

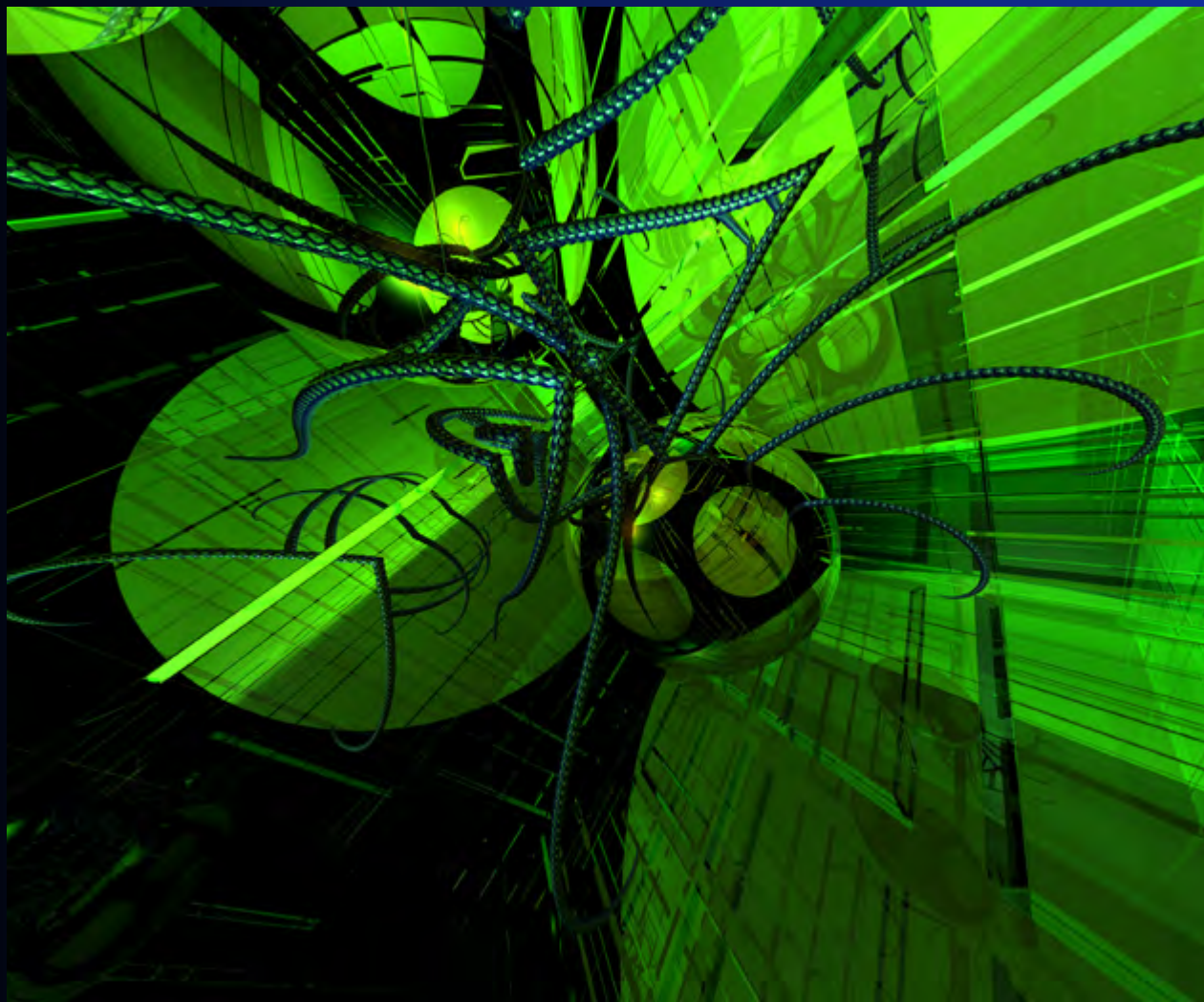
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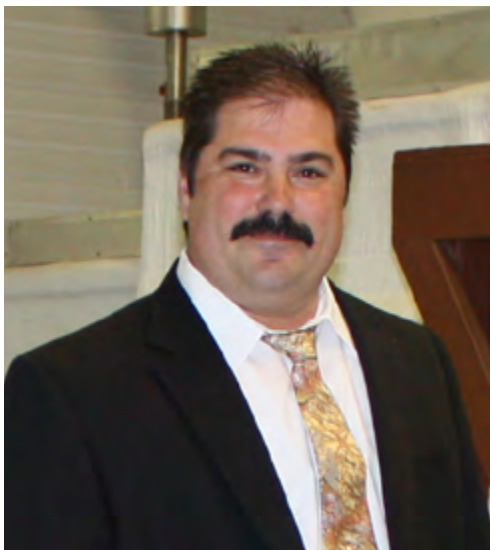
ISSUE 03 | 2021

CRYONICS INSTITUTE

NEWSLETTER

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





Hello Everyone,

2021 was a difficult year in a lot of ways, but things are looking good for CI as we near the end of 2021. Our financial position is as strong as ever, we have no debt, a lot of the bigger jobs have been done revovating our new facility CI West, we hired a new employee and membership and patient numbers continue to grow. In fact, we crossed the 2,000 mark for members and the 200 mark for patients this year. So we have a lot of reasons to be optimistic heading into 2022.

Many of those details were covered at the 2021 Annual General Meeting held September 12 at Infinity Hall in Fraser MI, a few miles from our facilities in Clinton Township.

This was our first year back to in-person meetings, having gone totally virtual in 2020 due to the pandemic. We did not see quite as big of a turnout in person as in previous years, most likely due to lingering COVID concerns, but we still had between 30 and 40 people who made the trip to Michigan for the meeting. Thanks to everyone for attending!

Also, a big thanks to everyone who attended via our Zoom simulcast, which can be seen on our website and on [YouTube](#). Despite technical issues and unexpected set-up challenges we did manage to pull off simultaneously broadcasting live and remote feeds both onscreen for in-person attendees, as well as for everyone on the livestream. I do

want to apologize for the poor audio and other problems, but lessons learned so we will do a better job next year, hopefully including better interaction with the virtual attendees. I would also like to give a special shout out to new members Lauren and Ian, who stepped in during the break and helped fix our remote audio problems. If anyone out there is an A/V Wizard and would like to help with next year's presentation, please contact dg@cryonics.org.

In spite of the techincal issues we still had about 125 people on the stream, so our total attendance was approximately 150+ people - a respectable number to be sure, and I was happy we had a good turnout. I hope next year we can get more people involved, especially in person as it is always great to meet and talk with current, new and prospective members. I always look forward to the Annual Meetings and besides all the work involved we do find time to socialize, network and relax which is always fun. So I encourage you to consider attending in person next year.

This year we had the opportunity to meet some new young CI members who joined us in Michigan. It's great to see enthusiastic new members, and especially younger members who are the future of the organization. These are the people who will potentially be future directors, steering our organization and looking after many of us after we have been cryopreserved, just as we are the stewards of the generations of cryonicists that came before us.

It's important to remind everyone that CI is a completely member owned and operated organization, and as such, our Board of Directors is selected from members like you. These are the people who make the critical decisions regarding the organization, so we need to consider who will be in charge of CI in the future. If you are interested in a possible leadership role with CI, whatever your age, younger or older, please don't hesitate to contact one of the Board Members or myself. We obviousy have an eye on the future and are more than happy to discuss what is involved, and to help guide the right people concerning potential future roles at CI.

It is a big responsibility, but I can personally attest that it is a

very rewarding one as well.

Speaking of Directors, we announced the results of the 2021 election at the meeting, which are as follows:

Current Board Members were all re-elected, which I believe is a testament to the great work and dedicated service they have provided CI during their terms. Congratulations all!

Connie Ettinger: 105 Votes

Paul Hagen: 67 Votes

Pat Heller: 77 Votes

Joe Kowalsky: 121 Votes

Newcomers this year included:

Shannon Blevins: 24 Votes

Nicholas Lacombe: 55 Votes

Arthur B. Zahreciyan: 39 Votes

A big thanks to all of the challengers who threw their hats into the ring. Even though they weren't elected this round, this kind of dynamic competition helps keep the organization strong and we appreciate them putting themselves forth for consideration.

Speakers for the meeting included:

Dennis Kowalski, CI President.

Mike McCauley, CI Facility Technician: New Facility Update

Paul Hagen, CI Director: Cryonics Institute Financial Statements review.

Steve Luyckx, CI Director: Accounting for Laymen - an overview of CI's financial investments and how to read the

balance sheet.

Joan Runkel - Daughter of Walter Runkel, co-founder of the Cryonics Society of Michigan: - historical photos and stories.

Joe Kowalsky, CI Director: The Cryoprize Initiative

Aaron Drake, ICE International Cryomedicine Experts: Standby options and procedures.

York Porter, President Immortalist Society: (The I.S. annual meeting is conducted directly following CI's AGM.)

Please take the opportunity to review the full AGM for yourself on our website or on our YouTube channel.

In closing, I am sad to announce the passing of CI Vice President Alan Mole after a long illness. Fortunately, Alan was successfully cryopreserved and I'm hoping to see him again in the future with everyone else. A special tribute to Alan appears later in this magazine.

Due to Alan's passing, the vacant position of Vice President was filled by long-time director Steve Luyckx. CI's bylaws give direction for filling vacant board and officer positions, and in this instance, considering the important role of the VP for succession purposes Steve ran for and was elected to be CI's new Vice President in the annual officer election that is filled by the sitting board. Steve has excellent experience and respect on the board and he is a very welcome asset. I am glad we have him. Also following CI's bylaw direction- Alan's separate board position will be left open until his last term concludes in 2022 when we will conduct a regular election.

Best wishes to everyone,

Dennis Kowalski - CI President

CRYONICS INSTITUTE MAGAZINE

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ARTICLE SUBMISSIONS

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

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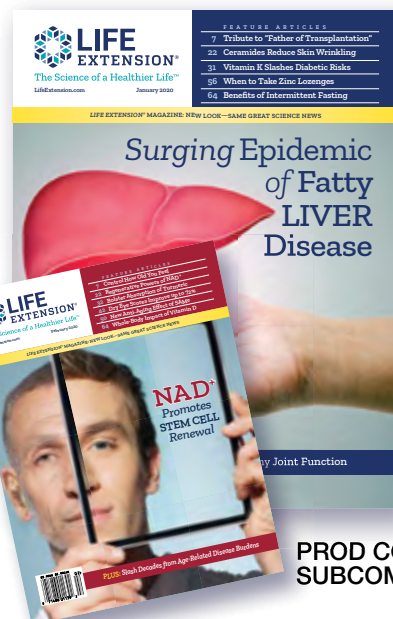
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Membership Benefits

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

4) **Lower Prices for Spouses and Children**

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

5) **Quality of Treatment**

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

6) **Standby Options and Assistance**

CI's use of Locally-Trained Funeral Directors means that our members can get knowledgeable, licensed care. Or members can arrange for professional cryonics standby and transport by subcontracting with [Suspended Animation, Inc](#) or [International Cryomedicine Experts](#) (I.C.E.) CI also offers Standby

Training Materials and Kits for members who choose to perform Local Standby.

7) **Affordable Funding Options**

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

8) **Cutting-Edge Cryonics Information**

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

9) **Helpful, Professional Support**

CI's professional staff is available to answer any questions and address any concerns you may have about CI, your membership or Cryopreservation.

10) **Additional Preservation Services**

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

11) **Support Education and Research**

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

12) **Member Ownership and Control**

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



To get started, contact us at:

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

Visit us online at www.cryonics.org

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 than 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



**2021 Cryonics
Institute Annual
General Meeting**
SUNDAY - SEPT 12, 2021



CI NEWS

What's happening at the Cryonics Institute



**2021 Cryonics
Institute Annual
General Meeting**
SUNDAY - SEPT 12, 2021





CI Board of Directors: Election Results

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

Officer Positions are voted on by the elected Board Members, including the position of President.

The new 2021 Term CI Directors as selected by the Membership are:



Connie Ettinger
Contract Officer



Paul Hagen
Director



Pat Heller
Treasurer

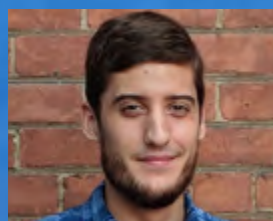


Joseph Kowalsky
Assistant Secretary

Runner-Up Candidates.



Shannon Blevins



Nicholas Lacombe

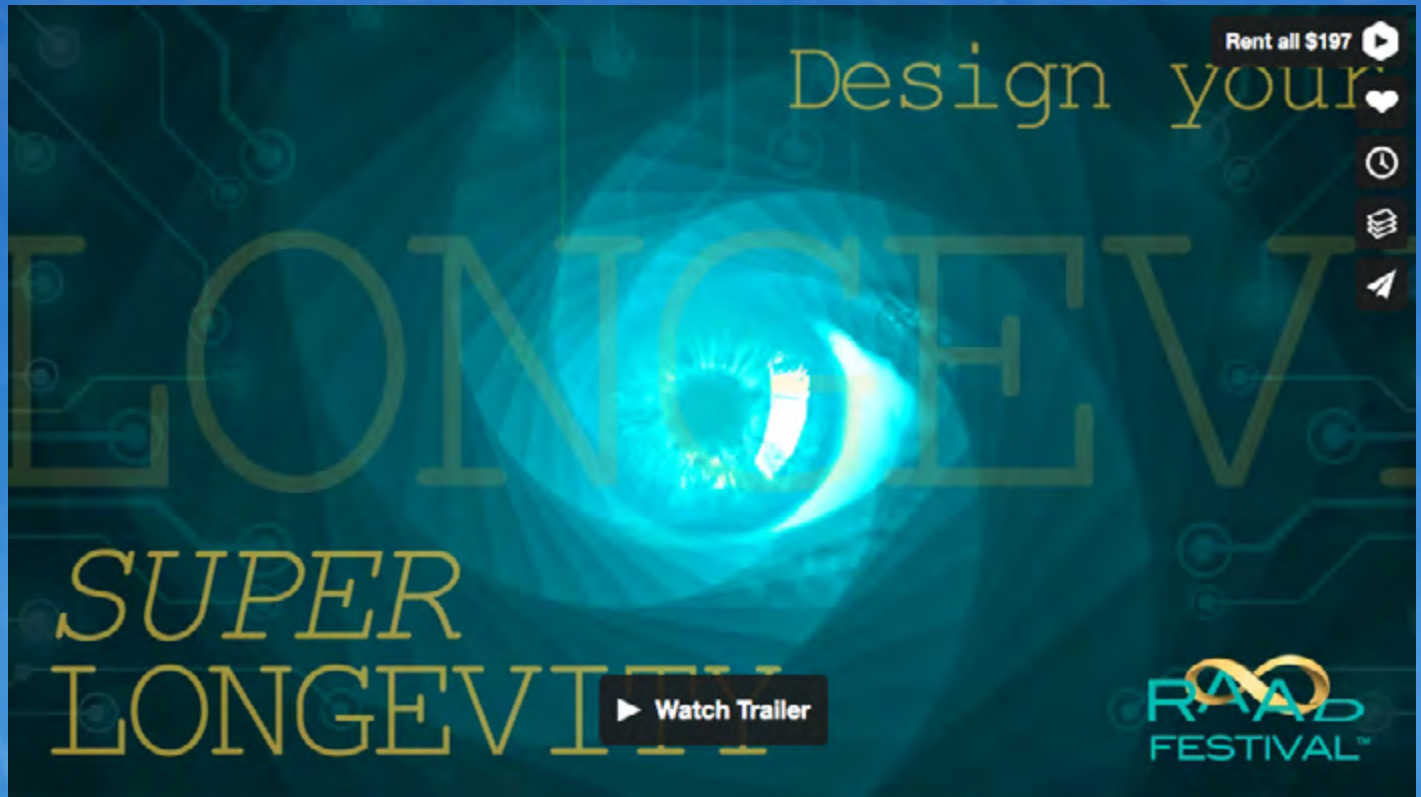


Arthur Zahreciyan

Congratulations to the winning candidates and thanks to the runners-up who campaigned for Board Positions.

CI NEWS

What's happening at the Cryonics Institute



View the 2021 RAAD Festival online

For those who didn't get a chance to attend this year's RAAD Festival October 1-3, (Revolution Against Aging and Death) the entire program is [available on demand at Vimeo](#). The cost is \$197 for a full year of access to all 48 episodes covering the entire conference.

RAADfest, founded in 2016 has rapidly taken its place as one of the premier longevity events in the world, presenting the latest strategies and findings from the brightest innovators in the super-longevity industry.

For more information on longevity advances and researches, check out the [Coalition for Radical Life Extension](#) website.



TransVision presents the latest developments in robotics and Artificial Intelligence

Spain hosted the global future summit #TransVision on October 8, 9 and 10, 2021. Humanity+ was the main international organizer of this international event. Following the event attendees were invited to group tours to visit to UNESCO World Heritage Sites around Madrid: Alcalá de Henares, Aranjuez, Ávila, El Escorial, Segovia y Toledo.

The topics covered included recent medical advances, to artificial intelligence and robotics. The first keynote speakers was the world famous Ray Kurzweil and Aubrey de Grey. Additionally, #TransVision 2021 featured other keynote presentations from futurist movement pioneers Max More, Natasha Vita-More, Ben Goertzel and Anders Sandberg, members of Humanity+ and other leading institutions.

#TransVision 2021 collaborates with leading organizations working on futurist concepts such as life extension, artificial intelligence, robotics, nanotechnology, space travel, human enhancement, blockchain and other future technologies and trends.

To view the conference (Spanish language) please visit: <https://www.youtube.com/watch?v=zbDR9d7NTYE>



José Luis Cordeiro talks to Sophia. Photo Courtesy of [Transvsion Madrid on Facebook](#).



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 requirements 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!





Minnesota Cryonics Rapid Response In the News

The Minneapolis Star Tribune's "Curious Minnesota" column recently featured MCRR, the standby organization we reported on earlier this year. The story was titled "Frozen for the future: Does Minnesota have any cryonics facilities? - A number of Minnesotans have made plans to be frozen, and a passionate group of cryonics enthusiasts is trying to ease the transition."

The Star-Tribune's "Curious Minnesota" feature answers questions posed by readers and we're excited someone asked specifically about cryonics facilities, especially in the Midwest. It's a solid story with quotes from both Chris Peterson of MCRR and CI President Dennis Kowalski. Kudos to The reporter, John Reinan for reaching out to us at CI to insure accuracy, and the story comes across very upbeat.

Let's hope this trend of positive reporting continues and we can continue to get out the word about Cryonics!

The complete story can be seen [here](#)

MCRR's website can be found [here](#)

CI NEWS

What's happening at the Cryonics Institute



New Facility



*Finished exterior and
re-paved parking lot*



The new facility presently only has two cryostats (both operational and ready to receive patients,) with plenty of space to add cryostats and grow for the future.



Closeup of the temporary bulk nitrogen tanks. Early next year we expect delivery of our new bulk tank to be placed on the freshly-laid slab in back. We will also be adding LN2 delivery pipes and lines to accommodate multiple cryostats.

A Tribute to Alan Mole

And lessons we can learn from his Cryopreservation

Robert Alan Mole provided dedicated service to the Cryonics Institute for many years both as a Director and as the Vice President of the organization. He will be missed.

Alan was born in Baltimore in 1943. He earned a BS in Civil Engineering at the University of Denver and an MS (Structural Stress Analysis) at the University of Colorado in 1971.

His background in Biology consisted of a high school class, plus reading Stryer's Biochemistry and books by Darnell et al and Alberts et al, on molecular cellular biology, to learn of later advances. And reading Scientific American etc., so as to be conversant with current work.

He enjoyed a successful career as an Aerospace Stress Analyst, an engineer who determines whether rockets and satellites will fail from the forces applied on them in operation. After his professional career, he enjoyed a well-deserved retirement.

His retirement was not idle, and he had wide-ranging interests. He wrote about how to terraform Mars, one idea good enough to be quoted by Buzz Aldrin in *Encounter with Tiber* (page 539.) He considered ways to get to the stars, and noted that it is prohibitively expensive and impractical to feed people on a forty-year trip, so cold sleep will be a critical technology.

This was the origin of his interest in cryonics.

Another interest was linguistics, and he wrote a translator program for notebook computers, to allow you to converse with people if you go to, for example, Hungary but don't speak Hungarian. Ambiguous words destroy understanding if they are translated wrong, so Alan's program asks you for the meaning every time you use one. e.g. a word like "Charge" as in which meaning? 1) Charge my card? 2) Charge the battery ? 3) Charge him with murder? You know what you mean so you type in the correct number and the translation comes out right. This means someone has to be present to answer such questions, so it can't translate Web pages effectively without user input. The program worked well, but unfortunately people want to translate Web pages more than having conversations so it was not a financial success.

Alan was also president of a small society for the reform of English spelling. He said "Our spelling is a corrupt bane that doubles our illiteracy rate and requires us to spend years learning to read and write, while others



spend just two weeks." The American Literacy Council now has about twenty active members, though most of them are very old, and they also boast a fair-sized endowment. As president for two years he thought a lot on how to get the most out of this small organization, and how to revive this once-popular cause. This was good preparation for working with the Cryonics Institute, another small organization with similar problems in promoting a cause that is still relatively unknown to the general public

What we can learn from Alan

Alan didn't have a lot of money but he still donated to cryonics research - in particular, research for improving our vitrification formulas. He also left extra money to CI (over 100K) and some of that was used to transport him quickly to CI so that he could have a great suspension. Alan's passing was planned with the "Death with Dignity" laws of Colorado in mind and we brought equipment and standby directly to Alan's location so he would be suspended under optimal conditions,

The importance of leaving extra money and planning helped greatly. Somethings to improve upon. Choosing financial POA and medical POA that are pro cryonics vs indifference or outright hostility.

Not planning or leaving just enough money. and trusting people who are not pro cryonics is in contrast a big mistake and the main reasons people get poor suspensions.

Steve Luyckx elected CI Vice-President



Welcome Steve Luyckx

Due to the passing of acting CI Vice-President Alan Mole, Steve Luyckx ran for and was elected to the position of Vice-President by the Cryonics Institute's Board of Directors. The Cryonics Institute's bylaws account for extraordinary circumstances, including succession procedures for key positions including the President or Vice-President of the organization.

Steve has served on CI's Board of Directors in several capacities, including his former position as Assistant Treasurer.

Members will be familiar with Steve from his financial presentations at our Annual Meetings, spelling out CI's balance sheet for the layman, as well as CI's investment outlook in light of current market trends and other business and accounting topics. His knowledge and experience in business, accounting and finance have been an invaluable asset to our organization, particularly in the critical area of helping to manage our investments and overhead to insure our long-term stability and longevity for decades to come.

CI President Dennis Kowalski said "Steve brings a great deal of professional experience to the table that will continue to benefit our operations moving forward. He has done an outstanding job in his current role and I'm sure he'll bring that same energy and initiative to his new role.

Considering his dedication and long record of over 20 years of service, I think he is a natural for the position. I'm glad he agreed to run for and take on the added responsibility of the Vice-Presidency. "

Steve Luyckx was born in Detroit, Michigan, the fifth of six children. He graduated from Michigan State in 1986 with a BA in Logistics and a Masters degree in Finance a few years later. His professional career includes Kraft Foods, Chrysler/DaimlerChrysler Financial and in 2009 became the President of a joint venture between ADP and Reynolds.

He first became interested in Cryonics when a neighbor friend who was an important influence in his life introduced the topic. He has been one of the longest serving board members dating back almost 20 years and has attended every annual meeting since 1988.

Steve also maintains his license as a registered representative and continues to dabble in financial planning. This continues to be his hobby though he has often considered turning full time professional, and has been generous with his insights and experience as a member of CI's investment committee and "inside auditor" of CI's financial/accounting practices.

He continues to reside in Michigan with his wife and three children. Over the last 15 years he has become an avid runner and completed 17 marathons including 3 in Boston.

Please join us in welcoming Steve to his new position with the Cryonics Institute.

10 Worst Mistakes in Cryonics



1) Not signing up ahead of time

Becoming a member, having contracts in place, and having paperwork in order should not be a last minute decision. Waiting until the last minute or after death results in an unnecessary delay of care or worse- No suspension at all! Don't wait. Sign up here and be prepared. <https://www.cryonics.org/membership/>

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>

10 Worst Mistakes in Cryonics

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 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 than favorable conditions

This seems harder to control than 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.

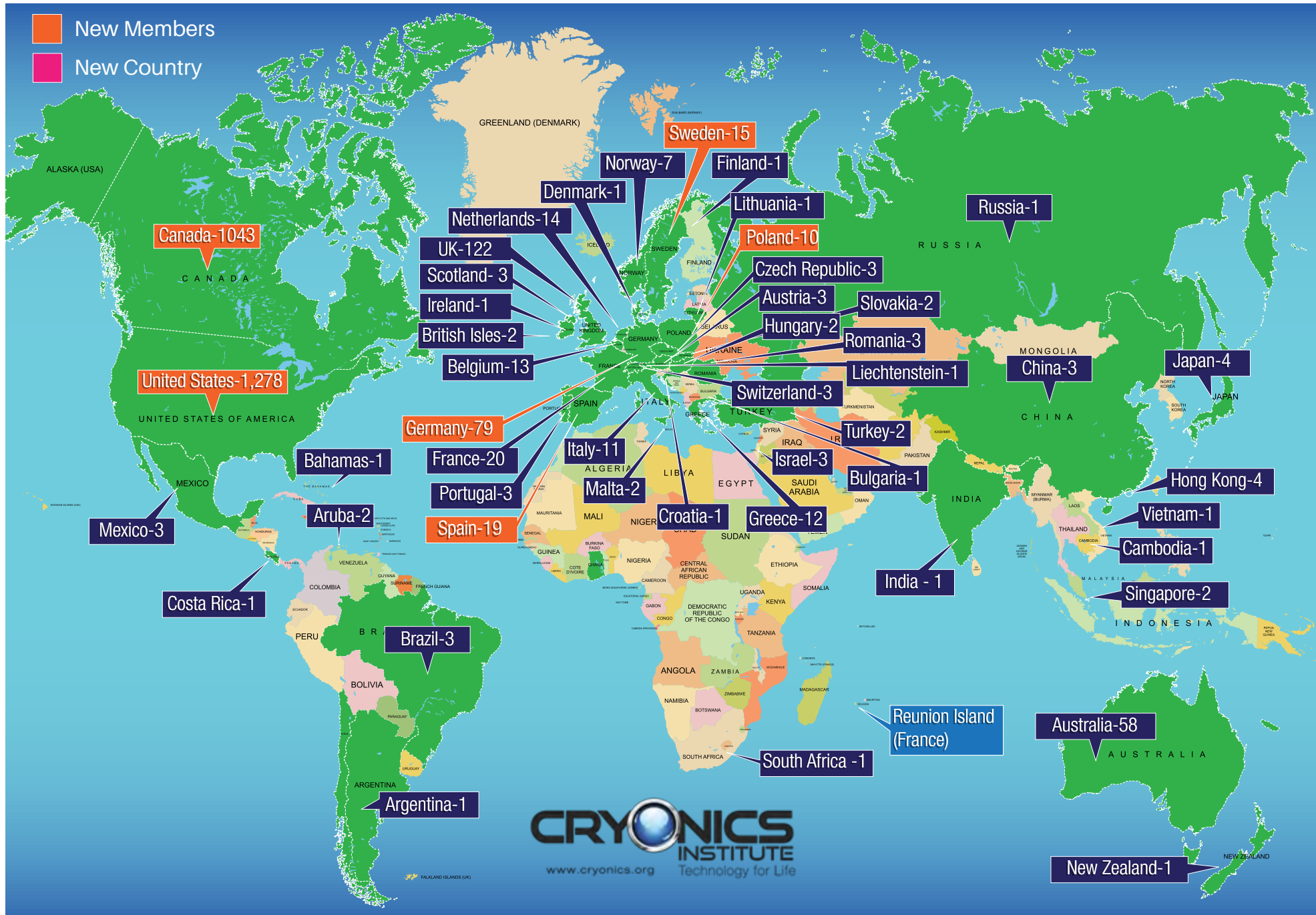
You can also avoid travel to remote or hostile places where such travel is risky. Some overseas travel can result in long delays both logistically and bureaucratically. In general, dying near your cryonics provider or cryonics standby group helps your chances. Living a healthy lifestyle and staying sociable, 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.



DECEMBER 2021

Pets	213
DNA/Tissue	332
SA	303

TOTAL
2,048



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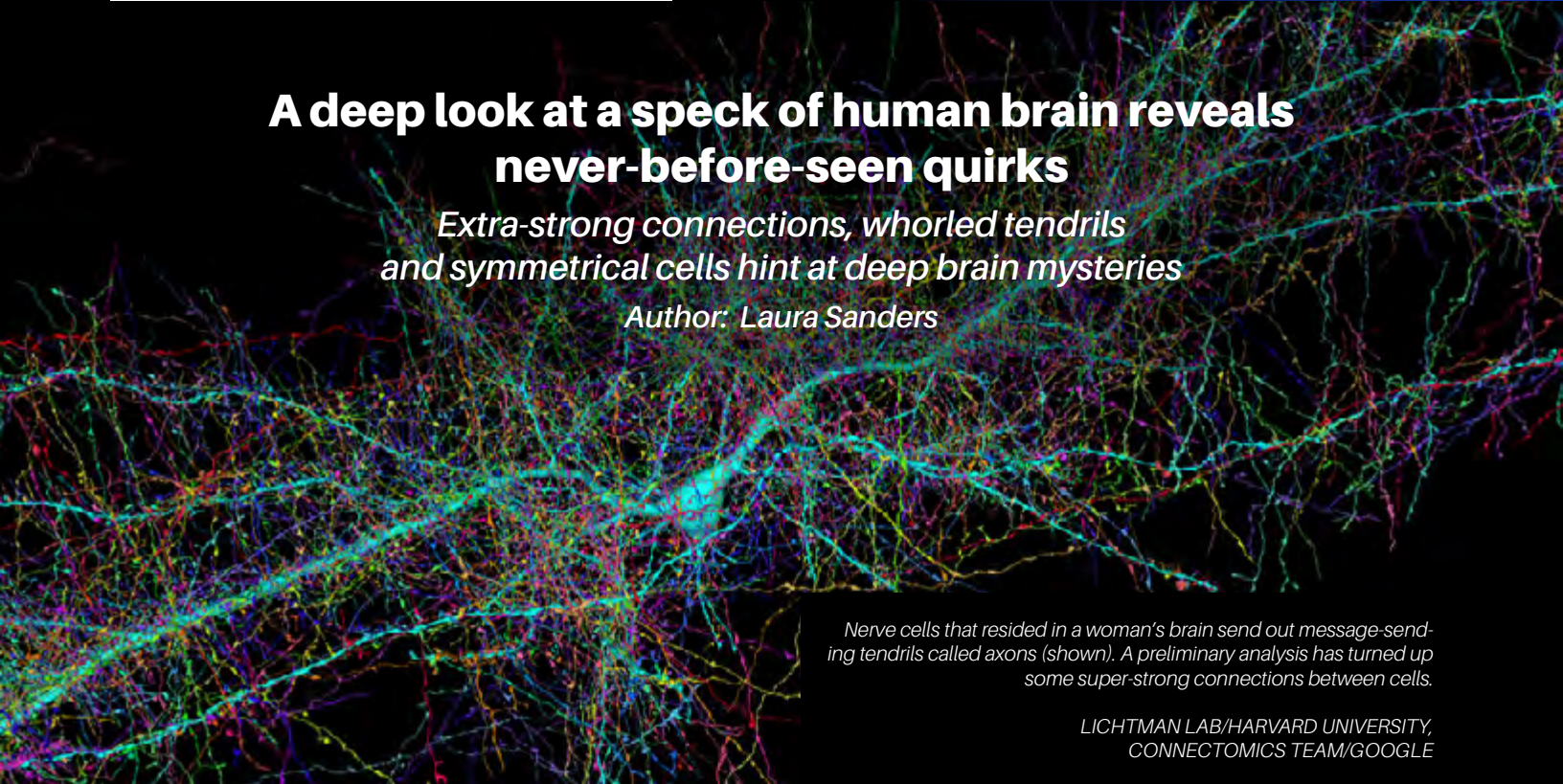
or email info@suspendedanimationinc.com

ScienceNews
INDEPENDENT JOURNALISM SINCE 1921from SCIENCENEWS.ORG

A deep look at a speck of human brain reveals never-before-seen quirks

Extra-strong connections, whorled tendrils and symmetrical cells hint at deep brain mysteries

Author: Laura Sanders



Nerve cells that resided in a woman's brain send out message-sending tendrils called axons (shown). A preliminary analysis has turned up some super-strong connections between cells.

LICHTMAN LAB/HARVARD UNIVERSITY,
CONNECTOMICS TEAM/GOOGLE

A new view of the human brain shows its cellular residents in all their wild and weird glory. The map, drawn from a tiny piece of a woman's brain, charts the varied shapes of 50,000 cells and 130 million connections between them.

This intricate map, named H01 for "human sample 1," represents a milestone in scientists' quest to provide ever more detailed descriptions of a brain (SN: 2/7/14).

"It's absolutely beautiful," says neuroscientist Clay Reid at the Allen Institute for Brain Science in Seattle. "In the best possible way, it's the beginning of something very exciting."

Scientists at Harvard University, Google and elsewhere prepared and analyzed the brain tissue sample. Smaller than a sesame seed, the bit of brain was about a millionth of an entire brain's volume. It came from the cortex — the brain's outer layer responsible for complex thought — of a

45-year-old woman undergoing surgery for epilepsy. After it was removed, the brain sample was quickly preserved and stained with heavy metals that revealed cellular structures. The sample was then sliced into more than 5,000 wafer-thin pieces and imaged with powerful electron microscopes.

Computational programs stitched the resulting images back together and artificial intelligence programs helped scientists analyze them. A short description of the resulting view was published as a preprint May 30 to bioRxiv.org. The full dataset is freely available online.

For now, researchers are just beginning to see what's there. "We have really just dipped our toe into this dataset," says study coauthor Jeff Lichtman, a developmental neurobiologist at Harvard University. Lichtman compares the brain map to Google Earth: "There are gems in there to find, but no one can say they've looked at the whole thing..."

[ARTICLE CONTINUES AT SCIENCENEWS.ORG](http://SCIENCENEWS.ORG)

Are viruses alive, not alive or something in between? And why does it matter?

We frequently talk about how to kill the coronavirus, but by most definitions, viruses aren't alive.

By Megan Scudellari - NOVEMBER 1, 2021

Villain. Killer. Menace. Since 2020, scientists and public officials have used these words to describe SARS-CoV-2, the virus that causes COVID-19. News articles, research papers and tweets repeatedly personify the virus as a bad guy intent on killing us.

Simultaneously, we're intent on killing it, with hand-washing, antiseptic wipes, hand sanitizer, bleach, even robots zapping hospital rooms with ultraviolet light. Yet, according to most scientists, we've been working hard to kill something that isn't alive.

Scientists have argued for hundreds of years over how to classify viruses, says Luis Villarreal, professor emeritus at the University of California, Irvine, where he founded the Center for Virus Research. In the 1700s, viruses were believed to be poisons. In the 1800s, they were called biological particles. By the early 1900s, they'd been demoted to inert chemicals.

Throughout, viruses have rarely been considered alive. More than 120 definitions of life exist today, and most require metabolism, a set of chemical reactions that produce energy. Viruses do not metabolize. They also don't fit some other common criteria. They do not have cells. They cannot reproduce independently. Viruses are inert packages of DNA or RNA that cannot replicate without a host cell. A coronavirus, for example, is a nanoscale sphere made up of genes wrapped in a fatty coat and bedecked in spike proteins.

Still, viruses have many traits of living things. They are made of the same building blocks. They replicate and evolve. Once inside a cell, viruses engineer their environment to suit their needs — constructing organelles and dictating which genes and proteins the cell makes. Recently discovered giant viruses — which rival the size of some bacteria — have been found to contain genes for proteins used in metabolism, raising the possibility that some viruses might metabolize.

Plus, almost every rule that excludes viruses from the land of the living has its own exceptions. For example, Rickettsia bacteria are classified as living but, like viruses, can multiply only within other cells. All living things, in fact, rely on other living things. A single rabbit cannot replicate on its own, but a rabbit is definitely alive, right?

For these reasons and others, the debate over whether viruses are alive or not continues today. In 2004, virologists Marc H.V. Van Regenmortel of the University of Strasbourg in France and Brian Mahy, then at the U.S. Centers for Disease Control and Prevention, defined viruses as “nonliving infectious entities that can be said, at best, to lead a kind of borrowed life.”

Or maybe a virus can be both nonliving and alive. In 2011, biologist Patrick Forterre of the Pasteur Institute in Paris argued that viruses alternate between an inactive state (outside a cell) and a living, metabolically active state (inside a cell) that he calls the virocell.

[ARTICLE CONTINUES AT SCIENCENEWS.ORG](https://www.sciencenews.org)

The new space race: A breeding ground for great innovation?

By Scott Castle | September 22, 2021 |
Sisense <https://www.sisense.com>

The new space race is grabbing headlines and driving public interest in the potential of 'extraterrestrial' exploration. For tech innovators, it opens the doors to a world of exciting new possibilities. It has brought in a fast-moving, 'Silicon Valley' type innovative paradigm to a sector that was previously the government's domain.

Closer to home, the UK is about to get back into the space arena with UK Transport Secretary Grant Shapps announcing in May this year that rockets will be able to launch from the UK in 2022, with spaceports planned in Cornwall, Scotland and Wales.

There are some big takeaways for product innovators and business leaders in this – pardon the pun – space.

Investments galore!

The advent of SpaceX, Blue Origin, and Virgin Galactic have generated a highly entrepreneurial, private sector-led new space technology ecosystem, with startups offering services and applications that are highly innovative and customer-focused. Morgan Stanley, which predicts the global space industry will generate revenue upwards of £730B in 2040, identifies this as a big investment opportunity for venture capital and private equity.

In Q2 of 2021, new space exploration received an infusion of £3.3B, setting it on track to beat 2020's total investment of £6.6B, reports Space Capital, a venture capital firm focused on the sector. The report estimates a total of £145B of equity investment across 1,533 companies in the new space ecosystem over the last decade.

By factoring in the product innovations downstream that impact our daily life on Earth thanks to technology transfer, there is good reason for this optimism...

By following agile, data-informed methods, product leaders can test and iterate while keeping management informed with a high-level...



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CRISPR Therapeutics and ViaCyte, Inc. to Start Clinical Trial of the First Gene-Edited Cell Replacement Therapy for Treatment of Type 1 Diabetes

CRISPR Therapeutics AG - November 16, 2021

-Initiation of patient enrollment expected by year-end-

-Initiation of patient enrollment expected by year-end-

ZUG, Switzerland and CAMBRIDGE, Mass. and SAN DIEGO, Nov. 16, 2021 (GLOBE NEWSWIRE) -- CRISPR Therapeutics (NASDAQ: CRSP), a biopharmaceutical company focused on developing transformative gene-based medicines for serious diseases, and ViaCyte, Inc., a clinical-stage regenerative medicine company developing novel cell replacement therapies to address diseases with significant unmet needs, today announced that Health Canada has approved the companies' Clinical Trial Application (CTA) for VCTX210, an allogeneic, gene-edited, immune-evasive, stem cell-derived therapy for the treatment of type 1 diabetes (T1D). Initiation of patient enrollment is expected by year-end.

"With the approval of our CTA, we are excited to bring a first-in-class CRISPR-edited cell therapy for the treatment of type 1 diabetes to the clinic, an important milestone in enabling a whole new class of gene-edited stem cell-derived medicines," said Samarth Kulkarni, Ph.D., Chief Executive Officer of CRISPR Therapeutics. "The combination of ViaCyte's leading stem cell capabilities and CRISPR Therapeutics' pre-eminent gene-editing platform has the potential to meaningfully impact the lives of patients living with type 1

diabetes."

"Being first into the clinic with a gene-edited, immune-evasive cell therapy to treat patients with type 1 diabetes is breaking new ground as it sets a path to potentially broadening the treatable population by eliminating the need for immunosuppression with implanted cell therapies," said Michael Yang, President and Chief Executive Officer of ViaCyte. "This approach builds on previous accomplishments by both companies and represents a major step forward for the field as we strive to provide a functional cure for this devastating disease."

The Phase 1 clinical trial of VCTX210 is designed to assess its safety, tolerability, and immune evasion in patients with T1D. This program is being advanced by CRISPR Therapeutics and ViaCyte as part of a strategic collaboration for the discovery, development, and commercialization of gene-edited stem cell therapies for the treatment of diabetes. VCTX210 is an allogeneic, gene-edited, stem cell-derived product developed by applying CRISPR Therapeutics' gene-editing technology to ViaCyte's proprietary stem cell capabilities and has the potential to enable a beta-cell replacement product that may deliver durable benefit to patients without requiring concurrent immune suppression.

PUBLISHED AT YAHOO! FINANCE

Study sheds light on the cellular machinery of aging

A new study helps explain the role of telomeres in the cellular mechanisms of aging.

The cells in our bodies stop dividing and become senescent when the telomeres, the protective ends of their chromosomes, wear down.

This is one way the body prevents cells with DNA damage replicating and uncontrolled cell division, which could cause cancer.

But the steady accumulation of these senescent cells also contributes to diseases of aging, such as cardiovascular disease, diabetes, and dementia.

A new study helps to reveal how telomeres trigger cell senescence and cause these age-related illnesses.

Every time a cell divides, its chromosomes — the bundles of DNA that encode genes — get a little shorter.

This is because the cellular machinery for duplicating DNA cannot copy the molecule to the very ends of each strand.

To prevent vital genetic information from being lost every time the cell divides, structures called telomeres protect the ends of the chromosomes.

These are strips of expendable DNA that don't encode any important information.

However, with every cell division, the telomeres erode until they can no longer protect the chromosome.

At this point, a control mechanism kicks in that

stops the cell from dividing any further. Although the cell remains alive and active, it enters into senescence.

Over time, as people age, the body accumulates these senescent cells.

The downside is that senescent cells promote the inflammation that researchers think underlies many diseases of aging, including cardiovascular disease, diabetes, and Alzheimer's disease.

Irreparable damage

After studying cultures of human skin cells in their lab, researchers at the Université de Montréal in Montreal, Canada, have outlined a new theory about how cells become senescent.

Their model updates the leading theory of senescence, which proposes that cells stop dividing simply because their telomeres become too short and no longer function properly.

Instead, the scientists claim that cells only stop dividing after chromosomal instability due to loss of telomeres has resulted in irreparable genomic damage during cell division.

"What's most surprising is that before really entering senescence, the cells divide one last time," says senior author and cancer researcher Francis Rodier, Ph.D.

"In fact, the cell division caused by telomere dysfunction is so unstable that it ends up creating...

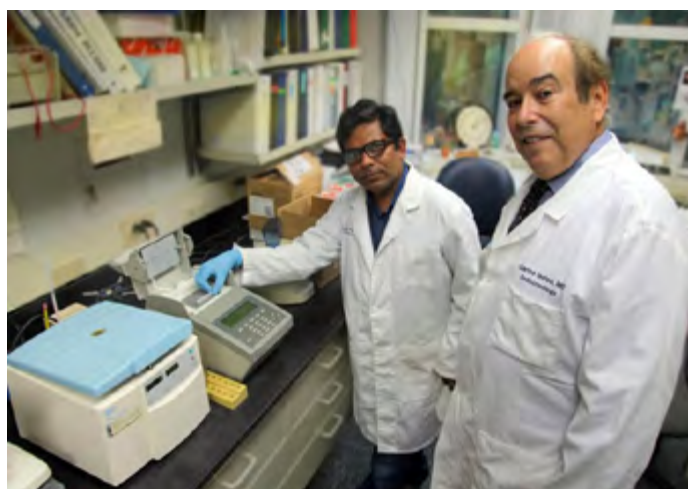
ARTICLE CONTINUES AT MEDICALNEWSTODAY.COM



from SCITECHDAILY.COM

A Diet Lacking in Tryptophan Alters Gut Microbiota, Increases Inflammation

By MEDICAL COLLEGE OF GEORGIA AT AUGUSTA UNIVERSITY AUGUST 14, 2021.



Drs. Sadanand Fulzele and Carlos Isales. Credit: Augusta University

With age, a diet lacking in the essential amino acid tryptophan — which has a key role in our mood, energy level, and immune response — makes the gut microbiome less protective and increases inflammation body-wide, investigators report.

In a normally reciprocal relationship that appears to go awry with age, sufficient tryptophan, which we consume in foods like milk, turkey, chicken, and oats, helps keep our microbiota healthy.

A healthy microbiota, in turn, helps ensure that tryptophan mainly results in good things for us like producing the neurotransmitter serotonin, which reduces depression risk, and melatonin, which aids a good night's sleep, says Dr. Sadanand Fulzele, an aging researcher in the Medical College of Georgia Department of Medicine.

But in aged mice, just eight weeks on a low-tryptophan diet results in some unhealthy changes in the trillions of bacteria that comprise the gut microbiota and higher levels of systemic inflammation, they report in the International Journal of Molecular Sciences.

Diet has been directly linked to microbiota composition in humans and rodents, they write, and they were able to document impactful shifts.

For example, when tryptophan levels are low, the MCG investigators found lower levels of *Clostridium* sp., the bacterium that metabolizes the essential amino acid enabling production of good products like serotonin in the gut, and a threefold increase in the bacterium *Acetatifactor*, which is associated with intestinal inflammation.

"We think the microbiome plays an important role in the aging process and we think one of those players in the aging is tryptophan, which produces metabolites that affect every organ function," says Dr. Carlos M. Isales, co-director of the MCG Center for Healthy Aging and chief of the MCG Division of Endocrinology, Diabetes and Metabolism. "We also have evidence that the composition of the bacteria that utilize tryptophan changes so even if you eat more tryptophan, you may not use it correctly," he says.

Fulzele and Isales are co-corresponding authors of the new study further exploring the relationship between tryptophan, the gut microbiome and the inflammatory response, in which they fed the aged mice three different diets for eight weeks — diets that were deficient, had recommended levels and high levels of tryptophan.

In the face of low tryptophan, they saw both a direct and indirect impact on the microbiota. These included changes like reduced levels of the bacterium *Mucispirillum* ...

[ARTICLE CONTINUES AT SCITECHDAILY.COM](https://www.scitechdaily.com)



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

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

CHILE: Community oriented to provide reliable information on human cryopreservation, as far as technical scientific as well as other practical aspects. Dissemination, awareness and education on issues related to the extension of life in general and cryonics in particular. Contact José Luis Galdames via 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 & Biooster Vignesh / Email : vicky23101994@gmail.com Phones : Biooster / 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 Begegravelsesbyrå / 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 krorius@gmail.com for additional information or visit <http://www.krorius.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 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.



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

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YOUNIVERSE

**Toward a Self-Centered Philosophy
of Immortalism and Cryonics**

CHAPTER TWO

"A classic for anyone trying to understand what this universe is all about...and it has many little things that add to the fun of reading it."

—Professor Peter Gouras, M.D., Ph.D., Columbia University, about the first edition.

Chapter 2

Apostasy, Anyone? Religious Whys & Wherefores

Apostates are still relatively few, and in fact, religion in contemporary America is seemingly stronger than in some previous times and places, if you judge by questionnaires. And proselytizing against religion is largely useless and unnecessary, for reasons obvious and otherwise. Even so, we should touch some of these bases. In the 2005 edition of this book, the chapter on religion was a rather long one, but this time around, I'll be merciful. More merciful than God, anyway. Sorry about that. Couldn't resist. Like a Christian, I hate the sin but (try to) love the sinner. Many pious people are smarter than I am in most ways, and also in some ways better people. So this isn't exactly about putting anyone down, unless you think a vaguely imagined God is someone.

What is Religion? And Marx said that religion is the opiate of the masses. (He also said that drink is the curse of the working classes. Groucho Marx said that work is the curse of the drinking classes.) Currently in the Western world, and parts of the East, "religion" is usually taken to mean the Abrahamic creeds, Judaism and Christianity and Islam in their multifarious permutations, including one almighty God (if we count the Trinity as one) and personal immortality (although that last is not necessarily included in Judaism). But the underlying meaning is deeper, broader and vaguer. Some theologians have defined religion as a sense of *ultimate concern*, a connection to something above and beyond the immediate and rational, something reachable only through feelings or faith—even though many theologians have valiantly tried (in

vain) to marry religion to reason, or to effect some kind of cohabitation of these in the same brain. Evolutionary psychologists and neurologists have sought the roots of religion in racial history or/and in specific sites or subsystems of the brain, but for now we can probably do just as well simply by listing some of the obvious offerings. One frequent aspect of religion, or religiosity, relates to feelings of exaltation or transcendence, a simple example being the experience of singing hymns in company of other parishioners, with the organ resounding and sunlight streaming through the stained glass windows. Beautiful and precious! "Uplifting."

Problem is very similar feelings can also be evoked by martial music, or/and marching in a parade, or in some cases by working through a mathematical theorem, or creating a painting or even just admiring one, or reading a poem, or by strolling through a meadow holding the hand of a lover, or by smoking something illegal. The brute fact is that feelings can be evanescent, unreliable and even deceptive. Feelings are in some sense the truest things we know, indeed the *only* things we know for sure (Cf. Descartes.)—yet an uncritical reliance on immediate feelings can lead to disaster.

Other aspects of religion and religious organizations include fellowship and dedication. However, these can be found in groupings and ideologies not usually labeled religious, such as communism and humanitarianism, or for that matter, especially in earlier times, the family or tribe or clan. Patriotism is essentially a religious stance.

The Meaning and Uses of Faith: Hebrews 11:1 defines faith as "the substance of things hoped for, the evidence of things not seen." My readers—both of them—will probably assume that I discount faith 100%, but it is really only around 75%.

As should gradually become clear, I am not dogmatic about the sovereign virtue of reason. Some-times intuition, directed by tradition, is a better guide, especially in terms of life satisfaction. But my main thrust remains that most people, most of the time, submit too readily to tradition and resort too little to reason.

The Arrogance of Faith: Although in practice faith can waver, the essence of true belief is certainty in the absence of objective proof. But this means the believer is saying, in effect, "I cannot be wrong"—even though overwhelming experience tells us any conclusion or opinion whatever can easily be wrong. Believers may respond that they an *Jesus* (or scripture or God) cannot be wrong, but that is a distinction without a difference.

"Faith is believing what you know ain't so." —Mark Twain, "Pudd'n-head Wilson's Calendar"

Faith and Spam: Billy Graham has said that we are obliged to have faith, even in everyday life—e.g., that our spouses are faithful or that the food in the can is fit to eat. This is either disingenuous or stupid. Faith in our spouses and in the canned food is just a reasonable degree of confidence, based on experience, not a blind acceptance of the religious sort.

Faith as Character Flaw: Temporality relaxing my effort not to give offense, religious faith boils down to sacrificing your integrity for a bit of comfort. Again, I don't claim this is always a bad idea, from the point of view of

optimizing life, but some of us find it unacceptable.

Pantheism is claimed to be the oldest form of reverence, often asserting something like this:

"Nature is our mother, our home, our security, our peace, our past and our future. We should treat natural things and habitats as believers treat their temples and shrines, as sacred - to be revered and preserved in all their intricate and fragile beauty."

The small problem is that "nature"—what is—includes all sorts of terrors and horrors. Diseases and calamities are just as "natural" as anything else. Are we really supposed to revere these blights? The Gaia hypothesis (named after the Greek mother goddess of earth) is seen by some as related to pantheism and "new age" mysticism, although Gaia in some forms is a scientific hypothesis, susceptible to testing. James Lovelock, who wrote articles about it in the 1970s, defined Gaia as a complex entity involving the Earth's biosphere, atmosphere, oceans and soil, the totality constituting a feedback or cybernetic system which seeks an optimal physical and chemical environment for life on this planet. These ideas remain controversial.

The main religions today are obviously Christianity and Islam. Hinduism seems not only to be geographically limited, but also to have relatively little impact on social or political life—despite the often deadly clashes between Hindus and Moslems in and near India.

For those interested in looking for a religious home, a safe spiritual haven, one of the branches of Christianity seems to have the most to offer, simply because it has the most variety and the richest history of theology.

While I don't believe Christian theology can withstand scrutiny, still Christians —especially in the middle ages—asked themselves just about all of the intellectual questions and made valiant attempts to answer them. Moslems, Jews and Hindus, as far as I can tell, have done no such thing and have no theology worthy of the name.

Of course, Christianity remains at bottom a mystery religion, the three central acknowledged mysteries of most sects being the Incarnation (the Word made flesh), the Trinity and the Eucharist (wafer and wine being the body and blood of Christ). Don't laugh—many a skeptic has been won over by visions of glory.

Zoroastrianism is probably an unknown word to most of today's people, with its current believers numbering only in the thousands, yet some historians regard it as among the oldest and most influential of religions.

Also called Mazdaism, after its (main) deity, Ahura Mazda, it dates perhaps from around the sixth century BCE. It postulates immortal souls, both before birth and after death, and promises resurrection of the dead at the end of time. The focus in life is on active efforts to promote good and oppose evil. Sounds rather benign, however illogical.

Hinduism should also be briefly further mentioned, at least to attempt to correct some common misconceptions.

It is often said that Hindus are polytheistic, the number of gods sometimes being given as in the hundreds of thousands or even millions. But if we look at the most careful and thoughtful of Hindu theologians, they advance only one God, Who has three aspects, named Brahma (the creator), Vishnu (the maintainer)

and Shiva for dissolution in preparation for recreation. Thus Hinduism, like Christianity, could be said to have a Trinity or three-in-one.

Jainism has now perhaps only around 10 million followers in India and elsewhere, but it is one of the oldest religions, dating perhaps from the 90TH Century BCE, and is known to outsiders mainly for its extreme respect for all life.

This respect stems from their belief that every form of life, including the invisibly small, has a soul that is potentially divine. Make of that what you will.

New Age (Age of Aquarius) beliefs and practices do not constitute a religion, but a collection of ideas from which many people choose to graft on to their basic religious connection. New Agers have been estimated to represent as much as 20% of Americans.

Some of their ideas:

Channeling or communication with the dead.

Crystal power—crystalline substances may have healing and other beneficial qualities or uses.

Meditation, sometimes involving chanting of a mantra. New Age music may be used as an aid in healing or massage therapy.

Divination—foretelling the future by means including I Ching, Pendulums, Runes, Scrying, or Tarot cards.

Astrology

Alleged health measures such as acupuncture, crystal healing, homeopathy, iridology, massage, various meditation methods, polarity therapy, psychic healing, therapeutic touch, reflexology, etc.

"Human potential" ideas such as Esalen Growth Center programs, EST, Gestalt Therapy, Primal Scream Therapy, Transactional Analysis, Transcendental Meditation and Yoga.

They're just a-roamin' i' the gloamin' looking for cheap thrills.

Benefits of Religion: The main thing is that for many people, especially when times are tough or they are feeling pain, religion offers comfort or solace. The signal thing about this comfort is that it is cheap. Just say your mantra or equivalent, and feel the peace. It doesn't work always, or perfectly, but often enough and well enough so that, in the absence of anything better, it can be a godsend, so to speak

The obvious problem with accepting this comfort is that it requires faith, and faith cannot usually be achieved by an act of will. But William James and many others have pointed out that rituals and habits can, to some extent, some of the time, substitute for belief or conviction. Soldiers can often find a false (?) courage in shouts or slogans as well as in the presence of comrades, and a like phenomenon can occur in religion. (Or is it the same phenomenon?)

Another (partly separate) major potential benefit of religion is that it can be an antidote to anomie or alienation, the sense of meaninglessness or purposelessness or emptiness of life. Once more, the problem here is delusion.

An ancient (yet relatively recent) alleged social benefit of religion is its moral or ethical influence. Man is by nature selfish and brutal, so the story goes, and only a belief in divine retribution for sinners can keep him semi-civilized. Problem here is, first, that religion pre-dates moral mandates, the old gods demanding mainly tribute, not polite behavior. More

importantly, in recent times, there seems no serious evidence that antisocial behavior is less prevalent in regions where (conventional) religion is strong.

Divine Design? Today it is seriously proposed, even by some scientists, that our world reflects intelligent design. Well, leave aside the non sequitur aspect, the regress, the problem of who designed the designer. Problem is, if there was design, the evidence is of not-so-intelligent design. As one small example, a certain mutation gives some people sickle-cell disease, which reduces the fatality rate of malaria but is itself harmful. Would omniscience result in such compromises?

Then there is the matter of immune systems, which vary according to age and race and other factors. If there is design—intent—why the variation?

But aside from individual examples, the overarching problem is just the massive mess of cheap and confused construction. We (and other animals) are subject to countless diseases and disorders, including the universally fatal flaw of senescence.

Benign Design? It is written: "And the Lord beheld His work, and found it good." It is also written, "And the Lord said to Satan, From where come you? Then Satan answered the Lord, and said, From going to and fro in the earth, and from walking up and down in it."

You want to know about conditions on earth? Walk around a bit, preferably with your eyes open. Perhaps the worst thing about the "design" of life on earth is its deliberate cruelty. Built into the system, for all animals in the wild including humans, is a brutal system of high birth rates and high death rates. Many must be born, to replace the many who die

(usually in misery or agony). Or many must die, to avoid being knee deep in rabbits or people. Is God the biggest shmuck in the universe?

Wine does more than wisdom can, to justify God's ways to man.

Autos & Watches by Chance? Here's a bit of amusement. Anti-evolutionists sometimes say that, if we are an auto or a wrist watch, we know there was a designer, because those things can't just happen to fall into form out of chaos.

Ah, but they can and do. They were designed by humans, but the humans themselves evolved from primitive forms or essentially from chaos, so all their works did also.

The Purpose of Creation: Very few—lay, clergy or theologians—even attempt to address the question of *why* God created the material universe and life on earth.

Most readers will have grown up in the Judaic or Christian or Moslem tradition, so let's just look at that (very vaguely defined) God.

As far as I can tell from my reading and listening, God is conceived as existing in eternity, outside of time and space. The earth, and presumably the rest of the sidereal universe, had a beginning or creation, maybe as recently as six thousand years ago, or at most something like fourteen or fifteen billion. Let's leave aside such questions as to how God amused Himself "before" the creation of the world. No doubt He had His resources. But why did He create people and other living beings to strive, achieve or fail, and enjoy or suffer (mostly suffer)?

Those who think non-human animals have no souls—even though many of them obviously

have feelings—may believe that their suffering doesn't count. I guess that's conceivable, after a fashion, but a God who held that view would have less compassion than the average human.

In the case of humans—what's the point? What is life on earth *for*?

Must you live here to prove that you are worthy of Heaven or deserve Hell? If God is omniscient and omnipotent, or any approximation thereto, this notion is just too ridiculous for further comment. (Yes, there will be further comment.)

Demiurge is another term of variable definition, but let's take it to mean a sort of godling or demigod, one who created "our" universe, and for all practical purposes, is omnipotent, but nevertheless is just a part of his universe and a product of evolution. Very few are beating the drums for this march.

Generic Myths: Many religions appear to borrow each other's legends. Around five hundred years before Jesus, Siddharta Gautama (the Buddha) founded a religion, Buddhism, and there arose legends strikingly similar to those of Christ. Jesus walked on water; Gautama whisked in a trice over the Ganges. Jesus did loaves and fishes; Gautama made a toothpick sprout into a tree. Jesus was born of a Gautama was born "clean" (without after-birth). There were signs and portents at the birth of Jesus, including the Star of Bethlehem and the Kings of Orient; at the birth of Gautama, the blind saw, the deaf heard, the lame walked, a great light appeared in the sky, and kings came from afar to welcome him. (Even so, Gautama did not claim to be God or the son of God, or even that there was a God.)

Rain Dance of the Chimpanzees: John Maynard Smith, eminent biologist quoted in

New Scientist 04 June 2003, says that many animals display ritual behavior functioning to create emotional commitments—and this basically is religion.

Chimpanzees, he says, do a “rain dance”. Sometimes a group going through the forest will come upon a waterfall, and the alpha male—he alone—will splash and shout and throw rocks, to the rapt attention of the others. Smith thinks he is “...recruiting a force of nature to strengthen his own personal position, increasing his own prestige by allying himself with something ‘out there’. Isn’t that what priests do?”

Who Wrote What? Although divine inspiration cannot be easily disproved, many lay people don’t even know that the various bibles or scriptures were physically prepared by a variety of people over long time spans. The only exception of which I am aware is the Book of Mormon, supposedly delivered in one piece by the angel Moroni.

The Old Testament of the Christians is based on Jewish sacred writings, 24 books written in Hebrew, Aramaic and Greek by different people over a span of at least five centuries. The New Testament of 27 books (more or less at various times and places) had several authors and was mostly written at least 60 years after the death of Jesus and in Greek. The Koran was composed by Mohammed over a period of 23 years and written down by others, Mohammed having been illiterate.

Incidentally, not many people realize how “traditions” can arise in a flash. Young Americans today recite a Pledge of Allegiance, which includes the words, “One nation, indivisible, under God...” When I was a boy, the “under God” was not part of it; that is a “tradition” invented in our own life-times. For that matter,

the Church did not recognize Christmas until the 4th Century, and it was not an important holiday until several centuries later.

Hell’s Knell: Some varieties of Christian thought hold that the Lord God Jehovah visits infinite punishment on those He damns, an eternity of hellfire. This strikes some people as a tad much in terms of divine justice, let alone mercy. As Woody Allen has pointed out, eternity is a long time, especially toward the end. Still, a majority of Americans believe in a fiery Hell, according to recent polls. Many believers seem to cling to an essentially sadistic vision and actually enjoy the prospect of the “wicked” or the “infidels” in torment. “When you’re in Hell and I’m in Heaven, you’ll beg me to piss on you, but I won’t.”

Where do had squirrels go when they die? To Heaven. Doggie Heaven, that is.

Miracles, Shmiracles: A naive “proof” of the validity of religion is the alleged working of miracles (impressive events or “interventions” not explainable by known natural law). What the miracle-mongers forget is that, even if true, a miracle doesn’t prove anything whatever about divinity. If someone can work wonders, that only proves he is a wonder worker, nothing more.

Is there any way an alleged deity could prove his divinity? He could make you believe it, of course, through some kind of persuasion or coercion—but prove it? No way I can think of, short of sharing the Godhead.

Is it Good to Fear God? “God-fearing” is often a term of approbation, meaning someone who is virtuous (out of a healthy respect for the consequences of defying divine authority), and it is often claimed that supernatural authority is essential to a moral populace. But crime sta-

tistics in different populations do not support this view; and in fact it is reasonably clear that the operative determinants of behavior are the same in all societies, viz., tradition and social pressure. Very few really "fear God". They fear their parents and neighbors and the policeman and their conditioned consciences.

Pascal's Wacky Wager: As noted, logic has almost nothing to do with religion, and those who try to drag it in are just spinning their wheels, for the most part. Even so, to help a few sophomores liven up their evenings a bit, let's look at Pascal's famous wager (which was anticipated by others centuries earlier). The eminent mathematician averred that it makes sense to believe, reasoning somewhat as follows:

"If there is no God and you believe, you have lost nothing and gained hope. If there is a God and you disbelieve, you have lost hope and earned Hell. Therefore you have nothing to lose and much to gain by belief."

Of course, our friend Blaise overlooked a few little details—such as, for openers, how one can obtain genuine faith merely by an act of will based on calculated self interest. Beyond that, there are inconvenient questions such as what happens if you choose to believe in the wrong God (God of another religion), and the true God holds this against You.

And then, of course, one may use a format similar to Pascal's to opposite effect, as follows:

"If there is no God and you believe, you have debased your integrity and gained nothing. If there is a God, and he is unjust or maleficent, then he may condemn you despite your faith. If there is a God and he is beneficent, then he will understand and forgive your skepticism. Hence by disbelief you have nothing to lose and integrity to gain."

Neurotheology: Andrew Newberg, a professor of radiology at the University of Pennsylvania, has developed ideas about brain function related to our views of external reality, based on earlier work by psychiatrist and anthropologist Eugene d'Aquili. In layman's terms, we usually can distinguish automatically between what is really out there and what is just in our heads. For example, we can discriminate between daydreams or memories and external sensory data. But this discrimination seems to require a specific kind of activity in the left parietal lobe, the "orientation association" area. X-rays show differences in blood flow.

Leaving out the details, it turns out, according to these studies, that believing in phantasms is not restricted to drug use or nominally crazy people. Religious experiences, including deep, contemplative prayer, can produce the conviction (for example) that the Virgin Mary or whoever is standing right there, more real than life, more solid than the table. To someone who has had such an experience, trying to talk him out of it is a lost cause.

Is Religiosity a Sickness? Michael G.- Zaniga, a cognitive neuroscientist at Dartmouth, has written *The Ethical Brain* (Dana Press 2005). He has fascinating descriptions of effects of Temporal Lobe Epilepsy, which may result in the (Norman) Geschwind syndrome, which includes a tendency to be extremely religious, sometimes with multiple conversions. Of course, the fact that people can acquire religion in crazy ways doesn't in itself prove that religion is crazy, but it should give one pause.

That religious mania *can* be sociopathic is eminently dear from history, and not only contemporary Moslem extremism. In Huizinga's *Waning of the Middle Ages* (Folio Society 1998), he discusses European theopathy and theopa-

thetic behavior, which is horrifying.

Anthropic Universe & Improbable People:

Somewhat related to the "argument from design" is the "anthropic" character of the universe. In some very peculiar and striking ways, the architecture of the cosmos seems just exactly suited to human habitation. It is almost like a garment cut by some clever tailor precisely to fit the measurements of a favored client.

Human evolution depended on the earth's evolution, in turn, conforming to very stringent requirements. If the earth's orbit were only slightly nearer the sun, or farther from it, there would hardly ever be water on earth, hence no life as we know it.

The earth's atmosphere had to form, and change, just the way it did, and at just the right stage of the sun's development—otherwise blotto. Even our little companion planet, Luna, is said to have been essential. And so on. But it isn't only the solar system that had to "remember" human requirements.

Renowned astronomer Fred Hoyle reports that his atheism was shaken by his own discovery that nuclear transformations in stars just barely permit (and mandate) the formation of carbon, and just barely prevent its transformation into oxygen. If one atomic level had varied 0.5%, he says, life would have been impossible. "The carbon atom is a fix ... A common sense interpretation of the facts suggests that a superintellect has monkeyed with the physics."

Furthermore, the entire cosmos seems to have been in on the fix. If the "Big Bang" had developed in a different way, ever so slightly, there might not be stars or galaxies, or even matter as we know it. Even the scale of the universe, which seems so to dwarf man, may be a human necessity! To provide several billion years

"cooking" time for stars, the universe had to be several billion light years across. Cosmologists B.J. Carr and M.J. Rees think that the Universe must be as big and diffuse as it is to last long enough to give rise to life. Others calculate that if the universe were not expanding, it would be too hot to support life; not only that, but if the rate of expansion were just a little faster or slower, the galaxies either would not have formed or would already have collapsed again.

And on and on, coincidences piled atop each other like single toy blocks stacked a mile high. Could that coincidence of structure be an accident?

Apparently, some very distinguished people think not. Stephen Hawking—who more or less discovered the "black hole"—has been quoted as saying, "I think there are dearly religious implications." Polish cosmologist Merck Demiansld, quoted in *Science News*, says, "Somebody had to tune [the universe] very precisely."

But before we swallow our chewing gum and holler Hallelujah, let's reflect a bit on some aspects of coincidence and probability. If there can be a blind watchmaker, maybe there can also be a deaf piano tuner.

First of all, exceedingly improbable things happen routinely, even in everyday life. For example, every hand in a game of Poker is equally unlikely—just as unlikely as a Royal Flush. We don't think of it that way unless there is a payoff, but it's a fad. In Poker, a deuce is just as unlikely as an ace. Does a Royal Flush imply a cheating player?

Or consider a much wilder improbability—your birth. If the genetic shuffle had been ever-so-slightly different, only one gene shifted, your parents' germ cells mixed in not quite the same

way, "you" would be a different person, which means you would not exist. Are you—along with each of us, and every moose and mouse, not to mention every flea and seaweed—personally favored of the gods?

Clearly, just as every object in a universe must fit the scheme of that universe, so also every universe must fit the things in it. Since we are here, the universe must have allowed our existence; we and the universe must be compatible, at least to that extent. A universe with [whatever] in it must be hospitable to [whatever].

This point of view satisfies some people, but not others, who remain haunted by the notion that a design requires a designer. To these, once more, one can respond: (a) Postulating a designer only pushes the puzzle back one stage, since presumably someone or something had to design the designer, and we are left with an infinite regress; (a) A bad or cruel designer would be embarrassing, and this seems to be what we have, based on any known value systems.

In the end (we are often told) it comes down to faith. Yet one cannot help being amused or annoyed when someone, arguing religion, relies (ostensibly) on logic when that seems to serve his purpose, then instantly rejects logic in favor of feelings whenever logic leaves him in the lurch.

The final distillation leaves a residue of psychological need. Those who feel the need of an All-Father or All-Mother will invent one, or at least yearn for one. The rest of us will shrug and go about our business, and make a note to think about this again in a century or two, when we have more data and better brains.

Three Anthropic Principles: A brief note — the Anthropic Principle comes in at least three

flavors.

The Weak Anthropic Principle simply says that some conceivable universes could not support observers, so the existing snug fits were necessary for life. (Not a logically sound conclusion.)

The Strong Anthropic Principle says that, since such a broad "conspiracy" of coincidences must exist to give rise to observers, it must not have been an accident and hence these conditions are sufficient as well as necessary for life. (Not logically sound either.)

The Very Strong Anthropic Principle (possibly originated by Terry Pritchett) says that the universe was created not just for the sake of life, or humanity, but for *your* sake. The universe is indeed a Youniverse. That isn't logical either, but it has a nice ring to it.

Heresies: Anyone seriously interested in religion should study the long and intricate history of Christian heresy. In the 12th and 13th centuries, among even many illiterate laymen, interest in logical conundrums of religion excited much more interest than today. See the book by Mundy listed in my bibliography.

Catharism is still called "the great heresy" by the Catholic Church. It was largely exterminated, over a long period, in a kind of genocide or internal crusade. As always, there were many variations, but the more or less continuing theme was a kind of dualism involving two supernatural agencies, sometimes roughly identified with God and Satan or Lucifer. In some versions, Satan turns out to be the good guy, or at least the better guy. Some historians tell us that Catharists regularly trounced Catholics in debate.

Among some Cathars, there were implications for sanctioned behavior that seem strange to

us, such as the moral superiority of extra-marital sex over the connubial kind. Of course, some of the prevailing Catholic beliefs of that period now seem just as strange, such as the notion that masturbation is a greater sin than rape!

Arianism is another heresy, dating from the 4th century CE, one of whose later proponents was Sir Isaac Newton. Arians do not believe in the doctrine of the Trinity. Of course Newton had to consider the First Epistle of John Chapter 2, verse 7, which reads (in the King James version):

For there are three that bear record in heaven, the Father, the Word, and the Holy Ghost: and these three are one.

He studied other versions of the bible, and found the phrase "and these three are one" did not occur in any Greek version, hence rejected its authenticity.

Calvinism is not generally listed as a heresy, but some versions of it run substantially counter to main-line Christian beliefs—especially the notion of "election", that before the world was made, God had already decided which (few) individuals would be saved and which doomed, irrespective of merit or of belief. To reconcile this idea with that of a just God, let alone a God of mercy, is a poser. For one attempt, see new-wine.org, which claims to solve the problem by applying ancient Jewish eschatology.

Deism is a sort of watered-down version of Christianity (or other monotheistic religions)—the belief in a Creator but not in any creed or organized religion.

Christian America? Contrary to much that we read today, a majority of the Founding Fathers were not committed to any established church

doctrine, and many of them were Deists, holding merely that there was a Creator, but not believing in miracles or the inerrancy of Scripture. Also to be remembered is the heavy influence of deist Thomas Paine in both the American and French revolutions, through his works *Common Sense* and *The Age of Reason*.

Today, as far as I can judge, those professing some creed are more numerous now than in Revolutionary times, but the practical effects of those beliefs are minimal.

Different Realms, Different Rules? It is often claimed that religion is needed to answer those questions that science cannot answer—that science operates in a different, and restricted, universe of discourse. Even so great a scientist and dear a thinker as Richard Feynman wrote: "...I believe that moral questions are outside of the scientific realm."

Well, nobody's perfect. Feynman was a genius, but he made a fundamental blunder here. In another chapter, I discuss the scientific approach to life, and show that this, and this alone, is appropriate to all aspects of life and all realms of thought.

Absolution, Redemption, and the Hereafter: These seem to underlie the awesome power of Christianity. Well, later on we will look at immortalism (indefinite extension of life on earth) and cryonics (an "ambulance to the future", the freezing of the clinically dead in hope of eventual repair, rejuvenation and revival). Can these ideas and programs compete with religion?

In Roman Catholicism, if I understand it correctly, the priest confers absolution—forgiving the wicked even on the death-bed, even a Mafioso after a lifetime of vicious sins. In some of the Protestant denominations, the individual

simply accepts Jesus with a whole heart and true repentance, and is transformed by God's grace into a state of purity.

"Redemption" is a complex concept, overlapping that of absolution but with the emphasis more on salvation or rescue in a general sense. (A key part is the fairly strange notion of the "blood of the lamb"—God himself, as the Son, washes away the sins of Christians with His own blood, i.e., redemption of the guilty by the sacrifice of the innocent.)

The "hereafter" of course is often seen as a divided highway, one branch leading to the Celestial City and another elsewhere (carrot and stick).

These are powerful pressures and inducements, for some—yet immortalism and cryonics can come close to matching them, and for some people, it can do so with much more credibility.

For cryonic suspension resuscitees, we offer (although without guarantees) the heart-swell-ing prospect of absolution, redemption and a hereafter in a unique and materialist way. For with endless time and limitless growth, we see that, if our vision is realized—

*NO ERROR IS IRREDEEMABLE
EVERY AFFLICTION CAN BE CURED
EVERY FAILURE CAN BE CORRECTED
EVERY TRAGEDY CAN BE OUTGROWN
AND LEFT BEHIND.*

We will no longer be the victims of our heredity; our minds and bodies will be improved, over and over again, while retaining our continuity and individuality. Every mistake will be corrected, if not by literal reversal, then by changes in conditions, or perspective, or substitution of new goals.

Cripples will throw away their crutches (or their hearing aids or bifocals or pacemakers or insulin needles or wheelchairs); the blind will see and the deaf will hear and the dumb will speak and the retarded will mature and the withered or bent will stand tall. And all of us will come to terms with our past failures and leave them behind, going on to shared glories.

Is not such a vision religion enough?

Immortalism welcomes you. Whatever your past, whatever your sins, whatever your afflictions, whatever your failures, whatever your shortcomings, whatever your despair—we offer absolution, redemption, and new life: life without limit.

Now all we need is some golden-glottis preachers.

Next Issue:

Chapter Three: Science as Savior

