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ISSUE 04 | 2022

# CRYONICS INSTITUTE NEWSLETTER

Cryonics insights and information for members and friends of the Cryonics Institute

cryonics.org · info@cryonics.org · 1 (866) 288-2796

# CI PRESIDENT'S REPORT

Hello Everyone and Best Wishes for a successful and prosperous 2023.

As we end 2022, I would like to express my thanks and gratitude to all the good cryonics people around me who have helped and encouraged me in my efforts to keep the Cryonics institute on a path of improvement and sustained growth. I look forward to all the new things that are happening at CI, including the installation of more new cryostats and finalizing the retrofitting of our second CI facility, affectionately referred to as "CI West."

I'm also grateful and proud of all that we've accomplished in 2022. Thanks to Andy and Mike for getting so much done in such a relatively short time at our facilities. We have a new bulk LN2 tank at the new building as well as a new and larger bulk tank that was installed at the main headquarters facility. We have also acquired a new muti-fuel automatic power generator to be installed soon at CI HQ. Mike completely painted the new building inside and out, top to bottom and we also had the outside concrete redone and the floors inside epoxy-coated to match CI HQ.

Things are moving quickly. CI West has been fitted with LN2 lines serving a new row of cryostats so we are now completely operational and ready for the long term storage of our next group of patients. We have also purchased a new forklift and we are looking at procuring a large cargo van for patient transportation between facilities, airport and wherever needed locally, as well as for all of our other facility transport needs.

I'm excited to report CI just put our last patient into storage at the primary facility and we have our very first patient in storage at the new facility. This is a real milestone for CI, and I am proud to have helped us grow to a size where we surpassed our capacity and needed another facility for patient storage. This is what our mission is all about so it's very rewarding to see how many patients we have preserved to date who will hopefully live again in the future.

We also welcome aboard our newest director Jim Broughton and are happy to see him off to a running start along with CI member Dr Don Kliensek who will both be leading the new CI Scientific Advisory Board. We have already had several people involved with cryonics research and standby offer to provide help and advice to this board. Notably we are now advised in the field of cryobiology by Dr Adam Higgins as well as other professors, scientists and researchers.

Thanks also to Jim for putting together our latest funded research project to explore new and novel formulas and techniques to improve how CI vitrifies our patients for suspension. I'm hopeful that this research will pay off and we will see concrete and actionable results that we can apply at CI in the near future.

Thank you also to CI directors Steve Luckyx, Pat Heller, Joe Kowalsky, and Paul Hagen, who have all been guiding our investments and financial health through some volatile market conditions.

Another initiative we will be pursuing was suggested by one of our newest members during the AGM. We will be conducting an independent and complete financial audit of CI through the services of accountant Steven Lepitz and his firm. We have experience with Steve as he has been doing our taxes and is also a CI funded member. This will help us consolidate and analyze our financial information and posi-

tions and potentially point out any areas we may need to address or improve.

That said, I remain very confident in CI's investments and fiscal track record and I believe strongly that we are headed in the right direction. Even though we have done our own audits many times, it always helps to get a second set of eyes and a fresh perspective to both confirm we are on the right track and also to identify potential opportunities.

Director Nick VanDerMuelen has pitched the idea of inviting members to produce personalized video messages that can be stored with CI to serve three primary purposes.

The first, and perhaps most important reason, would be to provide supporting evidence to supplement your will and powers of attorney that document your cryonics wishes presented in your own voice. A video testimonial clearly explaining your intentions and expressing your conviction for cryonics can provide powerful persuasion to individuals who may be hostile to your final wishes when you need them to listen and can't speak for yourself.

Another video could serve as a public testimonial for cryonics and CI along with your beliefs and philosophy about our mission to live again in the future.

A third video idea would be a personal memorial video, as a record of our lives, hopes and dreams for the future. This would be an excellent remembrance and provide comfort and encouragement to friends and family while we are in cryopreservation. I imagine it could also be an interesting reminder for ourselves to watch when and if we are hopefully revived in the future.

These types of videos would be a great benefit to every member to have on file at CI as both a supplement to your existing records and documents as well as a memorial for ourselves after a potential revival in the future and to our loved ones in the present.

Videos are easy to make, particularly with a smartphone camera, so I would encourage everyone to start thinking about what you'd want to say to friends, family and the world at large in your own personal archived cryonics wishes, testimonial and memorial videos.

Further details about how to submit videos for your records along with guidelines, examples and upload instructions will be coming shortly. We plan to make these videos available online so they can be viewed anywhere with an internet connection. However, you will definitely be able to decide whether you want your content to be private or public.

Keep up the good work everyone and, as always, I encourage our membership to be proactive in your own preparation and in helping to improve CI. If you have skills that we can use consider contributing your time and expertise or ask what we are looking for help with. If you have money to donate, any amount small or large, remember every little bit helps to improve the life raft that is CI.

As we enter the new year please make a resolution to do what you can to donate time or money to CI or simply to complete your own suspension and standby planning and preparations.

We can all make a difference if we try.

Best Wishes,
*Dennis Kowalski - Cryonics Institute President*

**CRYONICS INSTITUTE MAGAZINE**
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**ARTICLE SUBMISSIONS**

Cryonics Institute or cryonics-related articles are welcome. Submissions: **dg@cryonics.org**

**E-SUBSCRIPTIONS**

* As a CI member, you are automatically added to our email reminder list. To unsubscribe, please use the "unsubscribe" link at the bottom of your email.

# Cover Art

This issue's cover art was created using the StarryAI image generator: https://starryai.com/

To submit your own cover art concepts for a future issue, please contact dg@cryonics.org.

*(Please keep total file sizes under 5mb for email. Special arrangements can be made to transfer larger files if needed.)*

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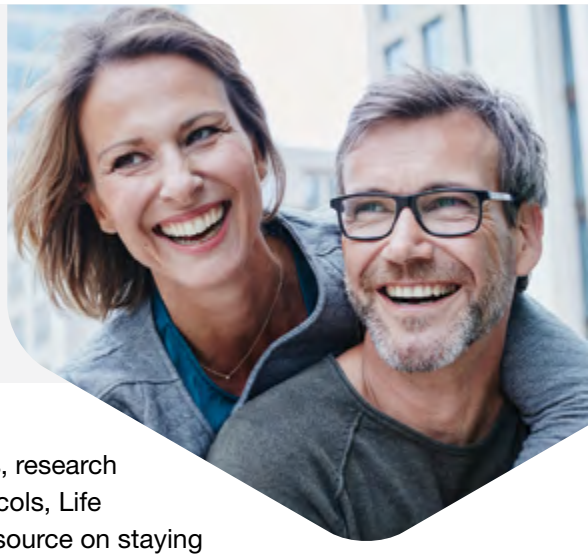


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# Membership Benefits

## Why join the Cryonics Institute?

*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?*

### 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 inititation fee and dues of just $120 per year, payable by check, credit card or PayPal.

### 4) Lower Prices for Spouses and Children

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

### 5) Quality of Treatment

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

### 6) 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).

CRYONICS INSTITUTE
Technology for Life

To get started, contact us at:

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

Visit us online at www.cryonics.org

# CI NEWS

*What's happening at the Cryonics Institute*

## First Patient Cryopreserved at New Facility

CI reached a milestone in December of 2022, storing our last patient at the Main Facility on December 20 and our first patient at the new facility on December 22. There are now 236 patients plus 233 pets in storage at the main facility, bringing it to full capacity. There are currently eight fiberglass cryostats and one stainless steel dewar at the new facility for a total storage capacity of approximately 57 patients. Total capacity at the new facility is estimated at 250 patients.

*The new row of cryostats at CI West*

*Support Equipment*
*Left: Motorized hoist system for patient transfer. Below: Liquid Nitrogen lines servicing the cryostats.*

# New Washington DC Metro Region Cryonics Group

Mark Mugler invites any CI members in the DC-Maryland-Virginia-Delaware area who are interested to attend meetings of their new cyonics support group. Mugler is a member of the Life Extension Society, a group of Washington, DC-area cryonicists who want to work together to facilitate, improve and augment standby response when CI and Alcor members in the area deanimate.

**Washington, DC Metro Region:** Life Extension Society (LES) is a nonprofit organization of area cryonicists dedicated to enhancing local capabilities for standby, stabilization and transport. Members from both Alcor and Cryonics Institute are welcome. Contact: Mark Mugler, **mugsim2@gmail.com**.

# New CI Web Site

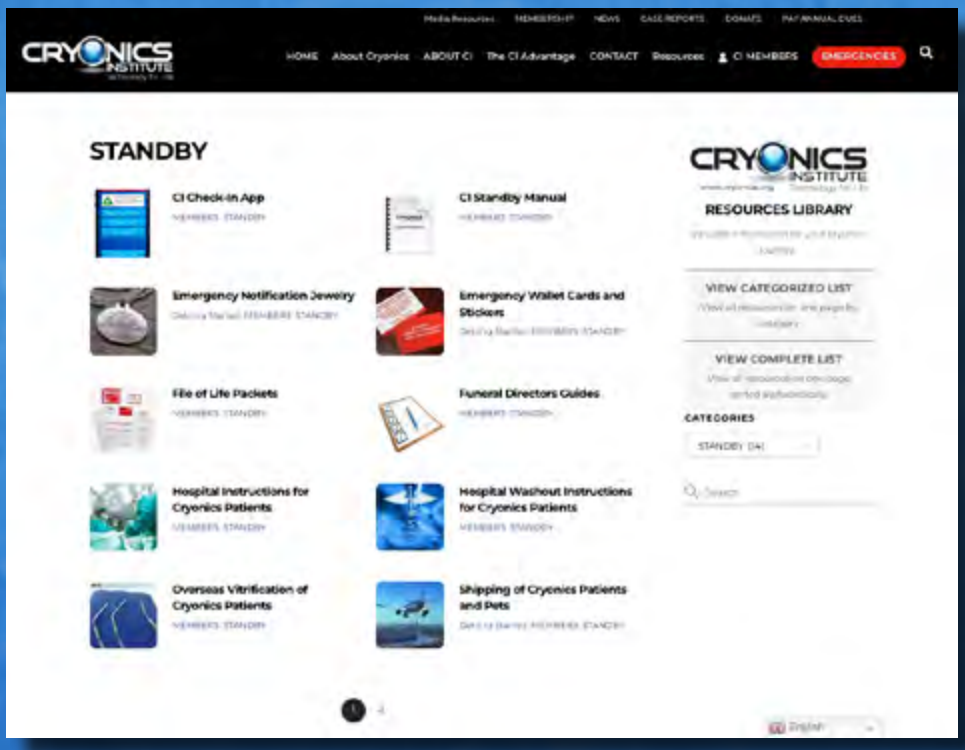
CI launched a major update to our cryonics.org website in mid-September, with the goals of better serving our membership, educating the public and attracting new prospects. The new site is built in Wordpress which provides a more flexible and modern backend than the previous version. This means it will be much easier to update and modify our content as well as add new features and functionality in the future.

The content hasn't changed significantly, however we have improved the organization and navigation to make it easier to use including a new "CI Members" tab in the main menu listing items of special interest to our members like standby support, membership dues, funding information and sample forms. The "Resources" section has also been upgraded with better navigation and categorization.

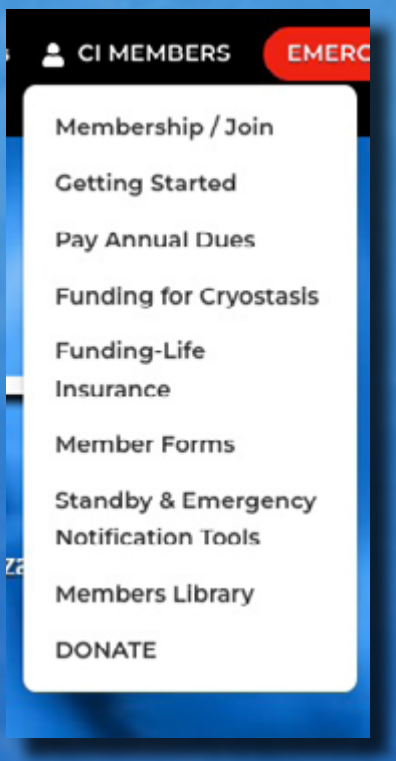
In addition, we've also improved responsiveness to provide a better experience on mobile devices.

Finally, we consolidated the home page to try to better explain our mission, services and membership options for visitors who are new to cryonics and the Cryonics Institute.

The site will continue to evolve moving forward, and we welcome your comments and suggestions. Please eiither use the **contact form** ( **https://cryonics.org/contact/** ) or email **dg@cryonics.org** to let us know your thoughts.




*Members Library Standby Category*




*CI Members Tab*

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# 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.

# CI NEWS

*What's happening at the Cryonics Institute*

## Pet Cryosuspension Services Available

Did you know CI Members can take advantage of our cryonic suspension services for their pets? Instead of burial or cremation, you can give a loyal and beloved pet the same second chance at life that we have through cryopreservation.

Many members who have preserved their pets say it's a comforting thought that their longtime animal companions now have the same chance to live again in a better future. Ci currently has nearly 200 pets in cryosuspension.

Cryopreservation of pets is only available to Lifetime and Yearly Members of the Cryonics Institute. Excluding the cost of Membership, the typical cost of cryopreserving a cat or dog is $5,800 up to 15 pounds in weight plus $150 per pound for every pound above 15 for dogs. This does not include shipping and veterinarian expenses. CI will also preserve other types of pets and pricing is similarly by the size and weight scale for dogs. Please contact us to inquire about specific pricing and procedures for pet patients, or visit https://www.cryonics.org/resources/pet-cryopreservation for more complete details.

# CI NEWS

*What's happening at the Cryonics Institute*

## Visiting Hours For Family Members of CI Patients

| | |
|---|---|
| Monday: | 2:00pm - 4:00pm |
| Tuesday | 2:00om - 4:00pm |
| Wednesday | 2:00pm - 4:00pm |
| Thursday | 2:00pm - 4:00pm |

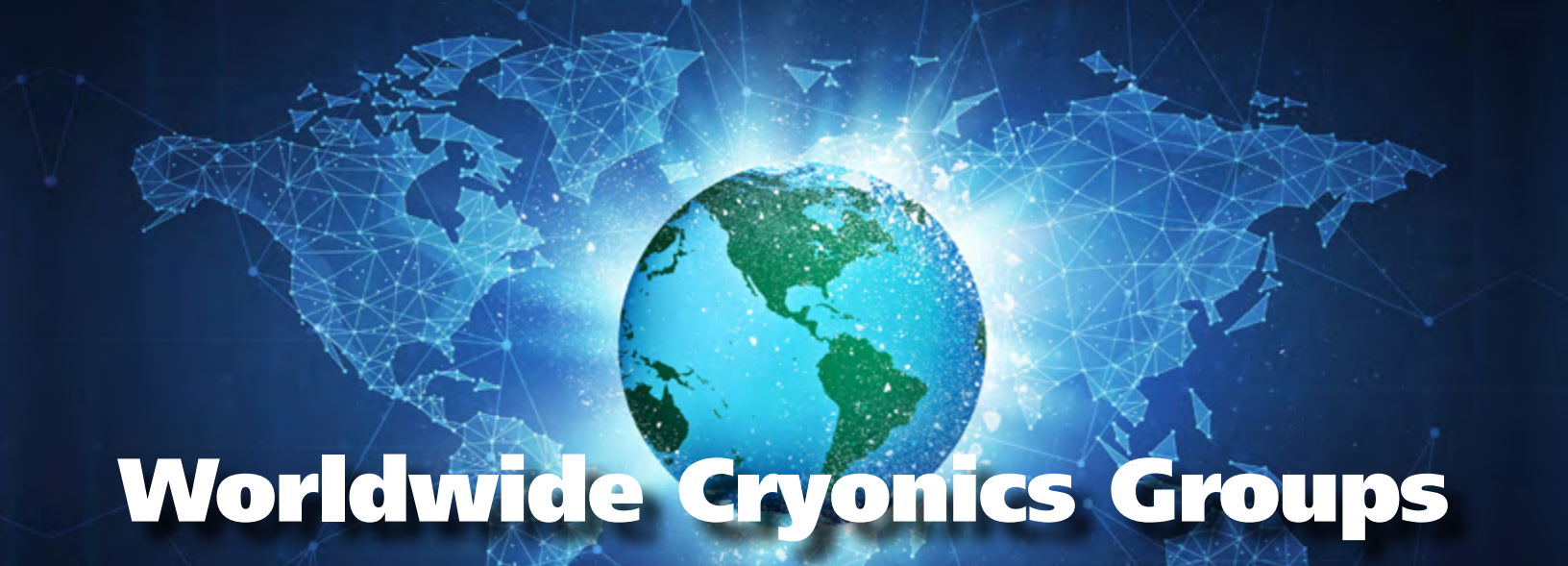
We ask that visitors kindly give us at least **one month advance notice** to ensure there are no scheduling conflicts. We cannot guarantee that the facility will be accessible to visitors who have not scheduled their visit in advance.

**** These visiting hours ar subject to change without notice due to patient or pet emergencies. ****

These requiirements have been established for multiple reasons, but most importantly for protecting our patients, members and facility.

Questions regarding visitation can be directed to Andy Zawacki, Facility Manager at info@cryonics.org or 1-586-791-5961.

Thank you!



# Worldwide Cryonics Groups

**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 cryonics 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: **csc5@cryocdn.org**

**BRITISH COLUMBIA:** The Lifespan Society advocates for radical life extension. They also organize conferences and educational outreach events on life extension issues. Lifespan welcomes all Canadians as members, although voting in the society is open to BC residents. Contact Carrie Radomski, President at **carrie@lifespanbc.ca** Web site **www.lifespansociety.com**

**QUEBEC:** Contact: Stephan Beauregard, C.I. Director & Official Administrator of the Cryonics Institute Facebook Page. Information about Cryonics & perfusion services in Montreal for all cryonicicts. 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 **galdamesh.jl@gmail.com.**

**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 Ville Salmensuu **ville@salmensuu.fi**

**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@gmail.com** • **Facebook group**

**Francecryonics-Webnode** Vivien Gruss, member of Cryonics Institute, has opened a web site for the information of persons interested in cryonic suspension.

**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 explication about the cryonics procedure to the Dr and authority in Bangalore & Vellore Area. Contacts : Br Sankeerth & Bioster Vignesh / Email : **vicky23101994@gmail.com** Phones : Bioster / 918148049058 & Br Sankeerth / 917795115939

**ITALY:** The Italian Cryonics Group (inside the Life Extension Research Group (LIFEXT Research Group)) **www.lifext.org** and relative forum: **forum.lifext.org**. Contact Giovanni Ranzo at: **giovanni1410@gmail.com**

**Kriorus Italy:** Representative Filippo Polistena, email: filippopolistena45@gmail.com. phone: +39 334 298 9378

**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/**

**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**

**NORWAY** : Can help Cryonics Institute Members who need help for the transport & hospital explication 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@gmail.com** for additional information or visit **http://www.kriorus.ru**. Phone: +7 962 947-50-79

**SWEDEN:** **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**

CRYOSUISSE The Swiss Society for Cryonics is an active group with over 30 members. To join, **email info@cryosuisse.ch**

**UNITED STATES:**

**Minnesota:** Minnesota Cryonics Rapid Response (MCRR) is a nonprofit standby, stabilization and transport group based in Minneapolis, Minnesota. We have a strong, longstanding working relationship with local funeral directors, and have successfully participated in significantly more-timely suspension efforts in Minnesota in cooperation with both Alcor and the Cryonics Institute. Contact: President, Chuck Bartl, **chuckbartl@yahoo.com**.

**Washington DC Metro Region:** Life Extension Society (LES) is a nonprofit organization of area cryonicists dedicated to enhancing local capabilities for standby, stabilization and transport. Members from both Alcor and Cryonics Institute are welcome. Contact: Mark Mugler, **mugsim2@gmail.com**.

**UNITED KINGDOM:** Cryonics UK is a nonprofit UK based standby group. **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. Albin & Sons / Arthur Stanley House Phone : 020-7237-3637

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

## HELP US STAY UP-TO-DATE!

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.**

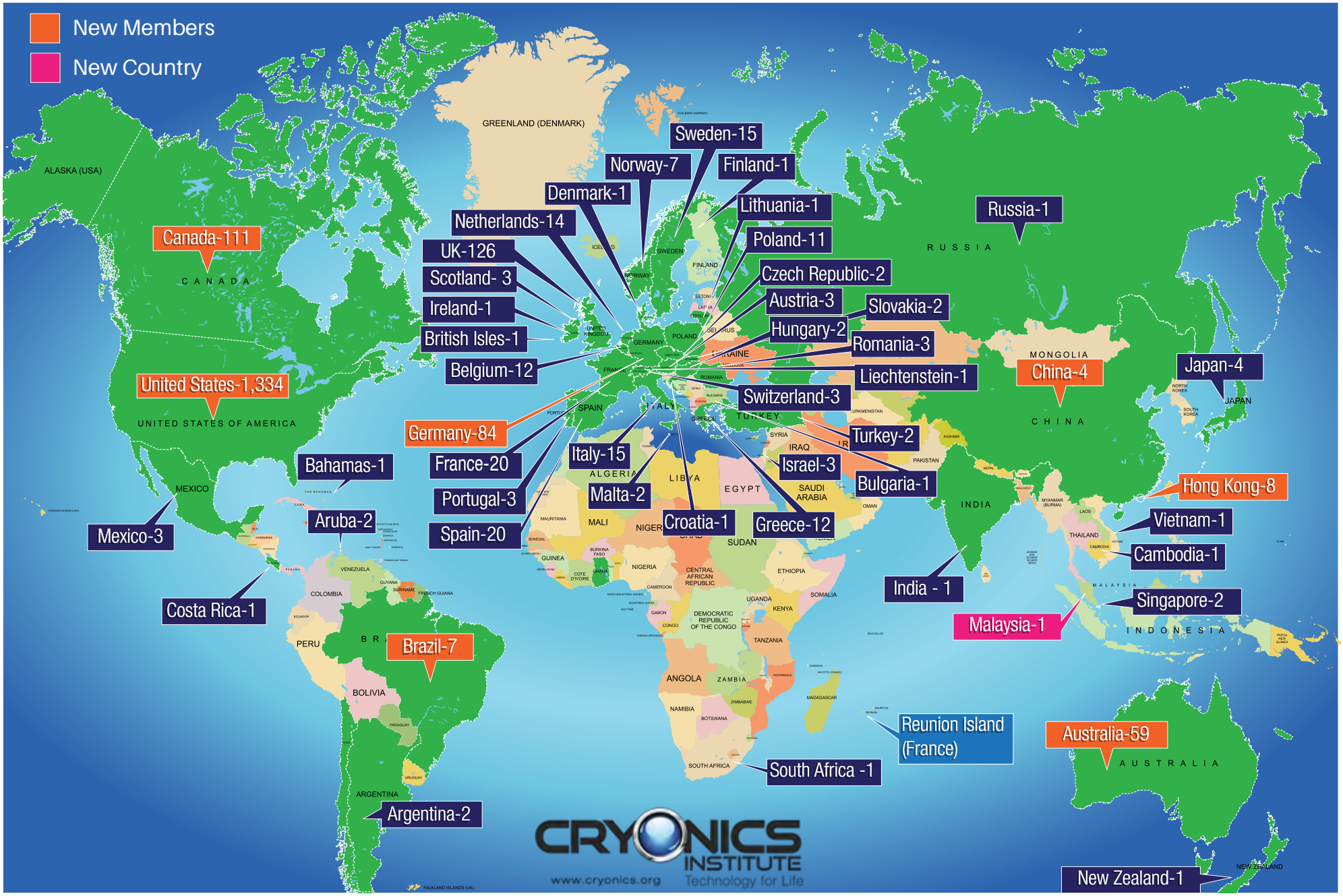
*Please note, this list is provided as an information resource only. Inclusion on the list does not constitute an endorsement by the Cryonics Institute or our affiliated organizations. We urge our readers to use this list as a starting point to research groups that may meet their own individual needs. 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 MEMBERSHIP

DECEMBER 2022

| | | | |
|---|---|---|---|
| Members | 1,916 | Pets | 233 |
| Patients | 237 | DNA/Tissue | 340 |
| | | SA | 316 |

TOTAL **2,153**



# Who will be there for YOU?

## Don't wait to make your plans. Your life may depend on it.

Suspended Animation fields teams of specially trained cardio-thoracic surgeons, cardiac perfusionists and other medical professionals with state-of-the-art equipment to provide stabilization care for Cryonics Institute members in the continental U.S.

Cryonics Institute members can contract with Suspended Animation for comprehensive standby, stabilization and transport services using life insurance or other payment options.

SA Suspended Animation

Speak to a medical representative for more information.

**Call 1-949-482-2109**

or email info@suspendedanimationinc.com

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# Vertical integration and investing in the future of cryonics

*by Dennis Kowalski - CI President*

Coming off the heels of Covid, we are reminded that supply chain disruptions can affect all businesses and this begs the question of just what are the Cryonics Service Organizations doing to prepare for eventual problems and ensure access to critical services, materials and infrastructural needs? After some serious brainstorming sessions with peers, here are a few ideas I'd like to share. My goal is not to presume to know everything cryonics needs as much as to simply start the discussion moving in the right direction and inspire further conversation. The following are some of the things CI is considering.

In many areas it would be beneficial for CI to have greater oversight or just a higher priority relationship with our vendors. It makes sense that CI's best potential opportunities would be with industries we already work with and rely on.

## Liquid Nitrogen production

Many people have suggested that CI become independent and have pointed out commercially available liquid nitrogen producing machines. Maybe in the future, but right now production equipment and the energy needed to compress and separate LN2 out of the air would cost many orders of magnitude more then just buying it from a large outfit that produces O2 and other gases. LN2 is largely a waste product of O2 and steel production, so unless you have already made the capital investments in those massively expensive industries it just doesn't make sense to install the required infrastructure to produce your own supply, especially in terms of the energy overhead required. However, if technlogy improves and equipment and energy costs go down substantially then this might be an area to revisit. One other possibility would be to operate some type of distribution center that handles LN2 and other gases. Even if the distribution center did 99% of its business outside of supplying cryonics, this could still be a useful endeavor for CI, as access to wholesale or deeply discounted LN2 and priority shipment would be a great thing to have locked in.

## Cryostat or Dewar Production and Sales.

It could be beneficial if a CSO or more likely a CSO-friendly LLC was set up to do the majority of its business selling smaller LN2 storage vessels to hospitals or research centers while also maintaining the capability to prioritize and build large storage vessels dedicated to cryonics. The profits for these associated businesses could help to sustain or ensure cryonics infrastructure. If these businesses do exceptionally well, then they could in theory also make donations to worthy causes like cryonics.

## Funeral Homes

Another avenue would be funeral homes, which would predominantly operate normally, offering burials and cremation services, but in this case, also provide and promote cryonics services. Funeral homes already have staff with the expertise to handle washout and vitrification procedures and would only require a little additional training and dedicated equipment. Additionally, offering cryonics services to every funeral customer as a resonably-priced alternative to traditional burial or cremation would be both a point of distnction and a value-added service that would help educate the public about cryonics as well as potentially attract new members and patients. A profitable funeral home could also help feed donations into the long-term funding of patient sustainability.

## Nursing Homes and Hospice Care

Similarly, Nursing homes or hospices can operate as they traditonally do serving the elderly or terminal community but also provide local standby support for a nearby CSO, with just a little extra training and equipment. In fact, considering

the time-sensitive nature of a cryonics emergency, just having staff who are aware of the need to contact the local CSO in the case of an emergency would help significantly and dramatically reduce the time between standby and transport to a cryonics facility. In addition a CSO would also see benefits from a nursing home or hospice actively fostering awareness of cryonics as an option among people who are already considering end-of-life arrangments.

## Centralized Standby

Another thing to consider would be what benefits centralized standby operations like SA, ICE and Cryonics UK could see by adopting a similar dual-role model, serving as a conventional ambulance service the majority of the time, but with the specialized ability to handle cryonics cases as needed. Ambulance companies can also be very profitable and the use of paramedics in conventional emergency medicine provides real-life training, rotation of supplies, and revenue to support virtually the same operations needed for standby. As a former paramedic, I quickly recognized that a standby is almost exactly like a regular cardiac arrest code with CPR. The only real differnece for a cryonics case is simply adding ice and switching out a few medications. In addition to reducing idle downtime between infrequent cryonics cases, the regularity of adding daily emergency calls to the mix would also keep cryonics ambulance specialists in top shape and on par with conventional EMT requirements.

## Real Estate

Purchasing necessary properties and real estate could be done in advance and those locations leased for commerical industrial storage or warehousing in order to pay for the mortgage, maintenance and taxes on the building. An appropriate building would also serve two roles, where as a rental lease expires, that building could quickly transition to long term cryonics patient storage if needed. Another major benefit to buying properties in advance is getting ahead of inflation or buying during market dips in order to take advantage of those swings rather than being forced to buy propety in a bad market. Even if a property was at or the near break even point in regard to rental income vs taxes and other operating costs, the net result would be reduced cost, zero cost or even a profit on property maintenance for the CSO. Properly structured CSOs will always have the money to buy or build as they expand but perhaps a wiser option is to have the flexibly to purchase ahead of time when markets are favorable, and possibly even turn a profit before a building transitions to full cryonics storage operations.

This is just a sample of ideas, as it's relatively easy to think of many forms of vertical integration that could benefit a CSO like the Cryonics Institute. Every service and product that a CSO uses has dual usages and dual markets. Even the employees that we use to staff our facilities are likely to be mechanically inclined and skilled tradesmen. If we cultivated a pool of talented people already working in those trades it might be easier to divert labor from an existing construction company or machine shop to a CSO when needed rather than trying to hire outright. This would also let us pick the cream of the crop when considering who to staff a CSO with or who to put on call at a facility. In other words labor itself could be vertically integrated into the CSOs to ensure that talented people are recruited to run the company well into the future.

When considering how to structure any vertical integration, there are many reasons why a CSO would need to keep an arm's-length distance, including nonprofit status, regulations and protection from lawsuits and liablity among others.

I think forming a separate oversight trust to manage any vertical integration while keeping goals and interests in line with the cryonics mission might be a workable solution.

That said, implementing any vertical integration certainly presents challenges, particularly in protecting our nonprofit staus, but I think the benefits would more than justify the effort and are worth pursuing further.

Longevity AI

from LONGEVITYAI.COM

# Profiles of Successful Aging and Their Association with All-Cause Mortality Risk among the Oldest-Old Chinese in Singapore

Grand H-L Cheng et al.

Image: Pixabay

*Profiles of Successful Aging and Their Association with All-Cause Mortality Risk among the Oldest-Old Chinese in Singapore*

*Gerontology. Grand H-L Cheng et al.*

*Introduction: Although successful aging (SA) studies have examined objective indicators such as disease and disability, physical and cognitive function, and social and productive engagement, as well as subjective indicators such as self-rated health, function, and well-being, the interplay among these indicators is rarely studied. We studied SA profiles that captured this interplay and evaluated the association of these profiles with mortality in the oldest-old.*

*Methods: Respondents were 1,000 Chinese Singaporeans aged ≥85 years during interview visits from 2017 to 2018. Latent class analysis examined 12 objective and subjective indicators to identify SA profiles. Multivariable Cox regression assessed the relationship between these profiles and all-cause mortality risk through 2020.*

*Results: Four distinct SA profiles were identified: "frail and dejected" (poor performance in nearly all objective and subjective indicators), "frail but resilient" (poor in objective but good in subjective indicators), "fairly fit and neutral" (good in about half of the indicators), and "fit and positive" (good in nearly all indicators). Compared with "frail and dejected," the adjusted hazard ratio (95% confidence interval) for mortality risk was 0.63 (0.40-0.97) in "frail but resilient," 0.56 (0.34-0.93) in "fairly fit and neutral," and 0.31 (0.19-0.49) in "fit and positive."*

*Discussion: SA in the oldest-old could take different profiles based on objective and subjective indicators, and these profiles have implications for mortality risk. Individuals with good subjective indicators have advantage in survival despite poor objective indicators.*

Longevity AI

CRYONICS NEWS
Science, Technology and Medical News from the Web
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# Correcting Genetic Mutations Leading to Heart Disease with CRISPR

DEC 27, 2022 | WRITTEN BY: Carmen Leitch

*Image Credit: Pixabay*

Dilated cardiomyopathy (DCM) is a serious heart condition that can be caused by many things, though one-third of patients or more have DCM because of a genetic mutation. Scientists have now used the CRISPR-Cas9 gene editing tool to correct mutations in a gene called RMB20 that lead to DCM. RBM20, or RNA binding motif protein 20 normally influences the production of many heart proteins. When RBM20 is mutated, it can have a cascading impact on the heart that gradually ruins its contractile function, causing it to enlarge and eventually fail. The only current treatment options are a heart transplant or drugs that can treat the symptoms of the disease.

In a new study reported in Science Translational Medicine, researchers sought to treat the cause of DCM. They opted to use CRISPR, a gene-editing system that has tremendous potential but is still only in limited use in the clinic. Scientists have shown that CRISPR can correct the genetic mutations that are known to cause many different diseases, but this has been done almost exclusively in animal models. While a few human trials that have treated eye disorders and sickle cell anemia have shown that CRISPR could be a viable way to treat people too, there are still serious concerns about making edits to the human genome, and the potential side effects of such an endeavor.

A viral vector also still has to be used to deliver the CRISPR gene-editing reagents to the right place in cells. In this work, the scientists were able to correct the DCM-causing mutations in RMB20 in human cells that carried two types of these errors. One mutation involved a single base change while the other required a portion of the gene to be removed, and the right sequence to be added into the cells. In the corrected cells, the RBM20 protein functioned normally,

directing the production of other important heart proteins.

The technique also worked in one-week-old mice who were treated. As they got older, their hearts did not enlarge and their lifespans were normal compared to mice that carried unedited RBM20 mutations.

"All of the disease characteristics we see because of these mutations were reversed with CRISPR-Cas9 therapy. It's fair to say the success of this approach completely exceeded our expectations," said study co-leader Eric Olson, Ph.D., Chair and Professor of Molecular Biology at UTSW.

The investigators acknowledged that more research remains before people can be treated. They want to find the smallest possible dose that will still correct the mutation, or whether the approach will still work in patients with more advanced stages of disease.

"The pace of this field is really breathtaking," said Olson. "I expect that if this moves forward into patients, we're not talking within decades, we're talking within years."

Sources: UT Southwestern (UTSW), Science Translational Medicine

**VIDEO LINK**

(https://youtu.be/TX0mxAUt5PY)

labroots

ET Healthworld.com
From The Economic Times

from INDIATIMES.COM

# How the adoption of AI in healthcare is advancing in medical treatment

*The new-age technology is dominating the healthcare industry so much that it's being referred to as the new nervous system. The automation tools powered by AI further improve operational efficiencies and free up the focus on patient care.*

*By Nilesh Jahagirdar*

*ETHealthWorld Updated: December 26, 2022, 13:07 IST*

Artificial Intelligence (AI) has been prevalent in almost every business sector. However, in recent years, technology has burst into the healthcare landscape, propelling innovations and showcasing the potential to support medical practitioners and patients. From early disease diagnosis, drug discovery and trials, and precision in patient monitoring to self-care, AI algorithms have augmented the expertise of healthcare providers. According to the stats – AI expenditure

in India is estimated to reach $11.78 bn by 2025, expected to add $1 trillion to the Indian economy by 2035.

The new-age technology is dominating the healthcare industry so much that it's being referred to as the new nervous system. It is significantly transforming and improving key processes in, as well as, outside of frontline clerical work. The automation tools powered by AI further improve operational efficiencies and free up the focus on patient care. As the healthcare industry is moving towards home care, the need for AI technology is being felt strongly by the stakeholders.

## Accelerated drug discovery and development

Treating chronic healthcare diseases is enabled through deliberate drug discovery and development. The entire process goes through multiple challenges that make it a tedious, time-consuming, and costly affair. From design to testing, numerous difficulties arise before the drug makes its way to the market. As a result, it poses a significant risk in bringing treatment for certain medical conditions on time. One of the most relevant and recent examples of this is the COVID-19 vaccination which clearly showed the exigency of removing procedural hindrances to expedite the treatment.

The deployment of AI offers more effective approaches to drug discovery, development, and delivery. It crunches the number of computer capabilities involved in the process and conducts data analysis faster than the human brain in a fraction of the time, which expedites the entire drug discovery and development process.

## Enhanced patient experience

In the traditional healthcare landscape, patients' experience is influenced by several factors – crowded healthcare facilities, the mounting volume of reports, and confusion around insurance and other departments. This makes accessing medical care difficult. The advent of AI has emerged as a savior as its integration has helped in rapid scanning through data, getting reports ready, and facilitating patients to know exactly where to go, whom to contact and when. AI has been the backbone of remote consulting and patient monitoring. It has digitized the complete consultation and treatment process, including timely updates, report availability, appointment scheduling, etc.

Furthermore, the integration of AI in connecting devices has helped healthcare stakeholders leverage real-time monitoring of patients during heart attacks, asthma attacks, panic attacks, etc. Remote monitoring devices track the activities of the patients and record data in real-time, enabling doctors to make prompt, informed decisions.

## Accuracy in diagnosis

AI has demonstrated promising results in revolutionizing clinical decision-making and diagnosis. The traditional medical approach enables doctors to examine a patient's symptoms and determine the diseases causing them. However, the integration of AI's approach is purely intuitive and identifies diseases that are strongly correlated with the patient's symptoms. Furthermore, AI combined with Machine Learning algorithms removes the scope of human errors. Incomplete medical reports, inefficient sequencing, and a large number of case handling often lead to mistakes. However, once the reports are fed into a computer, AI and ML-backed advanced algorithms arrive at the right diagnosis, eliminate mistakes and improve the efficiency of medical facilities.

## Data security

Medical data is highly personal and requires 100% confidentiality. Many patients aren't willing to share data via digitized channels, making it even more critical. In addition, it might also include financial information of the patient associated with payment details, insurance claims, etc. Therefore, it poses significant risks and threats when uploaded on the cloud. Deployment of AI in healthcare systems helps encrypt personal information, clinical reports, diagnostic findings, and more. As a result, the entire system is protected, preventing it from being hacked and ensuring security in the cloud storage of patient data.

## Bottomline

Despite major advancements in the healthcare sector brought by AI, its deep penetration and adoption is still nascence. As health tech startups are adding new capabilities to the technology, bigger breakthroughs are expected in the industry.

*Nilesh Jahagirdar, Co-Founder & VP, Marketing & Solutions*

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From The Economic Times

NEW YORK POST
from NYPOST.COM

# Scientists successfully reverse human aging process in breakthrough study

*By Natalie O'Neill | November 20, 2020*

*Image: Shutterstock*

The fountain of youth may be made of air, not water.

Scientists say they've successfully reversed the aging process of elderly people through "oxygen therapy" in a first-of-its-kind study.

Researchers from Tel Aviv University used hyperbaric oxygen chambers to target specific cells and DNA linked to shorter lifespans — and found the "Holy Grail" of staying young, according to a press release about the discovery.

During the study, researchers investigated whether the therapy — which involves breathing pure oxygen in a pressurized environment — could reverse the effects of aging in 35 people over age 64, according to the study, which was published Wednesday in the journal Aging.

They placed elderly participants in the chamber for 90 minutes a day, five days a week for three months and studied its impact on senescent cells, which are associated with tissue and organ deterioration. They also measured the length of each person's telomere, a molecule linked to premature cellular aging.

Remarkably, scientists found that the participants' telomeres had enlarged by an average length of 20 percent while their senescent cells decreased by up to 37 per cent by the end of the trial — the equivalent growing 25 years younger.

"The significant improvement of telomere length shown... provides the scientific community with a new foundation of understanding that aging can, indeed, be targeted and reversed at the basic cellular-biological level," said the study's co-author Shai Efrati. "Since telomere shortening is considered the 'Holy Grail' of the biology of aging."

While undergoing the sessions, participants did not change their lifestyles, diets or medications, which have proven in the past to impact a person's biological age.

The scientists, which include doctors from the Shamir Medical Center, believe the pressurized chamber triggered brief oxygen shortages, which caused cell regeneration.

"Until now, interventions such as lifestyle modifications and intense exercise were shown to have some inhibition effect on the expected telomere length shortening," said Dr. Amir Hadanny, who co-authored of the study.

"What is remarkable to note in our study, is that in just three months of therapy, we were able to achieve such significant telomere elongation – at rates far beyond any of the current available interventions or lifestyle modifications."

In 2016, experts discovered they could halt aging in mice by giving them drugs that kill senescent cells.

NEW YORK POST

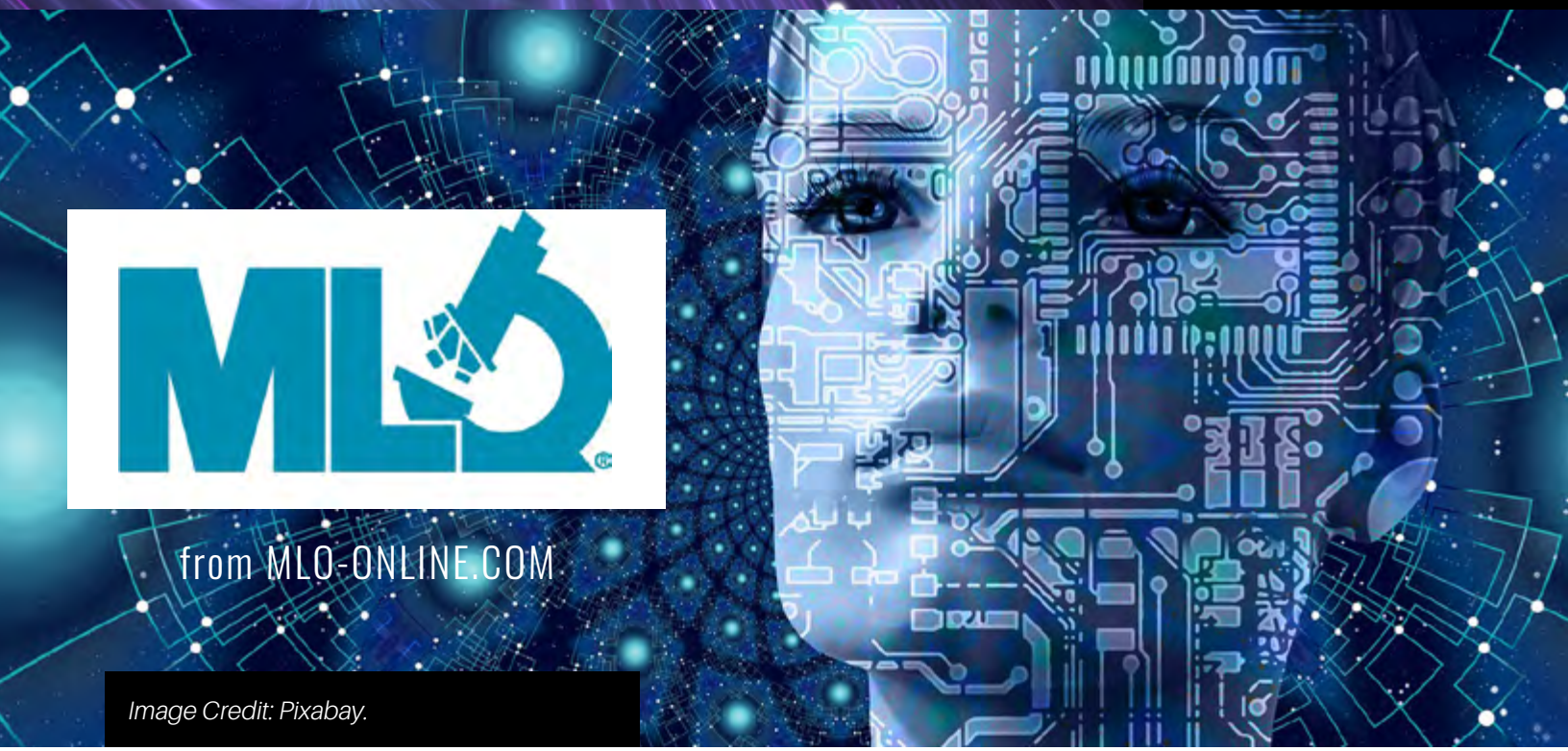


*Image Credit: Pixabay.*

# Artificial intelligence in Microbiology for faster actionable results

*July 25, 2017 | Gabriela Franco*

A staggering 70 percent of medical decisions are impacted by laboratory results.[1] In addition to the laboratory's role of providing timely results to assist diagnosis, other drivers, such as, in Novak and Marlowe's words, "a global society that has allowed for increased mobility of emerging pathogens and antibiotic-resistant superbugs across continents,[2]" expand the role of the clinical mcrobiology laboratory. Understanding the laboratory's role means that quality, traceability, reproducibility, and speed are goals that are always at the top of the clinical microbiology professional's mind. But in recent years, well documented pressures of increasing work volumes and staff shortages2 are making those important goals even more difficult to reach. Garcia and Fisher have aptly asserted that "one of the challenges in recruiting new highly trained personnel is the lack of recognition for laboratorians in the healthcare environment,[3]" despite their important contributions to improving patient care.

So, how can laboratorians increase their level of recognition in the healthcare environment? One of the opportunities is to improve turnaround time to results—a challenging goal. Microbiology professionals often recount stories of distressed point-of-care providers urgently requesting STAT culture results. It's nearly impossible to grow bacteria faster, and with diminishing resources and increased volume, there may not be enough eyes to read plates when they are ready. However, a new technology may be able to help improve turnaround times and patient outcomes, when used in conjunction with the highly specialized analytical skills in the clinical laboratory.

## AI in Microbiology

Full laboratory automation in Microbiology is having an impact on laboratories today. It is well established that, despite technical differences in hardware, full microbiology laboratory automation systems available in the market share similar components: specimen processing, track, image

acquisitions systems, smart incubation, and workstations.[4,5] The key difference in the systems revolves around the strength and technology behind algorithms and the extent of use of artificial intelligence (AI).

In Will Ferrell's 2003 movie Elf, Buddy explains the elves' food groups in simple terms: "We elves try to stick to the four main food groups: candy, candy canes, candy corns, and syrup."[6] The use of AI in Microbiology can be similarly grouped and explained in terms of four groups of algorithms: a) chromogenic detection; b) colony counting with growth, no growth discrimination; c) phenotypic colony recognition; and d) application of expert rules. And while AI and algorithms for Microbiology are not a simple matter, the simple explanation provides an outline for the remaining sections of this article.

## Chromogenic detection algorithms with 100 percent sensitivity

R. Douglas Scott II, in a report published by the U.S. Centers for Disease Control and Prevention (CDC) titled "The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention," estimates that "the overall annual direct medical costs of HAI to U.S. hospitals ranges from $28.4 to $33.8 billion.[7]" Using two different Consumer Price Index (CPI) statistics, he also calculated the benefits of prevention, and estimated the benefits to range "from a low of $5.7 to $6.8 billion (20 percent of infections preventable, CPI for all urban consumers) to a high of $25.0 to $31.5 billion (70 percent of infections preventable, CPI for inpatient hospital service)." Active surveillance of HAI infections, such as MRSA, VRE, or ESBL, can aid in the prevention and reduction of HAIs, including its associated costs. Chromogenic media is a common detection method used in surveillance screening programs across the world.[8]

Two recent multicenter studies used Chromogenic Detection Module algorithms to compare results generated by the software to results generated by the laboratorian: one tested for VRE and one for MRSA. The studies used different manufacturers' chromogenic media (Figure 1 and Figure 2) and were conducted in different countries. For the 104,730 specimens used in the VRE surveillance study, 100 percent sensitivity was achieved, and the software identified an additional 499 positive results that were missed by the laboratorian.[9] There was a 100 percent sensitivity rate in the 57,690 specimens analyzed for the MRSA study, with an additional 158 positive results that were missed by the laboratorian.[10]

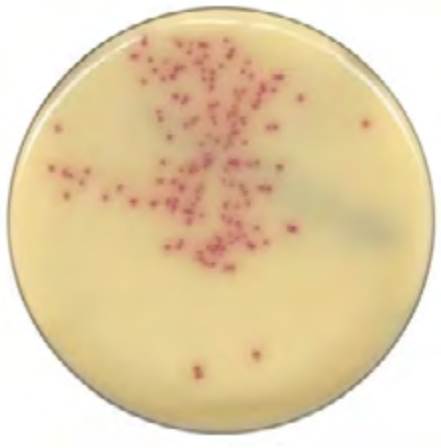

*Figure 1. Chromogenic media detection.*

Surveillance cultures are simple, but are seen in high volumes in labs and have a relatively low positivity rate. Factors such as fatigue, high work volume that needs to be processed in a short time, and task repetition could explain the positives that were missed by human eyes. The power of the imaging analysis software in the two studies is that it picked up 100 percent of the positive colonies, and more importantly, identified colonies that the laboratorian called negative by routine visual inspection. Currently, it is important to note that the software cannot be used without human intervention. But the benefit of this new technology is to help the laboratory professionals focus on the positives, by separating the negative results faster with the confidence that thresholds in the software are set to ensure that no true positives are missed.

*Figure 2. Chromogenic media detection.*
*Colony counting with growth, no growth discrimination*

Worldwide, urinary tract infections (UTIs) are one of the most common types of bacterial infections,[11] and urine specimens constitute one of the largest volume samples received in the clinical laboratory. The sets of rules for interpreting can be complex, as Faron, Buchan, and colleagues point out, "by several variables, including the presence of small numbers of colonies and the growth of more than one bacterial type."[12] The volume and complexity of urinalysis requires technical expertise and a significant amount of labor from the laboratorian.

Software provided by full lab automation that differentiates negative and non-negative urine cultures on blood and MacConkey plates saves the laboratory time and can reduce turnaround time. In fact, Faron and Buchan's powerful multi-center study concluded that "current software could improve laboratory workflow by removing 42.2% of urine cultures based on growth less than the laboratories' threshold.12" The considerable reduction of urine cultures would help laboratories cope with diminishing human resources. Also, the improvement in turnaround time may allow physicians to change the way they prescribe antibiotics for their UTI patients,[13] improving antimicrobial stewardship, which is a goal high on the priority list in almost every hospital in the country.

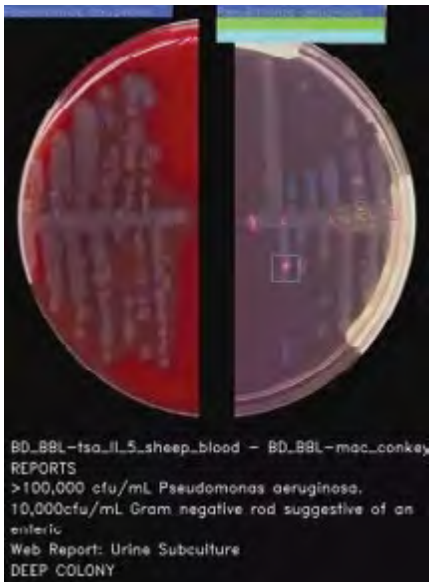


*Figure 3. Example of automatic phenotypic colony recognition on standard medium.*

## Phenotypic colony recognition and expert rules

Ideally, the software needs to be able to do both: count colonies and recognize the phenotypic characteristics of the colonies prior to applying user-defined expert rules (Figure 3 and Figure 4). The stepwise approach of the algorithmic process is explained in Figure 5. A recent study presented during 2017 ASM Microbe used the software to count colonies and classify them in category groups for urine samples. It asserted that "expert image analysis software is able to differentiate positive and negative urine cultures with a high sensitivity and negative predictive value. This allows for use as a screening tool to eliminate negative and normal flora and would be an effective mechanism to reduce unnecessary review of negative culture."[14] Once the mathematical colony enumeration and the query through the phenotypical database occurs, the system applies user-defined rules based on the specimen's source or location and the patient's demographic information.

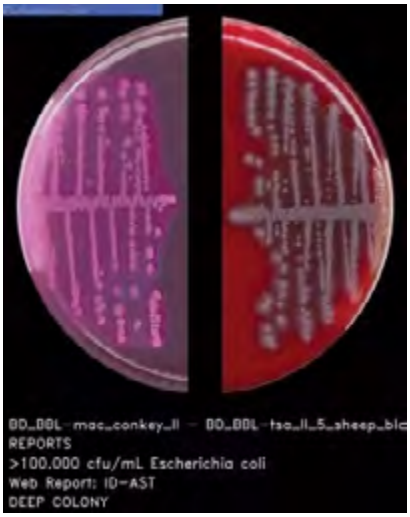


*Figure 4. Example of automatic phenotypic colony recognition on standard medium.*

This information is then presented for interpretation. For example, if the sample is a urine, from a female of childbearing age, and there are 10 or more colonies of what appears to be Streptococcus B, even in a mixed culture, the system immediately flags the sample and presents it to the laboratorian for further ID investigation (Figure 6).

The advancement and sophistication of image analysis,

through algorithms and AI, is a reality for adopters of full laboratory automation. AI will change the landscape of clinical Microbiology labs in the future. According to Faron, Buchan, and colleagues, some of the benefits of this technology include "decreasing turnaround time, especially in laboratories that are not open 24 hours a day and seven days a week; support of antimicrobial stewardship by allowing pharmacists and physicians to guide practices based on both patient health and laboratory results; and reduction of laboratory labor costs, as technologists would not have to view any plates with negative results.[9]"

These technological advances will never replace invaluable human skill and expertise. But they promise to help laboratorians improve their recognition in the healthcare environment and cope with the increasing pressure of improving patient outcomes, with increasing volumes, and fewer personnel.

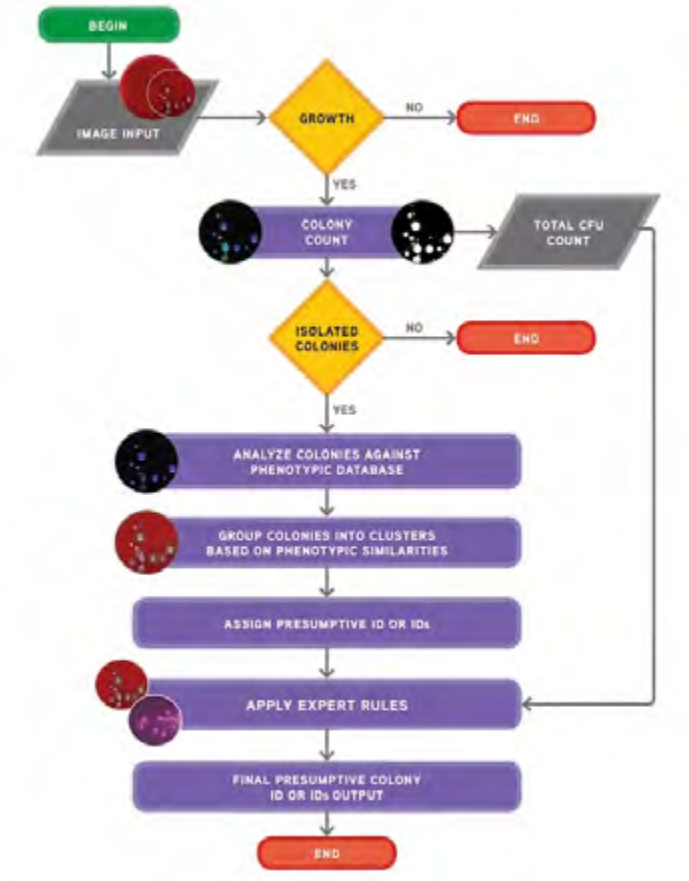


*Figure 5. Stepwise approach of the algorithmic process.*

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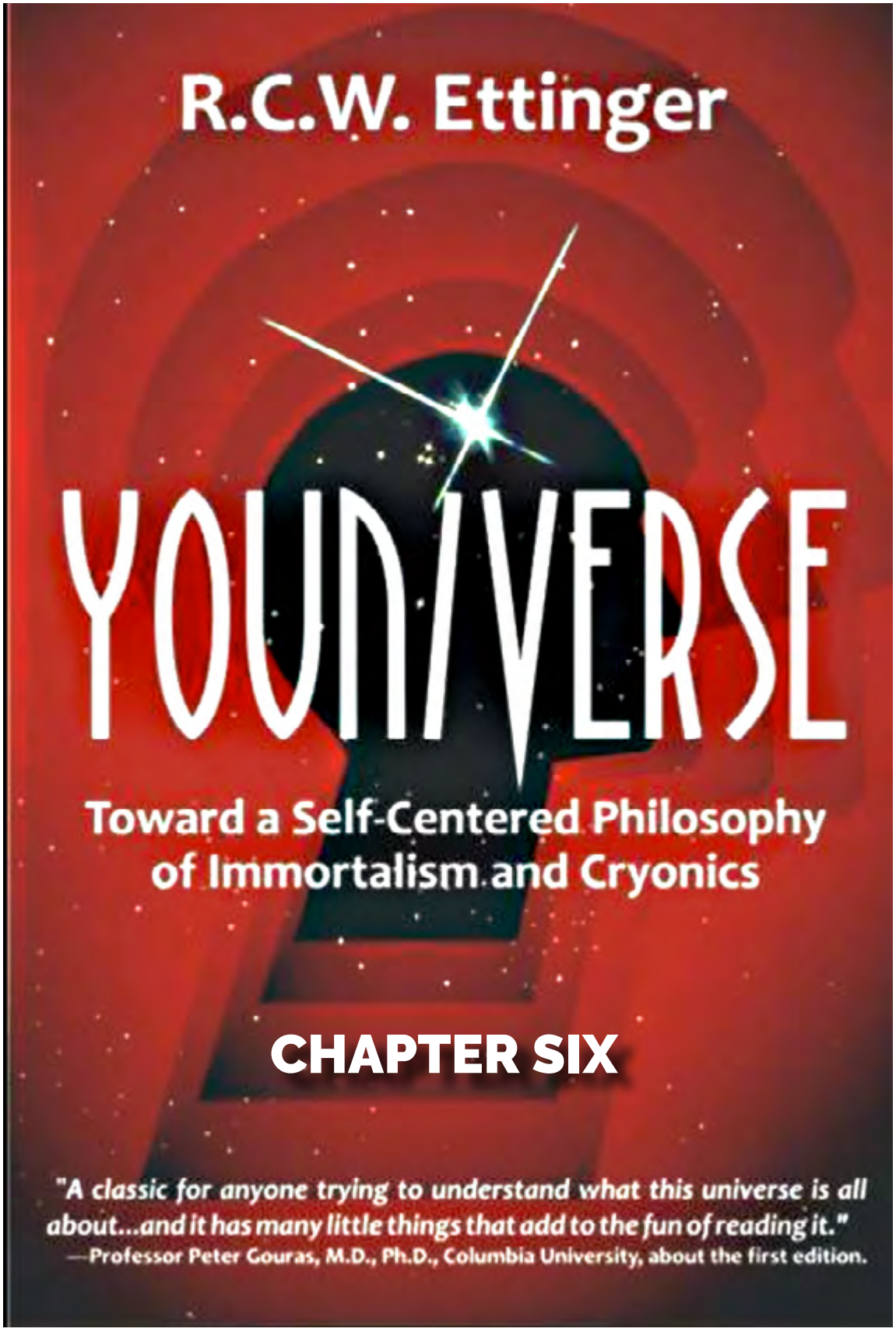
# CI Reading Room

*Serializing essential works on cryonics*



# Chapter 6

## Ethics 1: Interpersonal Morality

My primary concern is life strategy for the individual, and thus my focus is on personal values, not "ethics"-societal and interpersonal valueseven though these interact and overlap. But since I am trying to offer at least a sketchy overview of the main areas of philosophy, I'll present some brief comments. (I concede in advance that me-first and feel-good are valid criteria for choices only in a contemporary context. In previous eras, most people would often have done better to stick with tradition.)

The Golden Rule is common to many traditions, even if usually honored mainly in the breach.

Albert Schweitzer wrote that a man is truly ethical only when he obeys the compulsion to help all life that he is able to assist, and shrinks from injuring anything that lives. This goes beyond the common perception, and seems close to Jainism.

A succinct hint at mixed individual and societal values is found in the Talmud (Aboth, Ch. 1, Mishnah 14): "If I am not for myself, who shall be for me? If I am for myself alone, what am I?

This is just the traditional and more or less obvious common sense-that you have a right to defend and improve your situation, and also a duty to fill your roles in society and help others. However, we need a bit more detail.

***Principia Ethica***: In 1903, G.E. Moore published this book, which received rave reviews perhaps comparable to those for the Principia Mathematica of Whitehead and Russell. Keynes called it "the beginning of a renaissance"; Lytton Strachey said it "shattered all writers on ethics from Aristotle and Christ to Herbert Spencer and Mr. Bradley"; Leonard Woolf said it dispelled the "hallucinations in which Jehovah, Christ and St. Paul, Plato, Kant and Hegel had entangled us, bringing fresh air and the light of common sense." However, Moore was definitely confused as well as confusing, abounding in contradictions and non-sequiturs, sometimes substituting assertions for arguments. His claim to be the "first philosopher" to solve "the problem of ethics" reminds me of the title of Dennett's book, Consciousness Explained. As far as I can make out, the best parts of Moore are not original: (1) Utilitarianism has a major place in group morality. (2) There is at least some merit in his statement that personal affections and aesthetic enjoyments are the greatest goods. "This is the ultimate and fundamental truth of Moral Philosophy."

***The Moral Sense*** by James Q Wilson (Free Press 1995) offers a reasonable, if limited, view of morality. He thinks that most people share, partly through genetics and partly through training, some sense of duty, fairness and responsibility. Not long after the book appeared, "mirror neurons" were discovered that seem to be related to empathy, reinforcing the idea that our ethical sense is partly hard-wired in our brains. Once more, anything hard wired merits suspicion that it may sometimes be counterproductive for the individual.

**Robert Wright** says that we should look at moral axioms the way a prospector looks at

shiny rocks-with great respect and great suspicion, a healthy ambivalence pending further, and urgent, inspection. (The Moral Animal, Pantheon 1994)

**Technoethics: Let's begin near the end and look back later, since the techno/bio-ethical questions are likely to concern the reader more than others.**

**Bioethics:** The old saying has it: "Those who can, do. Those who can't, teach. And those who can't teach, teach teachers." In the medical/biological field, we have this rather recent irruption of a new type of vermin or parasite, the selfstyled bioethicist, the M.D. or Ph.D. who (in most cases) has nothing useful to contribute, but finds a comfortable parasitical niche complaining about the "ethics" of extending and improving human life.

Sure, there are exceptions --but mostly, as far as I can tell, among those who don't make their living as ethicists. A prominent example is Michael Gazzaniga, a cognitive neuroscientist at Dartmouth, and a member of the President's Council on Bioethics since 2001. I mentioned a bit of his work in Chapter 2. Peter Singer, mentioned in Chapter 1, is another exception.

Ordinary people usually find it simple to choose between life and death. After all, we evolved that way; each of us is descended from a long line of survivors-although also from a long line of self-deceivers, about which more is said elsewhere. With actual "immortality" now on the horizon-and even before -some have couched the choice in trenchant terms.

On W.C. Field's headstone, the story goes, is the inscription, "I'd rather be in Philadelphia." One of Woody Allen's lines about death is: "I don't want to live on in my works or my descendants. I want to live on by not dying." Also, "I want to live on in my apartment."

But now let's look at the idiot "ethicists" a bit. After all, they have accomplished something rather remarkable, viz., they give the illusion of looking down on people far above them. At least you have to give them credit for chutzpah.

One prominent well-known ethicist is Leon Kass, University of Chicago. He doesn't merit the attention, and his works don't merit being used in place of corn cobs at a slit-trench in the wilderness, but who knows, some long-suffering students may one day be required to study his arguments and their refutations.

"The Case for Mortality" is in The American Scholar 52 (2):173-191, 1983. A quote:

"To know and to feel that one only goes around once and that the deadline is not out of sight is for many people the necessary spur to the pursuit of something worthwhile."

Is this supposed to prove something? Aside from bypassing the wilderness of "worthwhile", he has merely asserted, not shown, that death is the necessary spur for anybody, let alone many. And even if that were true, what would it say about the "ethics" of compelling everyone to forgo extended life? It's just pompous hot air.

**More Kass:** I won't bother with the citations herethose interested can hunt them down, over decades and into recent years. Kass argues that even "modest enhancers" who say that they "merely want to improve our capacity to resist and prevent diseases, diminish our propensities for pain and suffering, decrease the likelihood of death" are deceiving themselves and us. Behind these modest goals, he says, actu-

ally lies a utopian project to achieve "nothing less than a painless, suffering-free, and, finally, immortal existence." This, of course, would be unnatural, undignified, unworthy, and inhuman, so there.

**Pinker on Kass:** A recent commentary on Kass and his ilk is in Steven Pinker's article, "The Stupidity of Dignity", in The New Republic of May 28, 2008. He refers to a 555-page report of the President's Council on Bioethics (of which Kass was founding director) titled Human Dignity and Bioethics. Pinker says seven of the essays align their arguments with religious doctrine, and include passages that assume divine authorship of the Bible and literal truth of biblical accounts of patriarchs having lived up to 900 years. Pinker also says Kass packed the Council with religious conservatives, especially Catholics-even though Kass himself is Jewish and most Jews, both clergy and laity, offer above-average support to life extension and its research. There is also a hilarious quotation from Kass on the revolting, dog-and-cat-like feeding habits of people who go so far as to lick ice cream cones in public!

**Gertrude Himmelfarb** is another thoroughly confused and inconsistent "ethicist" who has written for the Wall Street Journal and other publications. (Again, I won't bother with the citations; those interested can find them.) She nods pro forma to some of the good that technology has bestowed, but then reveals her chief concern -how far we may go in defying nature without "undermining our humanity." She says humans are "defined by" their mortality, hence should not entertain the idea of immortality even as a possibility. It's O.K. to "enhance" humanity, but not to "transcend" it.

**More of the Same:** Others in the Kass/Himmelfarb mold include Francis Fukuyama (Our Posthuman Future), Erik Parens of the Hastings Center (bio-ethics think tank), philosopher Carol Freedman (Williams College) and Margaret Little (Georgetown U.), and many others. Fukuyama's ramblings seem more or less typical, and he wants government regulation to allow some kinds of "therapy" but not "enhancement."

**Common Sense:** Nearly all technologies-agriculture, literacy, electric lighting, anesthesia, the contraceptive pill, psychoactive drugs, television -affect human nature in the sense that they change the rhythms of human life and widen the range of behavior in which people can engage. We are no longer tribesmen living in family bands of 20, hunting and gathering on the plains of Africa. Surely there have been significant changes in human psychology as a result of the development of civilization. In fact, changing human psychology might be said to be the whole point of civilization; some anthropologists speculate that civilization is a set of social institutions that exist to tame human, especially male, violence. Himmelfarb and Kass et al accuse those who favor biomedical progress of seeking immortality, as though that were a self-evident evil. But "immortality" is, in a sense, just a longer lifespan. Since 1900, life expectancies (although not life spans) worldwide have doubled, and most people think that achievement has been a great moral good. Using genetic techniques to increase human life-spans is not any different ethically from using vaccines, organ transplants, or antibiotics to achieve the same goal. Kass and Himmelfarb assert (with an intended air of authority) that human beings have been "defined by their mortality." But human beings are better defined by their unending quest to overcome disease, disability and death.

**Gender Selection:** It is now possible to ascertain the gender of a baby in the womb. This elicits the automatic response of some ethicists-if God had wanted us to know the sex of unborn babies, He would have created women with little glass portholes in their bellies. In any case, several methods are currently available to select the gender of a child-more about these shortly. But of course, the bioethicists have automatically lined up against the very idea, saying in effect, once again, "There oughta be a law!"

The ever-reliable viewer-with-alarm, the aforesaid Leon Kass, says that when the parents predetermine gender, "A child ceases to be regarded as a gift and more as a product of our desires." (Detroit News, Dec. 28, 2003)

Mind numbing, and the product of a numbed mind. "Gift" of course is spin-speak for "accident". Accidents are good

and choice is bad, he says, and seeking to obtain our desires is bad. A slight variation on the don't-mess-with-Mother-Nature mantra.

Choices can be mistaken, and risk is hard to eliminate. There is already a problem in China of too many boy babies. But leaving things to chance is also a choice, and seldom the best one. We got where we are by making choices, seeking what we desire, rejecting blind chance, and where we are is in most respects far better than where we were, over the generations.

At present, in the U.S., sometimes gender choice is more or less a medical necessity, since in some families there may, for example, be a risk of passing on a genetic disease or defect (such as hemophilia) to boys but not to girls. In such a case, choosing a girl is a potential blessing to the child and the parents.

The only current method guaranteed 100% successful in selecting gender is preimplantation diagnosis. Eggs and sperm are united in a Petri dish to produce several embryos, and one of them, verified to be of the chosen gender, is then implanted into the mother's uterus. This may cost as much as $15,000, and the implantation may still fail, and the unwanted embryos are discarded, which some would say is tantamount to abortion or homicide. This method is seldom used.

Then there is the "Microsort" method, available for humans since 1995, with a reported success rate of 91% for girls and 77% for boys. A centrifuge can separate male from female sperm, because the females are said to be about 3% heavier. Cost is reported as $2,300 per sorting.

Finally, there is the Ericsson method, reportedly offered in 42 licensed clinics worldwide. Sorting is based on the fact that sperm with the Y chromosome, which produces males, swim faster than the others. Success rate is reported as 73% for girls and 83% for boys. The cost is reported as $600 per insemination.

Needless to say, from the self-centered point of view, it's a no-brainer. Do what you think will make your family happier.

**Nanoethics:** Nanotechnology, we recall, is technology on the scale of nanometers. A nanometer is a billionth of a meter, and about ten times the diameter of a hydrogen atom. Molecules typically measure on the order of nanometers, so that is another way to think of it -technology on the molecular scale. A full-fledged molecular nanotechnology, as per Eric Drexler's Engines of Creation (Anchor Doubleday 1986) and later works, would include machines that repair themselves and

replicate themselves and manufacture other useful gizmos-just about any gizmo you might find handy around the house or on your person, or for that matter, inside your person to maintain your youth and health.

Kissin' cousins to the bioethicists or maybe Siamese twins -are the nanoethicists. These are the professional scaremongers who look aghast at nascent nanotechnology and holler you guessed it "There oughta be a law!"

Nobel laureate chemist Richard Smalley has been on both sides of the fence as a scientist, with respect to feasibility-at one point singing Hallelujah to the incipient glories of nanotech, at another point saying categorically that Drexler's assemblers are impossible. And this reminds us of Curtis Henderson's story of the "expert" who was declaiming to an early 20th Century audience at a barbecue, "Nothing heavier than air can ever fly!" As he was speaking, a pigeon flew over him and left a deposit on his hat.

As Dr. Drexler and many others have pointed out, there is a bit of a problem with the Smalley claim that nanotech assemblers and self-replicators are impossible. The problem, of course, is thee and me and that there tree and every little fly and flea. Nanoassembled and selfreplicated, all. It's called biology. Some of the itsy-bitsy machines used to manipulate the atoms are called ribosomes and enzymes and hormones and so on. And there isn't the slightest reason why nature should have a monopoly on such devices, why we can't make others, different and in some cases better.

There was a nice piece about the nanoethicists in Reason 12.03. (No, I'm not a Libertarian, but they sometimes have good stuff, although one must wonder about the common sense of people who put pages in a magazine with pink background, or white print on orange background.)

Anyway, one of the would-be regulatory organizations is the Action Group on Erosion, Technology, and Concentration (ETC), director Roy Pat Mooney. They want an immediate, comprehensive, global moratorium on the development of nanotechnology. Ominously, they are said to have some heavy backing, including the Ford Foundation and the Rockefeller Foundation.

Oddly enough, Mr. Mooney himself has waxed rhapsodic about the potential blessings of nanotech, saying that you could never be hungry, never be sick, have all the energy you need, all the water, all the food and no diseases. Further, he says that we have lived so long by the assumptions of Limits to Growth [the infamous and thoroughly discredited Club of Rome report, 1972], it is hard to contemplate alternative possibilities, but if nanotechnology is commercialized successfully, Armageddon may have to be put on the back burner.

In spite of all this, he and ETC and a proposed new International Convention for the Evaluation of New Technologies (ICENT) want to apply the Precautionary Principle as the guiding maxim, which says that governments should compel innovators to prove a new technology is harmless before it can be permitted. Others have paraphrased the Precautionary Principle as saying, "Never do anything for the first time."

Is it a teapot tempest? Is there the slightest chance that governments or pressure groups could shut down eager scientists and entrepreneurs? No to both, probably. Worldwide, and medium term, there is absolutely no stopping

it; the incentives are just too great. But locally (USA) and temporarily, there could be serious problems, as indeed there already are in biotech.

**Xenoethics:** According at least to folk religion among Christians, Moslems and Jews, as well as certain passages in scripture, God gave man dominion over the earth, and all other creatures are ours to exploit, e.g., for food or fur or as draft animals. They have no souls.

In recent centuries, in America and Europe, there has been more or less steadily rising sentiment for humane treatment of the lower orders.

**Are Dogs and Cats People?** Not only dogs and cats, but rats and pigs too, and birds and cetaceans, as well as nonhuman primates, certainly have both considerable intelligence and-indisputably-the capacity for subjective experience or feeling. This latter is the primary feature of life as we know it, the basis of consciousness, and it is clearly the most important criterion of personhood. I therefore assert categorically that all these creatures-and possibly others lower on the evolutionary ladder-should be thought of as people.

This does not mean that we should accord them citizenship or equal standing before the law, or equate their welfare with our own, or address them as Sir or Madam, or demand that they be clothed for the sake of mod-

esty. For the foreseeable future, such extremes are simply not feasible.

As a practical matter, there are rather narrow limits on what we can do, or are willing to do, even for distant humans. Eventually, however, we will need to assume more responsibility for our less fortunate brethren. Meanwhile, we needn't feel guilty if we care more about the welfare of our pets than of destitute humans an ocean away. They are all people, but charity begins at home.

**Animal Rights & Vegetable Rights-And Don't Forget the Minerals:** It's doubtless a good idea to honor the big-hearted, the empathic, the generous and to strive to enlarge those qualities in ourselves-within reason.

But it does seem a stretch to take care-as the Jains of India are said to do-not to tread on an ant or a worm and to hold all (animal) life sacred. I do believe the time will come-and not so far off either-when mammals and birds will no longer be raised for slaughter, but instead we will eat culture-grown meat that was never part of an animal.

Yet some go further and talk to their plants and aim eventually not even to eat vegetation. Call me backward, but I find it hard to get excited about the rights of spinach. Even so, I also agree that-eventually-we will match the plants in our ability to eat a mixture of sunshine, water, air and dirt. Maybe we will even learn to enjoy it and share recipes.

But wait! Maybe a rock has rights! In the world of political correctness, there are no "pets" but rather "companion animals". Probably there are those who think that a pet rock should be called a "companion". Hey, isn't it part of Mother Earth, or Goddess Gaea, even as thee and me?

**Adam MacElectrosap:** Perhaps the first "sentient" computer will be designated "Machine, Electronic, Sapient"-Adam MacElectrosap. Or, maybe Eve, or Lilith, if the voice is appropriate. Whatever. And if it doesn't immediately demand citizenship, someone certainly will on its behalf.

**Reminder-Bad Blood:** One of my main concerns is to spotlight the fact that we are often ill served by our instincts, intuitions and/or conditioning. Just about everyone these days knows about the "selfish gene" in theory, but few draw the necessary conclusions and act upon them

Evolutionary pressures tend to preserve behavior or proclivities that favor survival and proliferation of the individual's genome. This means, first, that evolution puts a premium on self-preservation. That is the first premium, but not the only one. Your genes will survive even if you die before reproducing, provided enough of your close relatives survive. Thus your genes may tend to be preserved if you have self-sacrificial behavior leading to survival of enough of your relatives, e.g., your tribe. In the most extreme case, a mother must feel protective of her young, whatever the danger to herself, because, even if she lives long, her genes will die out if she has no surviving young and not enough close relatives. (It's a quantitative question, as usual; a mother has the potential for several young, and if she sacrifices a couple of them to save herself, that may still be a satisfactory trade-off, from the standpoint of the evolution elf.)

What's in the blood and bone is also in the brain, in a manner of speaking, and if you protect yourself by suppressing your instincts, or even your conditioning, there may be dire inward consequences. The new morality is often tougher than the old, but the potential benefit may be more than commensurate.

**A Society is Not an Organism:** It is tempting but misleading to think of a society as an organism by analogy or metaphor, perhaps with people in the roles of cells in tissue, or neurons in a brain, or of ants in a hive. There are some partial parallels, and it may occasionally be useful to say, as a figure of speech, that a society "wants" something or "needs" something, apart from the wants or needs of the individual people in it. We may be tempted to think of the society as an "emergent" phenomenon, the whole greater than the sum of the parts. The temptation should be resisted, except perhaps in a very narrow context in specific cases.

**Society Against Itself?** If the first duty of society is to protect individuals against each other, and the second to help them cooperate, perhaps the

third is to protect individuals against itself, against society. This bears frequent repetition, since the lesson is so difficult for most of us. Arthur Koestler has commented on the defective wiring of the human brain, concluding that the aggressive, self-assertive tendencies in the emotional life of the individual are less dangerous to the species than his transcending or integrative tendencies. The number of victims of individual crimes committed in any period of history is insignificant compared to the masses cheerfully sacrificed in blind devotion to the true religion, dynasty, or political system.

**The Utilitarian Approach:** As far as I know, only one approach to the question of societal values has ever been suggested that is remotely reasonable, and that of course is the maximization of expected utility averaged over all the people in the society-as it was encapsulated by Francis Hutcheson, the greatest good for the greatest number. John Stuart Mill is perhaps the bestknown name associated with this concept. John Locke, David

Hume and Thomas Jefferson had similar

views.

At first glance, "utility" mystifies more than it clarifies,

and not only because it leaves "good" undefined. For example, suppose, for the moment, that we are thinking primarily of "goods" that are simple and obvious, such as security, health, wealth, and a reasonable degree of personal freedom. To begin with, we have to face the question of good for the present vs. good for the future, ourselves vs. our posterity. Maybe good for adults is at odds with good for children. What is best for men may not be best for women, and here the numbers are roughly equal. What is best for those of working age may not be best for the retired, etc.

But it's even worse, because not all goods are simple and obvious, and there are sharp disagreements. Louis XIV reportedly said, "l'Etat, c'est moi." ("I am the state.") Maybe a slight exaggeration, but in his mind, one cannot doubt, his welfare ought to rate higher than that of swarms of others from the standpoint of the society. When Napoleon's armies marched into combat, the battlecry was "Vive l'Empereur,"

and those shouting so bravely knew perfectly well that they themselves were meat for the grinder.

And then of course there is the perplexing problem of quantification. No easy way to measure utility comes to mind. The best things in life may not always be free, and if you look deeply enough, nothing at all is ever entirely free, but we certainly cannot use dollars as a universal quantifier, and science has not yet discovered the "happyon" or the "goodon". But we are getting closer, and will eventually understand the biological basis or bases of value.

True enough, the problem won't end there. Even if we thoroughly understand the workings of the psyche, it's a moving target or a feedback situation. As repeatedly mentioned, we need to know not only how best to satisfy our current wants, but how to shape or modify those very wants. We need to figure out not only what we want, but what we ought to want, and how to modify ourselves accordingly.

Are we at an impasse? If individual wants are poorly understood and without consensus, and yet the purpose of society is to help satisfy individual wants, how can Utilitarianism find a map or compass?

The answer seems to be that we just try to muddle through, keeping our claims modest and our antennae erect. One way to do it is what has always been done-take the majority tradition as a starting point and then modify it as new information or new voices or changing balance of forces may seem to require. But we want to go a little further, so we need to look at some possible rules.

The main rule proposed by most writers seems to be that of equality-a societal "good" must be good for everyone. There is no good whatsoever that fits this mold perfectly, but let's try to find some goods that in principle might come close.

How about protection of life? Are all murders equally reprehensible and all lives equally worthy of protection? Obviously not in the minds of most. We spend a lot more tax money to protect some than others, and juries don't think a "mercy killing" is in the same category of guilt as a hired hit. So the most basic right of all, and the one named first as a blessing in

the Declaration of

Independence the right to life -is not clearly a candidate for the "equality" stamp.

The second blessing-and the one named first in the French revolution-is liberty. This more or less passes the first cut, since our guarantees of freedom of speech and religion, and freedom of movement, apply to men and women, rich and poor. But they don't always apply to children or other dependents; and one could also say that "freedom of speech" has substantial political meaning only for those who can make themselves heard.

More generally, "rights" are often only nominal or potential. What it says on some document and what happens to you may have little in common. In many cases, your "right" exists only if you know about it and have the resources to claim and defend it. There is no ombudsman readily available to hear your complaint and act for you.

The third blessing, the pursuit of happiness, is the killer. No one knows fully and accurately what he/she wants, let alone ought to want. Satisfaction is a sometime thing, and this whole book is an attempt to begin to get a handle on it.

Finally, a brief note about what David Pearce has called "negative utilitarianism", which I think is an inapt label. His point is that the usual (somewhat vague) characterization of utilitarianism is "the greatest good for the greatest number," which in some scenarios might require misery for relatively few in order to allow greater satisfaction for the many. Pearce and others would not countenance this. Most practical questions of this sort do not seem imminent.

**Hobbes:** Thomas Hobbes' Leviathan was first published in 1651, and J.C.A. Gaskin, who edited one of the versions (Oxford 1996), has called it "...one of the most powerful, influential, and eagerly refuted books ever written, and the only work in English on political philosophy that ranks with Plato, Aristotle, Hegel, and Marx." I call that damning with faint praise, although Prof. Gaskin didn't intend it as such, since all of those named were mostly wrong, with the real contributions of Plato and Aristotle being in different areas.

Where Hobbes does deserve praise is in his general outlook, both in nature and sociology, the former being a one-world realism similar to that of Democritus and Epicurus, the latter similar to the utilitarianism of Bentham, Hume, Mill and others.

The name "Leviathan" refers to a huge creature, a state or society, also called an "artificial man" because of the temptation to think of it as an organism in its own right. But Hobbes begins with the individual, and comes close to what some like to call "egoism" (often pejoratively) or "hedonism." For example:

"Every man is desirous of what is good for him, and shuns what is evil, but chiefly, the chiefest of natural evils, which is death; and this he doth, by a certain impulsion of nature, no less than that whereby a stone moves downward." A slight exaggeration, since the stone always falls if let go, whereas the human does not always shun death-but basically correct, and unpopular and misunderstood to this day.

Being ignorant of evolutionary psychology, Hobbes was a bit off the mark in assuming that "natural" man was a purely savage brute, but he did correctly analyze the basic relation

between individual goals and those of society, viz., that in most cases the individual needs the support and protection of society, and to gain it he must enter a compact to limit freedoms he might otherwise have. The society or state, in its turn, must attempt to maximize the good of all its constituents-a formidable task still being investigated and argued.

**Rousseau:** Jean-Jacques Rousseau has been extravagantly praised, and not only by himself. Will and Ariel Durant titled one of the books in their history of civilization Rousseau and Revolution, and wrote that Rousseau triumphed over Voltaire, revived religion, transformed education, elevated the morals of France, inspired the romantic movement and the French Revolution, influenced Kant, Schopenhauer, Schiller, Goethe, Wordsworth, Byron, Shelley, Marx, Tolstoi, and generally had more effect upon posterity than any other writer or thinker of the eighteenth century. That the influence was mostly posthumous was his misfortune; that the influence existed was perhaps the misfortune of many.

In any case, Rousseau may have been the first to popularize the words "Social Contract", and he did have considerable historical influence, although his thinking was not at all original, nor profound. He wrote that the problem is to find a form of association that "will defend and protect the person and goods of each associate, yet in which each may still freely obey himself alone." The terms of this form of association constitute the Social Contract.

However, in spelling it out, he is often arbitrary and frequently wrong, and even his defining sentence above is incoherent. As just one example among many, he wrote that, other things equal, that government is best under which the citizens multiply most-population growth as a criterion of good government.

**Nicomachean Ethics:** The ethics of Aristotle did not clearly distinguish between good for the individual and good for society, but entailed an assumption-prevalent to this day --that the two coincide, or ought to be seen as coincident. Happiness is the only good in itself, or final end, according to Aristotle. All other goods are means to ends, or a combination of ends and means. This is clearly correct from my point of view, but also clearly incomplete and vague, as it had to be in that era. And in this statement, he is adopting the individual standpoint, even though the main weight of "ethics" is on interpersonal relationships. "[Happiness] we choose always for itself and never for the sake of something else, but honor, pleasure, reason, and every virtue we choose indeed for themselves (for if nothing resulted from them we should still choose each of them), but we choose them also for the sake of happiness, judging that by means of them we shall be happy. Happiness, on the other hand, no one chooses for the sake of these, nor, in general, for anything other than itself." So far so pretty good. He is more or less embracing what I would call the pleasure principle. But he does it gingerly and with a disjuncture between pleasure and happiness, implying that "pleasures" are either "merely" physical or else minor, and that "happiness"

is some kind of summation of pleasures/pains, with more con-

sequence given to the "higher" virtues of the "soul". He can't be blamed, since neuroscience was undreamed of and his generation could not conceive of biological reductionism in the context of human thought and emotion.

He recognizes the need for closer examina-

tion, but goes on to ask what the "function" of man may be. He assumes it must be something lacking in lower life forms, and use of the word "function" suggests something imposed from without, something vaguely like the "natural law" of the Catholics. He says the function of a good man is "a certain kind of life," activities implying a "rational principle" leading to "good and noble performance" of the appropriate activities. But "appropriate" and "good" and "noble" are left as undefined terms. All this is really just fancy talk boiling down to, "Do as I say and as tradition says is right."

In his ramblings, Aristotle also writes that "... some identify happiness with good fortune, though others identify it with virtue." The necessity of good fortune is illustrated by reminders that it is difficult to be happy if you have misfortunes such as bad children or bad friends or an ugly appearance or loss of family and friends through death.

The role of virtue is alluded to in the inscription at Delos: "Most noble is that which is justest, and best is health; But pleasantest is it to win what we love." It seems strange to us to call health a virtue, since unlike the Greeks, we associate "virtue" usually with good behavior or a propensity to good behavior, not such things as luck of the draw in anatomy.

The last statement is easy to understand: If not the pleasantest thing, at least one of the pleasantest is to achieve something, meaning to gain what you wanted and worked or fought to attain. In Maslow's terms, this would be one of the varieties of self-actualization.

**Continuing the Tradition:** Most philosophers of ethics have continued the Greek tradition, using ponderous locutions to justify traditional values and to "prove" that the individual's "real" happiness is to be found therein.

Jewish and Christian theologians have emphasized that

the "real freedom" and the deepest satisfaction are found in obedience to God's law. (Yes, obedience is freedom-Orwell had antecedents.) Kant had his "categorical imperative" or innate knowledge of the right. Some version of the Golden Rule is often invoked. To give is to receive, and so on.

These pronouncements have a degree of truth, or occasions of truth, as we all know from personal experience. Doing "right" and being "good" often have their rewards, external and internal, immediate and deferred. Dudley Dooright is probably happier than Snidely Whiplash. But that is only part of the picture, and not always the most important part.

Walter Lippmann's A Preface to Morals was published in 1929 and had its 25th printing in 1967. He remarks that hedonism is a dead end that failed in Greece, a barren superficiality that failed again in the modern world under conditions more favorable to it, such as birth control and the withering away of ecclesiastical authority. But it wasn't hedonism that failed -rather, an overly narrow interpretation of it and the lack of tools only now beginning to become available.

As intimated, Lippmannalong with most others—simply tried to show that we are well advised to cultivate the traditional virtues, among which he includes courage, honor, faithfulness, veracity, justice, temperance, magnanimity and love. These are generally qualities that we admire in others and hope to nurture in ourselves, to be sure. But the crucial questions are when, where and how much,

and no real answers are offered, or even any systematic way of seeking answers. Courage is desirable, but so is prudence, and most of us don't reserve our respect only for the hero. Quest for the best may vitiate respect for the good. Veracity is a good habit, but in some situations the worst thing to do is blurt the truth. Justice has a nice ring to it, but both sides of any quarrel are likely to claim it. It just ain't that simple.

**Ayer's Error:** Alfred Jules Ayer-along with Carnap, Gödel, and others-was a member of the Vienna Circle in the 1920s, and a prominent spokesman for logical positivism (which he modified to "empiricism"). He made some good contributions to the development of philosophy, and is still worth reading. But he erred in insisting that value statements are not real propositions; he said they cannot be verified or falsified and therefore have no meaning.

He would not deny that some types of value statements (this or that is right or wrong, good or bad) have meaning when taken in context. For example, someone might say that it is wrong to sell cigarettes to children. With the understanding that protection of children's health is an agreed good, then (other things equal) it is wrong to do anything that is likely to undermine children's health. Whether it is wrong to sell cigarettes to children then becomes a matter of empirical fact, which in principle can be verified or falsified.

What he does deny is that there is any meaning in statements involving only ends and not means. If protection of children's health is considered an end in itself, then, according to Ayer, the statement has no essential content; at most it is only an expression of someone's attitude and basically arbitrary. To say, "This is right," is only to say, "I think this should be done," or, "I like it when this is done."

The arbitrariness of values is widely rejected in some areas, embraced in others. Very few will claim that the values of a sadistic murderer are as well founded (or as ill founded, or unfounded) as those of a saint. Yet many insist that "everyone is entitled to his own opinion" and are willing to make broad allowances therefore, especially if they themselves do not feel threatened. And a majority of scientists still say that values are outside the province of science. Ayer and his cohort were wrong because there are, in fact, some clearly valid ends, subjective but also objectively rooted in biology. For the individual, the most basic ends involve feeling good, and for a society, the most basic end is to raise the general level of feel-good for the people in the society. Many questions and difficult problems arise as a consequence, but those are "merely" practical matters.

**John Rawls:** A semithrowback to Kant, Prof. Rawls (who died in 2002) is perhaps best known for his books A

Theory of Justice and Justice as Fairness, as well as the many published papers and articles that preceded and followed. What he called "justice" and "fairness" and "morality" may be included in what I call ethics, the normatives of interpersonal and societal relations.

His basic idea, like that of Kant, was first of all that people (at least normal adult humans) share a sense of what is right, and this sense is reliable, or at least tends to be. The problem was that we sometimes become confused by the complications and by self-serving propaganda of various kinds. He therefore goes on to straighten it all out, more or less, with some

suggested principles.

My own summary of his principles is that we should modify utilitarianism so as to assure everyone certain "inviolable" basic rights, regardless of personal defects or incapacities. In addition, gains to society as a whole must not be at the expense of particular members or classes -mainly, economic gain of the community must not come at the price of loss to the poorest segments. Protecting the weakest and poorest is essential.

My objection to all this (setting aside my focus on the individual who makes the choices rather than on society) is not primarily the conclusions, but the methodology, or its lack. There just isn't any solid logic or philosophy or rigor behind it.

Marc Hauser: Harvard's Hauser pays tribute to Rawls, but tries to erect a scientific scaffold for his ideas. According to Hauser (Moral Minds, Ecco 2006) we are born not with innate moral principles, but with the genetic capacity to develop moral principles as influenced by culture and personal history. He makes an analogy: We have a built-in capacity for language, even though we may acquire or develop many different specific languages. Further, this moral underpinning is not accessible to consciousness, and can only be studied indirectly, as through evolutionary biology and psychological experiments. The problem here is that the basic statement is virtually empty. That we are inherently capable of learning or developing anything that we do in fact learn or develop could hardly be more obvious. (cf the Anthropic Principle.) Again, psychologists and evolutionary biologists can make, and have made, interesting and sometimes useful contributions to our understanding. But that isn't philosophy, and at the root level, it isn't physics or biology either. To reprise yet again, what we as individuals want-from a "moral" perspective or any other-is just to feel good, or better, or not so bad. The physiological basis or bases, the nature of qualia-this remains unknown and in need of attention.

**Kwame Anthony Appiah** is a professor of philosophy at Princeton, and his 2008 book (Harvard U. Press) is called Experiments in Ethics.

While tedious at times, the book is not hard reading, although you may have to look up or intuit a word here and there. (How many people know what sfumato means, or aretaic or deontic or alethic?) Since he seems to be as familiar as anybody with both ancient and recent thinking on morality/ ethics, it may be worth looking at his conclusions.

His main merit, as I see it, is that he acknowledges uncertainties and the need for ongoing research, and is readier than many philosophers to accept the relevance of science to ethics and the possibility of ought from is, of ethical consequences of objective facts. He agrees that intuition can be deceptive and that traditional views can be inappropriate to your time or your person. He says we should "remove the wedge between 'moral' and 'science."" On the other hand, his bottom line, although hedged, is the traditional rejection of the centrality of feel-good and the primacy of the individual. He thinks a sinner's life is made less successful, whether he knows it or not and whether nor not he thinks he is happy. This is again mere confusion.

Appiah does not omit arguments similar to some of mine for the exclusivity of self interest, but in repeated and varied ways, he comes

down for the traditional notion of "authentic" self interest, insisting that a "good" life is "better" than a happy one. To sell this idea, he employs some of the flawed arguments I discuss elsewhere, such as the Experience Inducer of Peter Unger, Robert Nozick, and perhaps others.

**Privacy Issues:** The tension between privacy and security continues in the 21st Century, with no signs of abatement. On the one hand, if responsible authorities have more snooping power, citizens can expect better protection from criminals and terrorists. On the other hand, many value their privacy and don't put much trust in "authorities" who might abuse their powers for coercion or blackmail.

During the first two (Republican) administrations of this century, the balance tended toward more governmental snooping power, with tugs-ofwar in the courts and in the public relations arena involving, among others, activities of the National Security Agency and the Department of Homeland Security. The current Democrat administration is thought likely to require more regulation and oversight and curtailment of official snooping.

Of course, I can't predict or even recommend official policy, but I can make some guesses about a few developments. One guess is that there will be more of both surveillance and "sousveillance" (bottom up, or snooping by private citizens). I think the latter is definitely to be desired, and some of the former as well, as follows in part. Automated road surveillance has been pioneered in Britain, with apparently good results. Brits have been surveilling public roads and plazas with camera networks, and in 2006, it was reported that they could find just about any moving car, anywhere, anytime, and among other things, they caught some terrorists that way.

Arguments against the U.S. following this example are several. One is that Brits are more docile than Americans and less protective of personal freedoms. Some say that their citizens are disarmed and their regulators run wild. If a Brit has a house to sell and a willing buyer, they can't just make their deal. They are effectively compelled to use all kinds of professional leeches. Estate agents and solicitors and appraisers and inspectors and God knows what, at a cost of maybe 50% of the value of the property.

The key points seem twofold to me. First, nobody objects to having more police in public places, except for the cost. And nobody objects to citizens reporting to police what they

may happen to see. And nobody objects to having traffic lights instead of arm-waving directors of traffic. So what's wrong with more automated surveillance of public places?

Also, think about a very small town, a village, or a hamlet. Say a dozen houses and a few dozen people. Everybody knows everybody and any movement or activity is likely to be noticed by a neighbor. Does anyone think that is a bad thing? I doubt it. More likely, it is welcomed as a safety measure. If you get in trouble, a neighbor will notice and help you. Maybe the gossip factor could be annoying sometimes, but that's not a big deal. Anyway, the fear of gossip could be one of the more important motivations for good behavior. The second point is that, willy nilly, individuals will increasingly use private sousveillance to protect themselves. There is no chance of a law to prevent you from mounting security cameras around and in your home or business. These devices will sooner or later include audio pick-

ups, and, eventually, olfactory recordings that will allow positive identification of anyone in the vicinity. Recordings will be continuously transferred to a remote location for secure storage.

**Next Issue:**

*Chapter Seven: Ethics 2 - Law*

# 10 Worst Mistakes in Cryonics

## Don't ruin your chance for a succesful suspension

### 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/**

### 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

### 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

### 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/

### 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

# 10 Worst Mistakes in Cryonics

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. See https://www.cryonics.org/resources/protect-yourself-from-legal-threats

## 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 then 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 also 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.

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# Bulletin Board

## 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

## CRYONICS QUESTIONS?

*Need some help with your membership?*

*Want to understand your suspension options?*

*Need to fill out important cryonics paperwork?*

## CONTACT US!

*Our team is here to help.*

**1-(586) 791-5961**

## FREE Memberships?!!

*Did you know the Cryonics Institute offers FREE LIFETIME Memberships for minor children of paid Lifetime Members? Any minor children (under the age of 18) of fully-paid Lifetime Members are eligible for a permanent Lifetime Membership of their own. If you'd like to give your children the priceless gift of a second chance of life with you in the future, please contact us at 1 (586) 791-5961 and ask about Lifetime Membership Benefits.*


Show the world you support cryonics with CI gear from our **Cafe Press store**.


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