find yourself uninsurable if you do not already have a policy in place. CI has provided an entire page on our website dedicated to life insurance with trusted insurance professionals who have helped many others in tough situations.

Most of us have many decades to plan and while we may think we have many decades more we may not. The aforementioned member must have thought he had more time. Unless you are very sick with a terminal condition does anyone really think they are going to die tomorrow? Even young people get hit by cars or die from unexpected accidents or sudden illness, so I implore all members committed to cryonics not to mess around with fate. If you want cryonics then do it right and get your house in order. Cryonics is not something you can be half committed to. It really requires a full commitment. See here the 10 worst mistakes in cryonics and the Cryonics Institute’s “Member Readiness Checklist” to be fully prepared. Both lists are also printed in every issue of this magazine, so you may want to print those pages as a guide. We also have a special online “Members Data Form” designed to help you identify and fill any gaps in your current paperwork, funding and personal information on file at CI. Remember, even with the very best standby planning and arrangements in place, something as seemingly simple as a missing form or proof of funding documentation could severely slow down and thus negatively impact your suspension while CI staff work against the clock to clear up any issues. The more up-to-date and accurate information we have the better, so please take the time to share your critical contact and other information so we are prepared when the time comes. There are few things more disheartening than losing valuable time due to something as careless as having an out-of-date phone number or other missing contact information in your file.

To close on a more positive note, this year’s CI AGM will be held at a new venue which we expect to meet or exceed expectations. Our move to the Concorde Inn met with positive feedback from our members and guests and we hope for a similar response to the new location.

AGM also means it is time for CI Elections, so any interested parties are reminded to get their names submitted for the official ballot if they wish to be considered as candidates for a CI Director’s position. It is the responsibility of each candidate to research CI bylaws and deadlines for this position. Feel free to call or email me if you need assistance in applying, or see more detailed information provided in this issue of CI Magazine.

Yours truly

Dennis Kowalski
Member Readiness Checklist

You’ve signed up for cryonics - what are the next steps?

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

☐ Become a fully funded member through life insurance or easy pre-payments

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

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

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

☐ Keep your doctor, lawyer, and funeral director up to date on your wishes to be cryopreserved. The right approach to the right professionals can be an asset.

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

☐ Review the CI Standby Manual and other materials designed to help you with you Standby Planning. Also, 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 you 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. The stronger our organization is, the stronger your chances of success.

☐ Keep your records, contact information and contracts up to date. It is recommended you review your relevant information annually at a minimum. One way is to schedule time to review all your materials at the same time you submit your required Annual Proof of Funding to CI. Also, Be especially aware of easy to forget things like a new email, phone number or address. Remember, you can also contact us at any time to ask if you have any outstanding paperwork or other info that needs to be updated.

The online CI Members’ Information Form is a great resource for updating your current information on file.
10 Worst Mistakes in Cryonics

1) **Not signing up ahead of time**
Becoming a member, having contracts in place, and having paperwork in order should not be a last minute decision. Waiting until the last minute or after death results in an unnecessary delay of care or worse- No suspension at all! Don’t wait. Sign up here and be prepared. [https://www.cryonics.org/membership/](https://www.cryonics.org/membership/)

2) **Not providing proof of funding**
Some people believe that they can worry about funding later or if they have funding, they have put off providing proof of funding to CI. This should be done annually. Failing to provide this can result in a delay of care while the funding clears, which can take weeks. Send your proof of funding to CI now to be prepared.

3) **Not telling anyone your plans**
Being reclusive or not telling family or friends your wishes is not recommended. You should not be afraid to tell those around you what your wishes are, especially your next of kin. Wearing a bracelet, necklace or having identification or other items in view can speak to your wishes. This is all you have when you can’t speak for yourself. Disasters have resulted in the past from not sharing. Talk with your family, close friends and your estate attorney, so you can be prepared.

4) **Not planning**
Many think cryonics is a turnkey service where you can just sign up and let fate take over. No matter how much you pay for cryonics, you are the only one who can make sure that you will have the best chance by planning. CI has provided a lot of information on our website and in our standby manuals. Those who plan succeed those who don’t fail.

For more information visit: [https://www.cryonics.org/resources/ci-standby-kits-and-instructions](https://www.cryonics.org/resources/ci-standby-kits-and-instructions)

5) **Not notifying CI of Emergencies**
There is no way that your cryonics provider can help you if they do not know of your emergency. Your family, friends, standby group or next of kin must immediately contact CI when you are having health issues or worse. It is also important for CI to know if you have up and coming surgeries or procedures, including terminal illness. Patients with a diagnosed terminal illness could enter hospice care, which might help your cryonics situation vastly. Any delay in notifying us directly could result in a poor suspension. Those helping you must have simple and clear instructions.

Here are some tips... [https://www.cryonics.org/resources/category/C57/57](https://www.cryonics.org/resources/category/C57/57)

6) **Committing suicide**
Anyone who commits suicide who is not terminally ill or breaks a local law in doing so is potentially putting both themselves and our organization at great risk. CI will not risk itself for people who engage in behavior that goes against our mission to preserve life. Such activity will likely lead to an autopsy and long delays, rendering the suspension process substandard or impossible to carry out. Do not consider cryonics as a way out of your problems. You are likely to not get suspended under those circumstances. If you do not have a terminal illness and are considering suicide, you should seek mental health advice and treatment as soon as possible. [https://www.mentalhelp.net/articles/depression-hotline/](https://www.mentalhelp.net/articles/depression-hotline/)
7) **Engaging in Risky or illegal activities**

Risky behaviors or associations that lead to the patient dying around suspicious circumstances will also likely lead to mandated autopsies that will also stand in the way of your cryonics wishes. It is best to use common sense and not put yourself in harm’s way. Not only could your life be ended, so too could your chances of cryonics suspension or future reanimation. Use common sense and stay safe.

8) **Providing financial or legal incentives that encourage your not being suspended.**

Leaving all of your insurance or cryonics money to family if you are not suspended is certainly an option at CI, but ironically it does provide financial incentive for hostile family members to block your suspension. As often is the case, people will make sure you are not suspended to get a hold of your money. One suggestion is to leave family and next of kin some separate money from cryonics funding while suggesting that Cryonics funding go to cryonics as a donation no matter if you are buried or suspended. In addition, family or next of kin can be further compelled to cooperate if they will actually lose the money that is allocated to them for not cooperating. It is also suggested that your family be made fully aware of your wishes and stipulations, so they know what the results of their actions will be. You want to make sure you put incentives and disincentives in the correct place, so that your wishes are honored. It is suggested that your will and cryonics documentation reflect this and get reviewed by an attorney.

9) **Not removing a hostile next of kin from rights to your remains and finances**

In many states and areas you can legally remove a hostile family member or next of kin from your estate. You can reassign someone who is sympathetic to cryonics and who has the legal authority to disposition of your remains, as well as your assets. In some states and locations there are disposition of remains reassignment documents, as well as powers of attorney, both in regards to financial as well as medical decisions. The executor of your will or anyone involved with making decisions should be sympathetic to your cryonics wishes. It is your responsibility to make your wishes very clear and to remove any doubt or potential legal resistance from family or next of kin. We suggest seeking legal advice to help you in this regard. Some members have even made a video statement of their wishes and given it to both their cryonics organization as well as their attorneys. Not being careful could mean that you don’t get suspended, despite your wishes. Many are surprised to learn that they lose their rights upon legal death. See an attorney and prepare.

10) **Dying under less than favorable conditions**

This seems harder to control then the other situations, but there are some things you can do to make your situation more favorable. You can diet, exercise and follow the latest official medical advice to stay healthy longer. The longer you are alive, the better the technology will probably be for suspending you and the closer we will be to a future that may be able to reverse your condition. You can avoid travel to remote or hostile places where such travel is risky. Some overseas travel can result in long delays both logistically and bureaucratically. In general, dying near your cryonics provider or cryonics standby group helps your chances. Living a healthy lifestyle and staying sociable, while surrounding yourself with people who will act on your behalf is paramount. Building solid, positive relationships with good people is probably one of the most important things you can do to have your wishes honored. Take care of yourself and maintain social connectivity.
1) **A Second Chance at Life**
Membership qualifies you to arrange and fund a vitrification (anti-crystallization) perfusion and cooling upon legal death, followed by long-term storage in liquid nitrogen. Instead of certain death, you and your loved ones could have a chance at rejuvenated, healthy physical revival through cryopreservation.

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

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

4) **Lower Prices for Spouses and Children**
The cost of a Lifetime Membership for a spouse of a Lifetime Member is half-price and minor children of a Lifetime Member receive membership free of charge.

5) **Quality of Treatment**
CI employed a Ph.D level cryobiologist to develop CI-VM-1, CI’s vitrification mixture which can help prevent crystalline formation at cryogenic temperatures.

6) **Standby Options and Assistance**
CI’s use of Locally-Trained Funeral Directors means that our members can get knowledgeable, licensed care. Or members can arrange for professional cryonics standby and transport by subcontracting with Suspended Animation, Inc or International Cryomedicine Experts (I.C.E.) CI also offers Standby Training Materials and Kits for members who choose to perform Local Standby.

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

8) **Cutting-Edge Cryonics Information**
Members receive a free e-subscription to the Cryonics Institute Newsletter, as well as access to our Facebook page, Twitter feed, YouTube channel and an official members-only forum.

9) **Helpful, Professional Support**
CI’s professional staff is available to answer any questions and address any concerns you may have about CI, your membership or Cryopreservation.

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

11) **Support Education and Research**
Membership fees help CI to fund important cryonics research and public outreach, education and information programs to advance the science of cryonics.

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

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

To get started, contact us at:
(586) 791-5961 • email: cihq@aol.com
Visit us online at www.cryonics.org
New Venue for 2019 AGM

The 2019 AGM will be held at the Bravado Event Venue in Clinton Township, MI. Our former location, the ConCorde Inn is closing which prompted the change.

Bravado Event Venue:
Grand Ballroom
36217 S Gratiot Avenue
Clinton Township, MI 48035
phone: 248-608-0690
website: www.bravadoevents.com

2019 AGM Details
Sunday, September 8, 2019
Event start time: 3:00 pm
Buffet Lunch: 3:00-4:30 pm
Event end time: 7:00 pm

Hotel Specials
CI has arranged for a special 15% discount at Red Roof Inn. The code for that is VP#624467 or visit: https://www.redroof.com/deals/partner/Cryonics_Institute

Please note, as of our publication date, the Red Roof Inn’s site states the discount expires on 12/31/2018. However, CI has confirmed the code is still good and we are going to see if that can be changed on their site.

CI has also negotiated a 12% discount with the Hampton Inn, which is the hotel closest to the event venue. Code information is not available at press time, so just contact the Hampton Inn (877-214-6725) and ask for the Cryonics Institute AGM discount.
CI Board of Director: Call for Candidates

July 29 Deadline

Board Members serve three-year terms, with four positions up for election each year on a rotating basis. Board positions are open to Voting Members only. To qualify as a Voting Member of the Cryonics Institute a CI Member must be age 18 or over and either be a Lifetime Member or have been a Yearly Member for at least three years. Additionally, only CI Members with an executed Cryonic Suspension Agreement and having full funding for the Cryonic Suspension Agreement may be Voting Members.

Interested parties can submit their Ballot statements if they wish to be considered for election to the CI board of Directors. Ballot statements must be postmarked or received by email at the CI Facility no later than Monday, July 29, 2019.

If the candidates wish to be included on the paper ballot before the election they must submit a bio / candidate statement of 150 words or less before this date. A photograph is optional, but encouraged. Please see previous issues of CI Magazine for examples of candidate statements.

All voting members will receive their ballot and voting instructions via mail prior to the 2019 AGM.

2019 Elections: Voter Eligibility Reminder

With the Annual General Meeting coming up in September, we would like to take the opportunity to remind CI members they must have a funded contract and either be a Lifetime member, or a Yearly member for at least three years, to be eligible to vote. This also means that your funding information must be up to date. Our contract requires annual proof of funding to be provided by the member, unless CI owns your insurance policy or you have prepaid your suspension fee. If it has been over a year since you provided proof of funding, please do so as soon as possible to ensure you are able to vote in this year’s director election. If your funding is outdated, you will not be sent a ballot for voting.

The most important reason for providing proof of funding is so we can act without hesitation during an emergency. If your funding is not current, we will have to verify your funding before we can accept you as a patient. This can cause unnecessary delays and potentially affect your cryopreservation.

You are welcome to mail, email, or fax in your updated proof of funding documentation. Our address is 24355 Sorrentino Court, Clinton Township, MI 48035 USA. Our email address is CIHQ@aol.com. Our fax number is 586-792-7062.

We appreciate your cooperation and we look forward to seeing those who plan to attend the meeting!
“Death with Dignity” Laws: How suicide could destroy your chances for cryonics suspension

Commentary by Dennis Kowalski - President, Cryonics Institute

There has been a lot of talk about the Death with Dignity law in California and how it may or may not apply to cryonics...


I am of two thoughts on the matter that I do not think are mutually exclusive of one another.

The first is that if I were ever medically diagnosed with a terminal disease that caused me extreme pain with no reason to expect a reasonable quality of life or a disease that would physically deteriorate the structure of my brain and mind before I die that I would have the legal option to end my life. I would personally want this option for a myriad of reasons. Not just for myself but for my family.

The second is that I would never want to put myself or my cryonics organization in jeopardy by drawing negative attention in the form of lawsuits, heavy-handed regulation, or public backlash. Doing so could virtually destroy cryonics. This is not simple paranoia or fear. Lawsuits are notoriously unpredictable and both public opinion as well as politics can drive legal decisions. There are criminal and civil as well as moral considerations.

Consider this example. A funded and somewhat prepared cryonicist chose to commit suicide not because of terminal illness but because of mental illness or depression. To make matters worse they chose to do this in an area that still considers suicide a crime and thus triggered a law enforcement response and an autopsy. This person did not take into consideration the burden he put on both himself and the cryonics organization. The triggering of an investigation and autopsy resulted in substantial delays in cryonics processing. Furthermore, depression and many forms of mental illness are treatable diseases that need not end in suicide or euthanasia.

The Cryonics Institute makes it very clear that breaking the law and the act of suicide in the absence of a medically documented terminal illness are valid reasons to be refused cryonics services. CI is on the side of life extension not death. In no way do we encourage anyone to break the law or do harm to themselves to pursue their goals of cryonics or any desires for a new future etc. On the contrary, this is a sure way to end up buried or cremated. The Cryonics Institute has a duty to stand up for life and to do what is morally right as well as to protect ourselves and all existing members and patients.

If you are considering suicide under any conditions please seek professional health advice. If you are unsure of the laws in your area seek legal advice from a licensed attorney. If you are unsure if your actions ruin your chances of cryonics suspension then call CI and ask before you do anything drastic or harmful to yourself or loved ones.
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CI Membership as of June 2019

- Members: 1,607
- Assoc. Members: 195
- Patients: 175
- Pets: 172
- DNA/Tissue: 289
- SA: 252

**Total:** 1,977

**New Members:**
- United States: 1,103
- Canada: 99
- Mexico: 3
- Argentina: 1
- Brazil: 3
- Portugal: 3
- Spain: 15
- Austria: 3
- Hungary: 1
- Czech Republic: 2
- Denmark: 2
- Netherlands: 14
- Norway: 8
- Sweden: 11
- Poland: 9
- Russia: 1
- Serbia: 1
- South Africa: 1
- United Kingdom: 111
- United States (1,103)

**New Country:**
- Aruba
- Australia: 63
- China: 4
- Croatia: 1
- Hong Kong
- India: 1
- Israel: 2
- Japan: 4
- Liechtenstein: 1
- Malta: 1
- Mexico: 3
- New Zealand: 1
- Singapore: 4
- South Africa: 1
- Switzerland: 3
- Turkey: 2
- United States: 1,103

**World Map:**
- New Members indicated in orange
- New Countries indicated in pink
As most people should know, the most important thing in cryonics, next to signing up, is to have a solution for standby / stabilization following deanimation and prior to cryopreservation. North American members will probably rely predominantly on private service providers such as Suspended Animation. For international members, it becomes a bit more complicated. Certainly, there is I.C.E. (International Cryomedicine Experts), but their fees will be multiple times higher than Ci's fee. According to their website¹, standby with perfusion (Gold Plan) would be $60,000 plus at least another $10,000 for being an international customer. I assume that’s not what the majority of Ci members had in mind. A local support group, like Cryonics UK or the well run Cryonics Germany, might do the job just as well, of course.

One problem that will remain, though, is timing. In theory, it sounds nice that you’re struggling with the grim reaper for a while, then a support team gets called, and finally right after you are legally declared dead, they’ll manage things and get you ready to go into storage. Statistically, though, by now less than 50 percent of people die in a hospital, meaning there is some way of delaying impending death until a standby team is even there.

The Center for Disease Control (CDC) has summarized the statistics for the US in a graph which shows a consistent decline in hospital deaths over the last decade.²

In addition, a nice international comparison is available from the Australian think tank Grattan Institute³. It published a comparison graph depicting the location of death in different countries with data sourced from World Health Organization statistics.

Where is the problem? Well, in an aged care facility or a nursing home, people might not even realize that you deani-

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¹ http://www.cryomedics.org
² https://www.cdc.gov/mmwr/volumes/65/wr/mm6513a6.htm
mated for a while, unless your heart rate is constantly being monitored. Regardless, even if you were found right away, there would be a gap from the time death was noticed until a standby team will show up. Depending on where you live, this can take a considerable amount of time, and - as everybody should know - time in cryonics is of the essence when it comes to a good cryopreservation. In the meantime, your body will be shipped to a funeral home.

When I moved to South Australia, I used the time while applying for higher paid jobs, consistent with my education, to take a low paid job at a local funeral home in Adelaide and worked there for about two months. I felt that this was a great opportunity and just the right time to learn about how things work in that industry.

The funeral director told me that the vast number of clients would be picked up from aged care facilities and that the number of hospital clients was surprisingly low these days. I was also told that in an aged care facility, dead bodies get shoved out quickly to make room for the next guy and the funeral director remarked that he personally had picked someone up from the same bedroom he picked another client up two days before. What is the point? Well, unless you own an apartment within a complex, the administration will probably not wait until a standby team shows up, but take you out to a funeral home first. They might be considerate if you tell them multiple times upfront what your plans are, but personally I wouldn’t count on it.

So it seems to me that unless you are one of the lucky hospital deaths, a supportive funeral home will have to be an essential partner. If you live in a large country, like I do in Australia, it will take a few hours for a standby team to show up after they are called, unless of course you live right next to where the standby team is located. Once again, somebody should be doing something during those hours of waiting. Otherwise, clotting, edema, etc. are all taking place and will make a good perfusion very difficult.

Why is the funeral home so important? The law in South Australia (Transplantation and Anatomy Act of 1983), and I am sure this compares to most other places, basically provides two options what to do with a body: 1. Burial through a funeral home, or 2. Body donation (anatomic gift) for scientific purposes to a licensed school of anatomy. I sincerely doubt that the cryonics community will be able to register
the Cryonics Institute as a school of anatomy anytime soon. So as much as we would like to believe that we are going to donate our body to a scientific purpose (cryonics), in order to achieve it we actually have to pretend that we don’t. Consequently, the term funeral home will show up in almost all required steps.

One important role for the funeral home should be to get required documents ready to so transport to CI can commence quickly. Shipping a body to the US, according to the US Department of State⁴, requires the following documentation to be provided: 1. Affidavit of Foreign Funeral Director (casket only contains remains which have been properly prepared), 2. Transit permit (Local Health Department certifies absence of communicable diseases, 3. Consular Mortuary Certificate (Customs clearance & Cause of death).

It might not seem like a lot, but those documents can be pretty detailed. As I have previously mentioned, bureaucracy is an enemy not to be underestimated. Why wait hours until the standby team is there to request a clean health certificate from the Department of Health when this can already be done upfront prior to their arrival? They are probably not open 24/7 and they might not see the urgency anyway, since it legally is just part of a burial and not an anatomical donation. Then comes the Consular Mortuary Certificate from a US Consulate abroad. Fortunately, their policy is actually to speed things up and somebody should be on duty there at all times.

The US State Department has the rules for the Shipment of Remains to the United States defined in its Foreign Affairs Manual (7 FAM 257). Whether you believe it or not, it does actually have a subsection on cryonics (“cryogenics”). That at least is good to know.

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7 FAM 257.1.f. Shipment Arrangements

Cryogenics: The Department has limited experience with requests for transporting cryonically prepared remains from overseas to the United States. The policies listed above regarding the shipment of human remains apply equally to the shipment of human remains that are cryonically prepared.

U.S. State and Federal laws and regulations have not yet caught up to the relatively new science of cryonic preservation. Therefore, much of the regulation in this area is murky at best. In order to minimize any potential delays and additional grief for the families, it is necessary to obtain authorization from the relevant U.S. State and Federal authorities on a case-by-case basis. In most instances, these authorities are likely to be most concerned with the public health issues that can arise from the transportation of human remains that have not been embalmed. Therefore, before seeking authorization from the appropriate entities, it will be helpful to note 1) the type of container in which the remains will be shipped and 2) whether the cause of death was a communicable disease.

There are a range of other important things that I learned:

<table>
<thead>
<tr>
<th>Image</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Medical Symbol]</td>
<td>A registered nurse can (by law) verify death right away, allowing the funeral home to pick you up - a doctor can co-sign later. Some aged care facilities in their policies don’t allow RNs to verify it, though, so pick one that does.</td>
</tr>
<tr>
<td>![Fire and Clock]</td>
<td>The funeral home will keep on bugging a doctor until he/she shows up to sign the death certificate, as they don’t want people stacking up in their mortuary.</td>
</tr>
<tr>
<td>![Document]</td>
<td>Nobody at the funeral home will look for / read an Advanced Health Directive, so make sure you have already filed prearrangement papers at your funeral home of choice.</td>
</tr>
<tr>
<td>![Cash and Hand]</td>
<td>Most funeral homes will allow a 30 day period to pay, some won’t do anything until a basic fee is paid which would make the whole plan to speed things up by using one meaningless. Prepaying your funeral is always appreciated, though.</td>
</tr>
<tr>
<td>![Hospital]</td>
<td>Some hospitals (especially public ones) close their mortuary for funeral home pick ups after work hours (e.g. 5pm - 8am), so pick a hospital that doesn’t or explicitly state in your Advanced Health Directive that you don’t want to end up down there. Cooling at mortuaries runs at 3.5 to 4.5 degrees Celsius.</td>
</tr>
<tr>
<td>![Bucket]</td>
<td>A mortuary has all kinds of equipment but a bathtub style bucket for ice water is usually not one of them, unless you hope that a standard coffin won’t leak. As stated before, you should have one in your aged care facility room anyway.</td>
</tr>
<tr>
<td>![Doctor]</td>
<td>Make sure to stick to the same doctor and see him or have him stop by &lt;3 months. Also provide that person’s name in your funeral home prearrangement (update it if it changes), otherwise you’re at risk of the coroner checking in on you (further delays).</td>
</tr>
<tr>
<td>![Van]</td>
<td>Transport vans (hearse generally is used only for ceremonial reasons), e.g. Mercedes Vevo, are usually NOT air conditioned in the back where the body goes.</td>
</tr>
<tr>
<td>![Car]</td>
<td>Finding a funeral home that allows outside people to use their facilities might actually be more difficult than it seems as they worry about insurance issues (who is covered if somebody gets hurt using their facility).</td>
</tr>
</tbody>
</table>
In conclusion, the more life expectancy rises (which of course is good), the more likely you are not to die in a hospital. When you don’t die in a hospital, however, there will be no machinery to keep the blood flow going until a standby team arrives. You’ll go right to cell decay. Your best option is to motivate local staff to help and most importantly to have the right funeral home pick you up quickly, and get them to work further on delaying decay. Even if they don’t run a perfusion (likeliest outcome), keeping you cooled down, maybe even with your head on ice, is better than nothing. If you are an international member, they are also the ones to get documents ready so shipment to CI’s Michigan facility can commence as soon as possible.

So next time you want to work on improving your chances on getting a good cryopreservation, maybe include the local funeral home folks, even if it might feel wrong.

**Additional Thoughts by Dennis Kowalski, President - Cryonics Institute**

I would add that regular meetups with a consistent funeral director that allow you to convey your desires in advance and run through scenarios is very useful. Paying for some of the funeral costs in advance and the rest contingent on speedy completion of work with time bonuses tossed in also can’t hurt. A small gift of lunch or $100 for a one-hour meeting every 6 months will get you remembered and help you establish a real relationship. After all, their time is valuable. I have insisted on this remuneration with my own Funeral Director.

Be Friendly. Being very friendly and asking only in small steps over time should work better then springing everything right up front. Cultivate a relationship. You wouldn’t ask a person to get married on the first date. Think similarly with cryonics. You don’t have to convert the providers to cryonics as much as you just need to reiterate that you are simply asking for patient advocacy from the medical field and for having your last wishes honored by the funeral personnel. More important then winning people over on cryonics is winning them over in their desire to help you by developing a mutually respectful and friendly relationship. Reassure them that what you are asking is simple: fast body transportation with ice and few other small details. What you are asking is ethical, legal, and they will be fairly compensated for their services. If this doesn’t work, ask for help, regroup, evaluate what you may have done wrong and try a different approach with new providers. Do this over and over until you get the results that give you confidence. Once the professional relationship is established keep it going. I am confident that planning and the ability to relate to people positively is what usually makes the difference in successful suspensions vs inferior ones.
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Big energy savings for tiny machines

Date: May 22, 2019 | Source: Simon Fraser University

Inside all of us are trillions of tiny molecular nanomachines that perform a variety of tasks necessary to keep us alive.

In a groundbreaking study, a team led by SFU physics professor David Sivak demonstrated for the first time a strategy for manipulating these machines to maximize efficiency and conserve energy. The breakthrough could have ramifications across a number of fields, including creating more efficient computer chips and solar cells for energy generation.

Nanomachines are small, really small -- a few billionths of a meter wide, in fact. They’re also fast and capable of performing intricate tasks: everything from moving materials around a cell, building and breaking down molecules, and processing and expressing genetic information.

The machines can perform these tasks while consuming remarkably little energy, so a theory that predicts energetic efficiency helps us understand how these microscopic machines function and what goes wrong when they break down, Sivak says.

In the lab, Sivak’s experimental collaborators manipulated a DNA hairpin, whose folding and unfolding mimics the mechanical motion of more complicated molecular machines. As predicted by Sivak’s theory, they found that maximum efficiency and minimal energy loss occurred if they pulled rapidly on the hairpin when it was folded but slowly when it was on the verge of unfolding.

Steven Large, an SFU physics graduate student and co-first author on the paper, explains that DNA hairpins (and nanomachines) are so tiny and floppy that they are constantly jostled by violent collisions with surrounding molecules.

“Letting the jostling unfold the hairpin for you is ...
The accretion disk around our galaxy’s black hole has been spotted at last

The finding confirms that gases are orbiting the Milky Way’s gravitational behemoth

BY LISA GROSSMAN 1:02PM, JUNE 5, 2019

Some supermassive black holes announce their presence with screaming hot disks of orbiting gases. But the behemoth at the center of the Milky Way has been shy and demure. Now, astronomers have finally spotted the black hole’s faintly glowing accretion disk of infalling material, long suspected but never before seen.

“I was very surprised that we actually saw it,” says astrophysicist Elena Murchikova at the Institute for Advanced Study in Princeton, N.J. The disk was observed using the Atacama Large Millimeter/submillimeter Array, or ALMA, in northern Chile, the researchers report in the June 6 Nature.

The Milky Way’s supermassive black hole, named Sagittarius A*, is a behemoth at 4 million solar masses. But while some black holes gobble the gas and dust around them, Sgr A* picks daintily. Such “underfed” black holes “don’t have enough food supply” for their surrounding gases to glow brightly, Murchikova says.

The disk’s diminished glow helps explain why scientists with the Event Horizon Telescope were able to capture a picture of the central black hole in the more distant galaxy M87, but not yet Sgr A* (SN: 4/27/19, p. 6).

Previously, scientists had seen a cloud of hot gas (around 10 million kelvins) emitting high-energy X-rays around Sgr A*, as well as stars and gas clouds circling the black hole. But those gas sources didn’t seem to be organized into a neat, orbiting disk. Murchikova and colleagues focused their search on cooler gases, about 10,000 kelvins, located within about 280 billion kilometers of Sgr A*. Looking at only the hot gas, she explains, is like trying to study Earth’s climate by focusing on summers in the desert. “Gas of both types should be falling into the black hole,” …
Major stem cell discovery to boost research into development and regenerative medicine

Expanded Potential Stem Cell lines of pig and human cells established

Date: June 3, 2019 | Source: Wellcome Trust Sanger Institute

A new approach has enabled researchers to create Expanded Potential Stem Cells (EPSCs) of both pig and human cells. These stem cells have the features of the very first cells in the developing embryo, and can develop into any type of cell. The research from LKS Faculty of Medicine of The University of Hong Kong (HKUMed), the Wellcome Sanger Institute, and the Friedrich-Loeffler-Institut in Germany offers incredible potential for studying human development and regenerative medicine.

The study published in Nature Cell Biology today (3rd June) is the first time scientists have been able to derive stem cells from early pig embryos. Domestic pigs have great potential for biomedical research because of their genetic and anatomical similarities to humans, including comparable organ sizes. Being able to genetically-modify pig stem cells will also be beneficial for animal health and food production.

Stem cells have the ability to develop into other cell types, and existing stem cell lines are already extremely useful for research into development, disease and treatments. However, currently available types of stem cell lines have limitations, and until now it has also not been possible to create embryonic stem cells from pigs and many other farm animals.

Professor Pentao Liu, the leader of the study from the School of Biomedical Sciences and Stem Cell and Regenerative Medicine Consortium, HKUMed, and previously of the Wellcome Sanger Institute, said: "Scientists have been attempting to derive porcine embryonic stem cells for decades without much success. With our Expanded Potential Stem Cell technology, we have now successfully derived and characterised stem cells from porcine preimplantation embryos. We have also established similar human stem cells. Our study represents a significant advance in stem cell research."

Since human EPSCs can produce large numbers of placenta cells -- called trophoblasts -- they offer new opportunities to investigate pregnancy complications such as pre-eclampsia and miscarriages.

EPSCs come from culturing cells from the earliest stage of development, when the fertilised egg has only divided into 4 or 8 cells and the cells retain some totipotency -- the ability to produce all cell types.

Dr Xuefei Gao, a first author on the paper from HKUMed, and previously from the Wellcome Sanger Institute, said: “These EPSC stem cells possess developmental potency that is not generally seen in conventional embryonic or induced pluripotent stem cells. They have the potential to produce all embryonic and extra-embryonic cell lines -- including those in the placenta and yolk sac, turning back the development clock to the very earliest cell type...
You don’t only avoid holes in your teeth by keeping good oral hygiene, researchers at the University of Bergen have discovered a clear connection between gum disease and Alzheimer’s disease.

The researchers have determined that gum disease (gingivitis) plays a decisive role in whether a person develops Alzheimer’s or not.

“We discovered DNA-based proof that the bacteria causing gingivitis can move from the mouth to the brain,” says researcher Piotr Mydel at Broegelmanns Research Laboratory, Department of Clinical Science, University of Bergen (UiB).

The bacteria produces a protein that destroys nerve cells in the brain, which in turn leads to loss of memory and ultimately, Alzheimer’s.

**Brush your teeth for better memory**

Mydel points out that the bacteria is not causing Alzheimer’s alone, but the presence of these bacteria raise the risk for developing the disease substantially and are also implicated in a more rapid progression of the disease. However, the good news is that this study shows that there are some things you can do yourself to slow down Alzheimer’s.

“Brush your teeth and use floss.” Mydel adds that it is important, if you have established gingivitis and have Alzheimer’s in your family, to go to your dentist regularly and clean your teeth properly.

**New medicine being developed**

Researchers have previously discovered that the bacteria causing gingivitis can move from the mouth to the brain where the harmful enzymes they excrete can destroy the nerve cells in the brain. Now, for the first time, Mydel has DNA-evidence for this process from human brains. Mydel and his colleagues examined 53 persons with Alzheimer’s and discovered the enzyme in 96 per cent of the cases. According to Mydel, this knowledge...
New research unlocks properties for quantum information storage and computing

by Rensselaer Polytechnic Institute

Researchers at Rensselaer Polytechnic Institute have come up with a way to manipulate tungsten diselenide (WSe2)—a promising two-dimensional material—to further unlock its potential to enable faster, more efficient computing, and even quantum information processing and storage. Their findings were published today in Nature Communications.

Across the globe, researchers have been heavily focused on a class of two-dimensional, atomically thin semiconductor materials known as monolayer transition metal dichalcogenides. These atomically thin semiconductor materials—less than 1 nm thick—are attractive as the industry tries to make devices smaller and more power efficient.

“It’s a completely new paradigm,” said Sufei Shi, assistant professor of chemical and biological engineering at Rensselaer and corresponding author on the paper. “The advantages could be huge.”

Shi and his research team, in partnership with staff from the clean room facilities within the Center for Materials, Devices, and Integrated Systems at Rensselaer, have developed a method to isolate these thin layers of WSe2 from crystals so they can stack them on top of other atomically thin materials such as boron nitride and graphene.

When the WSe2 layer is sandwiched between two boron nitride flakes and interacts with light, Shi said, a unique process occurs. Unlike in a traditional semiconductor, electrons and holes strongly bond together and form a charge-neutral quasiparticle called an exciton.

“Exciton is probably one of the most important concepts in light-matter interaction. Understanding that is critical for solar energy harvesting ...
A team of researchers affiliated with several institutions in South Korea and one in Switzerland has demonstrated that it is possible to use magnetically actuated microrobots to deliver stem cells to targeted tissue. In their paper published in the journal Science Robotics, the group describes creating the tiny bots and how well they worked when tested.

Prior work has shown that it should be possible to deliver drugs to a target in a living human by injecting tiny robots into the bloodstream then directing them to a target using external magnets. In this new effort, the researchers have shown that the same should be possible for stem cells.

Using stem cells to treat human conditions or to repair damaged tissue has become a major area of research for scientists, but currently, the only way to deliver them to a targeted area is by injection. But injecting them into hard-to-reach areas can be difficult and result in tissue damage. Injection also has a low stem cell survival rate. To overcome the problems associated with injection, the researchers used 3-D laser lithography to produce two robot shapes, a sphere and a helix—both with porous surfaces to allow stem cells to adhere to them. The researchers then used a magnetic field to move the robots through various scenarios. To direct the spherical robots, the team used a rotating motion with the magnet—for the helical robots...
A technology that functions like a brain? In these times of artificial intelligence, this no longer seems so far-fetched -- for example, when a mobile phone can recognise faces or languages. With more complex applications, however, computers still quickly come up against their own limitations. One of the reasons for this is that a computer traditionally has separate memory and processor units -- the consequence of which is that all data have to be sent back and forth between the two. In this respect, the human brain is way ahead of even the most modern computers because it processes and stores information in the same place -- in the synapses, or connections between neurons, of which there are a million-billion in the brain. An international team of researchers from the Universities of Münster (Germany), Oxford and Exeter (both UK) have now succeeded in developing a piece of hardware which could pave the way for creating computers which resemble the human brain. The scientists managed to produce a chip containing a network of artificial neurons that works with light and can imitate the behaviour of neurons and their synapses.

The researchers were able to demonstrate, that such an optical neurosynaptic network is able to “learn” information and use this as a basis for computing and recognizing patterns -- just as a brain can. As the system functions solely with light and not with traditional electrons, it can process data many times faster. “This integrated photonic system is an experimental milestone,” says Prof. Wolfram Pernice from Münster University and lead partner in the study. “The approach could be used later in many different fields for evaluating patterns in large quantities of data, for example in medical diagnoses.” The study is published in the latest issue of the “Nature” journal.
New platforms like home- and ride-sharing services often are praised for leveling the playing field, cutting out the middle man and boosting the economy.

It's difficult to fully understand their impact, however, as new products and services hit the market nearly every day. What if the explosion of disruptive technology is exploiting our biases, rather than helping us overcome them?

"Ultimately, we think that some of these technological platforms are global solutions," said Mohammad Rahman, a professor in Purdue University’s Krannert School of Management who studies digital transformations, “but we often forget that we interact with them in a very localized context.”

This phenomenon is highlighted by new findings in a working paper by Rahman and doctoral student Mohammed Alyakoob, who analyzed 10 years of Airbnb and Yelp reviews, as well as employment data from the U.S. Bureau of Labor Statistics, to determine Airbnb’s impact on local restaurants in New York City.

The researchers found that Airbnb guests in majority black neighborhoods were less likely to spend money at nearby restaurants and were half as likely to return compared to predominantly white areas. The guests were more likely to leave reviews with keywords such as dangerous, shady or risky, Rahman said, although their perceptions of safety were significantly worse than the actual reported crime statistics.

“The review contents reveal that Airbnb visitors are more likely to discuss negative aspects of a local area that relate to safety if they are staying in a predominately black zipcode,” Rahman said. “Airbnb visitors may come to a black area without fully understanding the demographic makeup of a specific location. Over 60% of Airbnb hosts in predominately black areas, for example, are not black...
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AUSTRALIA: The Cryonics Association of Australasia offers support and information for Australia & nearby countries. caalist@prix.pricom.com.au. Their Public Relations Officer is Philip Rhoades. phil@pricom.com.au GPO Box 3411, Sydney, NSW 2001 Australia. Phone: +6128001 6204 (office) or +61 2 99226979 (home.)

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

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

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

QUEBEC: Contact: Stephan Beauregard, C.I. Director & Official Administrator of the Cryonics Institute Facebook Page. Information about Cryonics & perfusion services in Montreal for all cryonicists. Services available in French & English: stephan@cryonics.org

CHILE: Community oriented to provide reliable information on human cryopreservation, as far as technical scientific as well as other practical aspects. Dissemination, awareness and education on issues related to the extension of life in general and cryonics in particular. Contact José Luis Galdames via galdamesjoseluis@gmail.com or via Facebook at Cryonica Chile.

FINLAND: The Finnish Cryonics Society, (KRYOFIN) was established in 2008 and is an organization collaborating with all nearby groups and organizations. Contact them at: kryoniikka.fi Their President is Antti Peltonen.

FRANCE: SOCIETE CRYONICS DE FRANCE is a non profit French organization working closely with European cryonics groups. For more information: J.Roland Missionnier; phone: 33 (0) 6 64 90 98 41 or email: cryonicsnews.inpi@yahoo.fr • Facebook group

GERMANY: DGAB There are a number of Cryonicists in Germany. Their Organization is called “Deutsche Gesellschaft für Angewandte Biostase e.V.”, or short “DGAB”. More information on their homepage at www.biostase.de. If there are further questions, contact their Board at vorstand@biostase.de

GERMANY: CRYONICS-GERMANY is an active group providing cryonics support, including a special 8-member Standby Response Team. Members from Germany or Internationally are welcome to join. at http://cryonics-germany.org. Direct inquiries to contact@cryonics-germany.org

INDIA: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr and authority in Bangalore & Vellore Area. Contacts : Br Sankeerth & Bioster Vignesh / Email : vicky23101994@gmail.com Phones : Bioster / 918148049058 & Br Sankeerth / 917795115939
ITALY: The Italian Cryonics Group (inside the Life Extension Research Group (LIFEXT Research Group)) [www.lifext.org](http://www.lifext.org) and relative forum: [forum.lifext.org](http://forum.lifext.org). The founder is Bruno Lenzi, contact him at brunolenzi88@gmail.com or Giovanni Ranzo at giovanni1410@gmail.com

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

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

THE NETHERLANDS: Dutch Cryonics Organization is the local support group since 2002 and able to provide advice, standby, perfusion and shipment 24/7, in case of need. We are an active group utilizing the latest equipment. New members from The Netherlands welcome.

E-mail: info@cryonisme.nl
website: [http://www.cryonisme.nl](http://www.cryonisme.nl)

NORWAY: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr, funeral home and authority at Sandvika. Contacts: Gunnar Hammersmark Sandvika Begegravelsesbyraa / Phones: 011-47-2279-7736

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

SWEDEN: [www.kryonik.se](http://www.kryonik.se) or Facebook: Svenska Kryonikföreningen. Initially, the society will focus on providing information and assistance to those who wish to sign up for cryonics. Eventually, we also hope to provide practical assistance in cases, possibly in collaboration with other European groups.

SWITZERLAND: [www.cryosuisse.ch](http://www.cryosuisse.ch)
Cryosuisse The Swiss Society for Cryonics is an active group with over 30 members. To join, email info@cryosuisse.ch

UNITED KINGDOM: Cryonics UK is a nonprofit UK based standby group. [www.cryonics-uk.org](http://www.cryonics-uk.org) Cryonics UK can be contacted via the following people: Tim Gibson: phone: 07905 371495, email: tim.gibson@cryonics-uk.org
Victoria Stevens: phone: 01287 669201, email: vicstevens@hotmail.co.uk
Graham Hipkiss: phone: 0115 8492179 / 07752 251 564, email: ghipkiss@hotmail.com
Alan Sinclair: phone: 01273 587 660 / 07719 820715, email: cryoservices@yahoo.co.uk
Can help Cryonics Institute Members who need help, funeral home, transport at London. Contact: F.A. Albín & Sons / Arthur Stanley House Phone: 020-7237-3637


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Please send any corrections or changes to the address below. If you know of, or are considering starting a support, standby or other cryonics-related group in your area, please send details to dg@cryonics.org.

Please note, this list is provided as an information resource only. Inclusion on the list does not constitute an endorsement by the Cryonics Institute or our affiliated organizations. We urge our readers to use this list as a starting point to research groups that may meet their own individual needs. We further note that readers should always use their own informed judgment and a reasonable amount of caution in dealing with any organization and/or individual listed.
CI offers pre-made Standby Kits complete with all required equipment and detailed instructions. These kits are perfect for an individual or a group planning local standby support. Basic and Intermediate kits are available for sale now. To purchase a kit, please contact us at: cihq@aol.com

Writers Wanted
Got something to say? The CI Newsletter is looking for submissions from our readers! If you’ve got a great idea for a story, please forward it to: dg@cryonics.org
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the prospect of

immortality
CHAPTER VI

Freezers and The Law

Even though our Supreme Court is sometimes accused of radicalism, jurisprudence in general is very conservative. In fact, some jurists face rigidly backward; they don't care where they're going, but only want to know where they've been. They are perpetually astonished that tomorrow always arrives. But they, like their more progressive colleagues, may as well face up to the fact that there really is a future, and that it is more comfortable as well as more dignified to walk into it than to be dragged in.

Not only the bodies of the frozen must be protected, but also their property; and not only their property, but also their rights. Remember Ralph Waldo Emerson: “For what avail the plough or sail or land or life, if freedom fail?” The defender of the status of the frozen, as of us all, must be the law.

The law indeed, but what law? Why, the law that will be shaped in the usual way, in the legislatures and more especially in the courts, by test, re-test, compromise, and evolution. While its outlines are still dim, we can look at some of the obvious problems, and conjecture about solutions.

Freezers and Public Decency

To begin with, there will be an attempt to fit the freezers into the structure of laws governing the disposal of bodies and the operation of cemeteries, mausoleums, and home crypts. Conceivably, this attempt might cause some localities to try to outlaw freezers altogether; but the advantage would seem to be with those backing the freezers.

Present laws in general seem to give priority to the wishes of the deceased and of the next of kin, subject to the community interest with respect to health hazards, property values, and common decency. Courts of equity have power to settle controversies as to the burial of the dead, the care of their remains after burial, and the preservation of the place of interment from wanton violation or unnecessary disturbance.

There is legal precedent to allow unusual treatment of bodies. In Seaton v. Commonwealth, 149 Ky. 498, the defendant buried his child in a wood in a paper box, without religious ceremony, yet the court held that no criminal action would lie. (73) Michigan law states that the next of kin “... can bury the corpse in any manner he sees fit, so long as it does not outrage public decency or amount to a public nuisance.” (73) But a disposition permit is required.

Further, the burden of proof will apparently rest on those opposing the freezers: “An unlawful, improper or dangerous establishment . . . may be enjoined, but not at the suit of one . . . who cannot show the likelihood of positive and substantial damage.” (72)

If some locality decides a freezer is an outrage or a nuisance and orders burial, the relatives of the frozen will no doubt be able to obtain a temporary restraining order against enforcement, since time would be vital only to the frozen. If lower court decisions should be adverse (which is not easy to imagine), then probably the issue could be taken to the United States Supreme Court on the question of “equal protection,” granted in the Four-
teenth Amendment.

If, for a time, freezing in some localities is legally too difficult, then many people will leave those localities.

Definitions of Death; Rights and Obligations of the Frozen

The only definition of death acceptable to a biologist is that of Dr. A. S. Parkes: “Death is the state from which resuscitation of the body as a whole is impossible by currently known means.” (110) Implicit in Dr. Parkes’ definition is nearly the main thesis of this book: that if we use extreme freezing to prevent deterioration, sooner or later “currently known means” will be adequate, and the body will no longer be regarded as dead. The present legal definition of death, effectively, is simply any condition discouraging enough to induce the attending physician to sign a death certificate. Usually this means “clinical death” - cessation of breathing and heartbeat - but not necessarily, since artificial respiration, heart massage, or other measures may be indicated.

When we quick-freeze a freshly dead corpse, we have someone who is thoroughly dead by current criteria, but who has potential life in almost the same way as a drowning victim who may be helped by a respirator. This is something new in the world of jurisprudence, and account must be taken of it.

When suspended animation becomes feasible, some will choose to be frozen alive, making their journey to the future first-class, perhaps with stop-overs along the way to check on conditions. While in the freezer, such a person will not be dead by Dr. Parkes’ definition.

Yet his active life will be only potential; he will be thoroughly inert and will require a special kind of legal status and protection, just like an actual cadaver.

Heretofore a corpse has had in itself neither rights nor obligations; now it will have both. His rights will include protection of his body and of his property, governmental supervision of the freezer and of his trust funds. His obligations will include the duty to pay taxes out of his funds and property and to submit his estate to regulation. Furthermore, the manner of his previous life and of his death may affect the nature of his privileges and duties after resuscitation.

Perhaps the law will come to recognize three classes of people in addition to the active nuisances: those in suspended animation, those frozen after death, and those who are thoroughly dead because they were burned up, well rotted, lost at sea, or otherwise considered poor bets. We can anticipate some sticky lawsuits questioning the categories assigned in particular cases.

Life Insurance and Suicide

Will a frozen individual be dead enough for the beneficiaries to collect his life insurance? There will usually be two beneficiaries, the next of kin and the corporation handling his freezer and trust funds.) At first thought, the answer seems obvious: since he died in the ordinary course of events, the actuarial basis of his insurance is unchanged, hence the insurance company has suffered no unusual loss and should pay off. But on second thought, things are not quite so simple.

Will not the suicide rate increase? It seems likely that some people not desperate enough to face permanent death might reach the point of choosing premature death followed by freezing, hoping to awaken to find van-
This particular problem seems easy to solve. At present, the insurance companies typically pay off on suicide if it is not within two years of the date of issuance of the policy. In the freezer era, the insurance companies will either insert a straight-ban suicide clause or use some kind of sliding scale based on experience. A few enterprising characters may try to camouflage suicide as accident, but this will not be an easy trick, remembering that the body must not be badly damaged and must be quickly available for freezing. Falling out of windows or under subway trains won’t do.

Suicide has always been illegal. The Earl of Birkenhead tells us that in eighteenth century England, on at least one occasion, attempted suicide was punished by hanging the wretch! (6) Served him right, no doubt. Now actual suicide will become punishable as well, perhaps by imposing fines on the estate of the frozen, who will then awaken poorer than he had hoped. We can’t have people just sneaking off, shirking their responsibilities.

But the illegality of suicide will have to be carefully reviewed, for clearly there can be extenuating circumstances. If some poor devil is wasting away with an excruciating cancer, he may decide to kill himself and be frozen - both to spare himself the terminal agony and to freeze his body in better condition, as well as to save further hospital bills. Similar remarks could be made about various kinds of unfortunates with crippling deformities. The legislatures will no doubt set up standards, and the courts will issue suicide permits.

We may also note the need for a new word to distinguish destructive suicide from self-inflicted temporary death. Maybe we could call it “sui-term” or “sui-kaput,” to indicate that one has not merely killed himself, but ended himself.

**Mercy Killings**

Closely related to the problem of suicide is that of mercy killing. Under what circumstances, if any, will the next of kin be allowed to decide whether a blighted life should drag on or be mercifully frozen? Under what circumstances will the courts make this decision?

If an aged parent is in an institution with his mental faculties largely gone, is it right to keep him there? Would he not be better off frozen before his brain deteriorates further? And cannot the family’s financial resources be better used to provide him a trust fund than to support him in a sanatorium?

What about a hideously deformed and defective child, as in a severe case of cretinism? Must his life drag on, in the usual way, at bitter emotional expense? Would not early freezing be a true mercy? Some will say that if we freeze all the cretins, there will be no way to study cretinism. Others will go further and say that if we freeze all corpses, the medical students will have no one to slice up in the freshman course in Gross Anatomy. However, there will probably be enough such objectors to save the situation, for surely they will volunteer their carcasses to the medical schools!

The painful problem of deformed and defective children is not one of negligible proportions. According to Jane Gould, “In all, roughly three newborn infants out of a hundred are seriously abnormal.” (35) Most of these, of course, will not be considered for early freezing: they will either die early natural deaths, or will be cured, or can be helped to lead lives not too pitifully far from the norm. But consider, for example, the worst cases of cerebral palsy. According to Jessie S.
West, in the United States in 1954 there were around a half million victims of this disease. Many had normal intelligence, although the affliction produced symptoms such as facial grimacing, drooling, and unintelligible speech which might make them seem subnormal to an uninformed observer. But many had serious mental deficiencies, and in fact 13 per cent were considered uneducable. (127)

At present, we properly do not countenance euthanasia for this 23 per cent, even though they may be suffering and even though there is a heavy emotional and financial burden on the other members of the family. But will not the situation be different when freezers are available?

Some will insist that we cannot end life for any reason, let alone for reasons of cost and convenience. But in fact we have always sold lives, and sometimes rather cheaply, in peace as well as in war. Consider, for example, the annual American traffic death toll - around thirty thousand, I think. We could certainly save several thousand of these, merely by doubling the police traffic detail in every city, or by making all vehicles carry speed governors, etc. But we do not want the expense or inconvenience of saving these lives; we make a cold-blooded calculation, and let them die.

Certainly there is an extremely important difference between traffic deaths and mercy killings. In the former case the victims are not known in advance, and we all take our chances. Nevertheless, life does have its price, and the freezers introduce a profoundly important new element.

One cannot evade his responsibility by speaking of “God’s will.” The failure to act also constitutes a decision. When the judge is pondering the case and searching his soul for right, let him ask himself this question: if the child were already frozen, and it were within my power to return him to deformed life, would I do so? If the answer is negative, then probably the freezer is where he belongs.

**Murder**

In the new era, the heinousness of the man-slayer’s crime may depend not only on the motives and circumstances, but also on the degree of damage to the body.

My grandfather used to say there are two kinds of lazy -- “lazy” and “stinking lazy.” Society may now distinguish between plain murder and sloppy murder. If the victim is doused with gasoline and ignited, or ground up in the garbage disposal, or hidden in a swamp and left for the alligators, this is sloppy murder. But if he is merely shot through the heart and quickly found and frozen, then this is a more civilized kind of murder.

The punishment of murder will have to be reviewed. Should it fit the crime? Should one who destroys his victim be himself scattered to the winds? Should one whose victim can be frozen be himself frozen? In those states which do not use capital punishment, can freezing be substituted for life imprisonment in some cases?

Further, a new kind of manslaughter will appear, namely, failure-to-freeze. (As civilization continues its majestic advance, the categories of crime inevitably multiply.) Failure to get a body into a freezer, and failure to service a freezer, will probably count at least as negligent homicide.

In this connection, it is interesting to consider our attitude toward abortion, which is also a kind of cutting off of potential life. Abortion is a crime, but it isn’t murder, and no funerals are held. Failure-to-freeze will not be taken as lightly, since the victim is more clearly a person, one who had a name and an identity.
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and leaves a more definite sense of loss.

Freezing also offers an alternative to the abortion dilemma. If there are strong indications favoring abortion, but the people involved have strong feelings against it, possibly they might decide to remove the fetus by a careful operation and freeze it rather than destroy it, so that the potentiality of life remains.

Making freezing at death compulsory will at first be successfully opposed in the name of individual and religious freedom, somewhat analogously to the claims of certain Christian Scientists and snake-handling cults. But the courts have overridden the religious objections of parents to ensure proper medical care for dangerously ill children, and have allowed the police to interfere with the snake-handlers. Similarly, the relatives of the deceased will be compelled to freeze him.

Suppose an adult of sound mind leaves explicit instructions that his remains not be frozen? This case will soon become more hypothetical than real. Before long nearly everyone will see the Golden Age shimmering enchantingly in the distance, and will not dream of relinquishing his ticket. Those that may remain stubbornly skeptical will realize they have nothing to lose: if by some chance they don’t like what they see on awakening, they can then destroy themselves, or else climb back into the freezer. In practice, before long the objectors will include only a handful of eccentrics.

Widows, Widowers, and Multiple Marriages

In the Kingdom of Heaven, it is said, there is “neither marriage nor giving in marriage,” and of course angels all love one another with indiscriminate determination, so that all the ex-wives and multiple husbands will simply sing in chorus. But on earth the resuscitees may have narrower views, and provision must be made for reunions which may not be entirely blissful.

A common form of the marriage vow says something about “until death do us part.” If this be interpreted to mean permanent death, some brides and grooms will surely have second thoughts before promising to spend perhaps thousands of years with the same person. On the other hand, if temporary death is allowed to dissolve a marriage, as at present, and remarriages occur as usual, then many a widow will find herself, after resuscitation, facing two ex-husbands, of whom the less recent, the lover of her youth, is likely to be the dearer.

In a few score years these questions may be meaningless. Who can be sure the institution of monogamy will persist? At present we are thoroughly committed to it, and yet one remembers wryly the moment in Shaw’s Caesar and Cleopatra when a Briton expresses shock at a Roman custom. Caesar, speaking to another Roman, says: “Pardon him, Theodotus: he is a barbarian, and thinks that the customs of his tribe and island are the laws of nature.” Just so; our tribal custom of monogamy is not a law of nature, and may eventually be replaced by . . . what? Perhaps group marriage, or no marriage at all, or marriage determined on a strictly individual basis by contract. With the biological functions and the nature of reproduction itself subject to scrutiny and deliberate change, no one can make a long-range guess with confidence.

A momentary digression here may be useful to point out that the religious notion of “natural law” is by no means so rigid a concept as many Catholic laymen, for instance, seem to believe. George W. Constable, writing in the Natural Law Forum of the Notre Dame Law School, has said: “. . . natural law consensus is
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not and cannot be static. . . If the conclusion of one qualified member of society is in conflict with the conclusion of another as to what the natural law is in any given case, then, ex definitione, each is justified in following his own lights. . . All are subject to correction, whether priest, king, or democrat.” (13)

In the immediate future, some of the problems and their likely remedies are fairly clear.

The first marriage partner to die will leave demands on the survivor not formerly known, demands both emotional and financial. The freeze will want to awaken neither deserted nor impoverished, but to reclaim both his wife and his estate. The wife, on the other hand, may want to inherit everything, and may want to be free to console herself. What to do?

If we are talking about an average couple in the near future, so that the man dies at a moderately advanced age leaving a very modest estate, the result seems clear enough. The widow will be faithful. A decade or so of separation, at an advanced age, is not a high price to pay for emotional security. For the peace of mind of the first to die, this may even be formalized in law; under these circumstances, the widow of a freeze may be legally still married, and no more able to obtain a divorce than the wife of someone in an insane asylum.

Some may object that all this concern is unrealistic. After all, the resuscitees will not be the same people; they will be rejuvenated and overhauled, changed and improved (although not necessarily immediately) in physique and personality. The life will be new in a very drastic sense, and there may be no interest at all in the former spouse.

The answer is that there must be a reasonable amount of continuity, or at the very least the anticipation of a reasonable amount of continuity (in personal relations), for otherwise the future would be too frightening altogether, and motivation would tend to evaporate.

Consider next a more difficult case, say where the survivor, even though aged, breathes a sigh of relief, thinking, “Good riddance to the bum! Thank heavens I don’t have to put up with him any more.” Or consider the case of a husband or wife dying in middle life, leaving dependent children. Notice I say, “consider,” not “let us consider,” because I have already considered them and find myself fresh out of answers. They will just have to be worked out somehow.

Before leaving this topic, we might mention one possible solution to the problem of the young widow - one not put forward very seriously, but intended to remind the reader of the vast scope of the possibilities.

It is suggested by a news item relating that, in 1963, it is possible in Japan for a girl to go to a plastic surgeon, pay a fee of $50 to $100, and get herself a new maidenhead. (48) Her groom is thus spared the embarrassment of learning of her previous indiscretions. The next logical step, one presumes, is for the girl to go to a psychiatrist and have him hypnotically erase the memories associated with the original maidenhead!

Then she would be a maiden pure in every sense except that of history -- and history, as everyone knows since H. Ford I, is bunk.

Our widow, then, makes the following arrangements. On revival, she lives with the second husband until they can separate by mutual consent - perhaps even until they are tired of each other. Only then is the first husband
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revived, and the wife meanwhile has her brain washed clean of the second husband by psychiatric or biopsychiatric techniques. Admittedly, the scheme in this simple form raises more problems than it solves, but it is only intended to be vaguely suggestive.

Cadavers as Citizens

Rumor has it that in certain political wards on Chicago’s South Side, for example, it is possible by hallowed tradition for a recumbent corpse to be yet an upright citizen, since he retains his place on the roll of eligible voters. Perhaps, in some degree and sense, this custom will come to be fixed by law.

Two well established principles are involved: “... nor shall any State ... deny to any person within its jurisdiction the equal protection of the laws” (U. S. Constitution) and “no taxation without representation” (Boston Tea Party et seq.). The frozen will be potentially alive; they will be property owners and taxpayers. How must the law be modified for proper recognition of these facts?

At present, our voting laws are for the most part extremely simple - and simple-minded. One competent adult, one vote. Administratively, this is nice and tidy, but logically it is a ghastly mess. The whole area of voting rights and voting weights needs to be reexamined - not merely the question of lowering franchise age to eighteen, as has often been suggested, but the entire philosophy and rationale of representative government.

Should the vote of a man with four children count only as much as that of a father of two? The children are people, they have interests which can be furthered or damaged, and they are entitled to representation. Should a wellinformed voter swing only as much weight as the emptiest ignoramus? The very purpose of our republican government is to avoid this. Should not voting eligibility and voting weight depend on the specific issue and the degree to which the voter’s interests are affected? It is already customary in certain areas for some issues to be voted upon only by property owners.

Perhaps another layer ought to be sandwiched in between the citizens and the legislatures. That is, any group of citizens might be permitted to delegate their votes to a chosen elector, who would be authorized to cast these votes in an election.

In any event, such an overhaul will surely, among other things, recognize the right of incompetents to certain kinds of representation. Incompetents now form a small group, which is ignored in this respect; but the frozen will constitute an enormous body of influence which must be duly recognized and represented.

Potter’s Freezer and Umbrellas

For failure to pay the premiums on one’s freezer insurance, the death penalty seems a trifle severe. Hence society will be obliged to freeze the indigent. How fine, that the ne’er-do-wells will in the future escape both death and taxes! They will live on The Welfare and, dying, remain on The Welfare. To add insult to injury, on resuscitation they will be just as bright and shiny as the people who paid taxes. Is this justice? Ask me again in a thousand years.

For the further protection of the weak, the lazy, and the unlucky, the inheritance and bankruptcy laws will need working over. I shall not delve into this, except to remark that the quality of mercy may be displayed by ruling debts subject to simple interest only, while assets may accumulate compound interest.

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Countless other legal problems remain to be first revealed and then handled. And while it is true that the freezer era will be the era of the Golden Rule, the fraternal outlook will become general only gradually, and even then there will be honest differences of interest and opinion. For a considerable period we will have to bear in mind the immortal words of Ferguson Bowen: “The rain it raineth on the just / And also on the unjust fella / But chiefly on the just, because / The unjust steals the just’s umbrella.”

NEXT ISSUE:
Chapter VII: The Economics of Immortality